

DEPARTMENT OF THE ARMY PERMIT

Permittee PolyMet Mining, Inc.
Permit No. MVP-1999-05528-TJH

Issuing Office St. Paul District
U.S. Army Corps of Engineers

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

You are authorized to discharge dredged or fill material into 901.24 acres wetlands and indirectly impact an additional 26.93 acres of fragmented wetlands adjacent to the Partridge River and the Embarrass River for the purpose of constructing the NorthMet Project (Project). The Project consists of constructing an open pit copper-nickel mine with associated waste rock and ore storage areas, including water management system and road infrastructure; constructing a rail spur connecting the plant site to the Erie Rail Road providing rail transportation of ore between the plant and mine site; Upgrades to Dunka road and construction of an adjacent utility corridor connecting the plant and mine site; constructing tailings basin buttresses and a seepage collection system, constructing a Hydro-metallurgical residue facility at the plant site; and the disposal of tailings along the eastern edge of the tailings basin.

Enclosures A through B of this authorization contain details of the authorized work areas and Project impacts at the Mine Site, at the Plant Site, and along the Transportation Corridor. Enclosure C contains a copy of the Clean Water Act 401 Certification for the Project. Enclosure D contains the Biological Opinion from the United States Fish and Wildlife Service (USFWS), and Enclosure E contains the National Historic Preservation Act (NHPA) Memorandum of Agreement for the Project. Enclosures A through E, labeled MVP-1999-05528-JKA are hereby incorporated in this authorization.

Project Location: The project site is located in Sections 5 and 6, Township 58 North, Range 14 West; Sections 1, 2, 3, 4, 9, 10, 11, 12, 15, 16, 17, and 18, Township 59 North, Range 13 West; Sections 3, 4, 5, 8, 9, 10, 13, 14, 15, 16, 17, 20, 23, 24, 29, and 32, Township 59 North, Range 14 West; and Sections 32, 33, and 34, Township 60 North, Range 14 West; St. Louis County, Minnesota.

Permit Conditions:

General Conditions:

1. The time limit for completing the authorized work ends on December 31, 2034. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least six months before the date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. A 401 water quality certification has been issued for your project and you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the 401 water quality certification is enclosed (Enclosure C).
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

AUTHORIZED WORK

1. The Permittee understands and agrees that the DA permit has been issued based upon the Permittee's intended purpose to mine, via open pit methods, the known ore deposits containing copper, nickel, cobalt, and platinum group elements; and based upon information the Permittee supplied to the Corps. This information includes the DA permit application, all information and analyses submitted by the Permittee to the Corps after publication of the Final Environmental Impact Statement and relevant parts of documents to include the NorthMet Project Water Management Plan – Mine dated December 2017 and the NorthMet Project Water Management Plan – Plant dated December 2017. The Permittee recognizes its commitment to conduct work in waters of the United States as described in materials it submitted. Enclosure A to this permit includes drawings depicting authorized activities and Enclosure B provides details on wetlands authorized to be filled.
2. The Permittee shall require, as a material condition of its contracts and subcontracts, that all its contractors and their subcontractors at any tier comply with the permit. A copy of the permit shall be available at the construction site(s) at all times and the Permittee shall ensure that all contractors and subcontractors are provided a copy of the permit and are familiar with the activities that have been authorized and familiar with all parts of the Project area containing waters of the United States that shall be avoided. The Permittee shall be responsible for ensuring that its contractors and subcontractors at any tier comply with this permit.
3. When work authorized by this permit begins, the Permittee shall notify the St. Paul District Corps of Engineers in writing at the following address: 180 5th Street East Suite 700, St Paul, MN 55101

4. The Permittee shall provide a shapefile identifying the footprint of the Project area, the 901.24 acres of wetlands authorized to be filled, the 26.93 acres of wetlands indirectly impacted by fragmentation and the 635.83 acres of wetlands at the Mine and Plant Sites to be avoided. This shapefile shall be provided to the Corps no later than 30 days before the start of work.

AVOIDANCE AND MINIMIZATION

5. The Permittee shall clearly identify the permitted limits of disturbance at the Project site with highly visible markers so that boundaries are clearly visible to all equipment operators before any discharge into waters of the United States on-site. The Permittee shall properly maintain such identification until construction, operation and reclamation activities are complete and the soils have been stabilized. The Permittee is prohibited from conducting any unauthorized Corps-regulated activity outside of the permitted limits of disturbance (as described in the permit).

6. The Permittee shall not discharge any dredged or fill material, place or stockpile any overburden, waste rock, equipment or other materials, operate, park or store any construction equipment or vehicles (whether temporarily or permanently), or engage in other ground disturbing activities in waters of the United States that have not been affirmatively authorized under this permit for those activities to take place.

FILL MATERIAL

7. The Permittee shall not discharge any dredged and fill material into waters of the United States until the portion of the Rock and Overburden Management Plan that addresses material to be discharged into waters of the United States is received and approved by the St. Paul District Corps of Engineers.

8. The Permittee shall not discharge any Biwabik formation (BIF) material into waters of the United States until such discharge is approved by the Corps. The Permittee shall prepare a BIF construction rock workplan including any modeling, sampling, and analyses necessary to demonstrate to the Corps that the material is suitable for discharge into waters of the United States.

9. The Permittee shall not discharge any LTVSMC tailings into waters of the United States until such discharge is approved by the Corps. The Permittee shall prepare an LTV tailings construction workplan including any modeling, sampling, and analyses necessary to demonstrate to the Corps that the material is suitable for discharge into waters of the United States.

10. The Permittee shall not discharge any waste rock into waters of the United States on-site unless the waste rock is Category 1 waste rock with a sulfur content of 0.05 % or less. This material shall not be discharged into waters of the United States until approved by the Corps. The Permittee shall prepare a workplan including any modeling, sampling, and analyses necessary to demonstrate to the Corps that the material is suitable for discharge into waters of the United States.

401 WATER QUALITY CERTIFICATION

11. All terms and conditions of the 401 Water Quality Certification issued by the Minnesota Pollution Control Agency are hereby incorporated as terms and conditions of this permit (Enclosure C).

ENDANGERED SPECIES ACT

12. The Permittee shall comply with the federal Endangered Species Act. The Permittee shall

also comply with Term and Condition 1 of the Biological Opinion issued by the US Fish and Wildlife Service (USFWS) on February 5, 2016 (Enclosure D). Specifically, if any hibernacula for the northern long-eared bat (NLEB) are found in the Project area, the Permittee shall not conduct any activities that disturb or disrupt hibernating NLEB individuals when they are present and shall not physically alter the hibernaculum's entrance or environment when NLEB are not present. This includes not conducting any tree removal within 0.25 miles (0.4 km) of any known NLEB hibernacula. The Permittee shall immediately notify the Corps and the USFWS Office if it is unable to comply with this Term and Condition so that consultation may be initiated as appropriate before the work begins.

NATIONAL HISTORIC PRESERVATION ACT (NHPA)

13. The Permittee shall comply with all stipulations and terms relevant to the Permittee's responsibilities under the NHPA listed in the December 15, 2016, Memorandum of Agreement between the United States Forest Service, the U.S. Army Corps of Engineers, the Advisory Council on Historic Preservation, PolyMet Mining, Inc., and the Minnesota Historic Preservation District regarding the NorthMet Mining Project (Enclosure E).

MINIMIZING INDIRECT EFFECTS

14. Prior to the initiation of any work authorized by this permit, the Permittee shall install erosion control measures along the perimeter of all work areas to prevent the displacement of fill material outside the authorized work areas into WOTUS. Immediately after completion of the final grading of the land surface, all slopes, land surfaces, and filled areas shall be appropriately stabilized to prevent erosion. The erosion control measures shall remain in place and be maintained until all authorized work is completed and the work areas are stabilized.

15. The Permittee shall maintain stream flows within the Embarrass River at +/- 20% of historic average annual flow. Stream gage data collected shall be provided to the St. Paul District on an annual basis.

MONITORING OF INDIRECT EFFECTS ON WETLANDS

General Data Collection and Reporting

16. Data for hydrology, vegetation, and wetland boundary monitoring shall be collected as described in the memorandum titled *Monitoring Plan for Potential Indirect Wetland Impacts* prepared by Barr Engineering Company dated March 2019 (Barr Memorandum).

17. Data shall be compiled into annual reports, with the first annual report submitted to the Corps by March 31, 2020. Each annual report shall include all required data and analyses related to monitoring of hydrology, vegetation and wetland boundaries based on the status of construction and operations of the Project. Details on when monitoring shall begin and when results shall be reported are addressed in Special Conditions 19 – 25.

18. All monitoring reports shall include methods used, results found, and evaluations performed to characterize indicators of potential adverse indirect wetland impact. When changes to hydrology, vegetation or wetland boundaries are documented as further described in conditions 21, 23 and 25, each monitoring report shall include recommendations for appropriate steps to respond to the documented change, to include additional monitoring, adaptive management and/or compensatory mitigation.

Reporting of hydrology data:

19. The Permittee shall compile wetland monitoring well data collected for hydrology monitoring into annual reports submitted to the St. Paul District by 31 March following the year of data collection. Data collected in 2019 shall be reported by March 31, 2020. Unless the 2017-2018 data is submitted before the 2020 report, that report shall also include 2017 and 2018 data.

20. The Permittee shall apply St. Paul District's memorandum titled, *Interpreting Monitoring Well Data for Determining Potential Indirect Hydrological Impacts to Wetlands* dated May 2018 to establish baseline hydrographs for all wells and to characterize hydrology indicators of potential adverse indirect wetland impact. The first report to be submitted in March of the year following the beginning of construction shall include the baseline hydrographs and minimum/maximum brackets for all wells. Baseline hydrographs shall be developed based on data collected up to the point that construction activities begin on-site.

21. The Permittee shall document all deviations from the established baseline when inundation and/or depth to the water table during the growing season does not remain within the minimum/maximum brackets documented by baseline monitoring well data when placed in context of hydrological conditions. Each annual report submitted after construction begins shall summarize all deviations from baseline monitoring well data meeting one or both of the following criteria: (1) frequency ≥ 2 growing seasons; or (2) duration ≥ 14 consecutive days.

Reporting of Vegetation Data:

22. The vegetation monitoring data shall be compiled into biennial reports submitted to the St. Paul District by 31 March following each two-year interval of vegetation monitoring. The first two year interval shall begin immediately following the initial approximate 18 month construction period.

23. For each individual vegetation monitoring location, PolyMet shall summarize any change in species richness that is 25% or greater; any change in living tree areal cover that is 25% or greater; any change in areal cover by living Sphagnum mosses (*Sphagnum* spp.) that is 25% or greater; any appearance of non-native and/or invasive species and their areal cover in a relevé where none were previously recorded; or a 25% or greater increase in non-native and/or invasive areal cover or number of species in relevés where non-native and/or invasive species were previously recorded (as baseline conditions); and a 25% or greater reduction of native hydrophytic species and/or their areal cover in the relevé; and a change in wetland type (Eggers and Reed 2015) and/or Native Plant Community Class (MDNR 2003). Information to explain the reason for such changes shall be included in the monitoring report.

Reporting of Wetland Boundaries

24. The wetland boundary data shall be compiled into reports at five-year intervals. The first five year interval shall begin immediately following the initial approximate 18 month construction period. The Permittee shall contact the St. Paul District if construction is expected to extend beyond 18 months and provide details on reason for and duration of the extended construction period. If initial construction is expected to extend for four or more months beyond the estimated 18 month period, the first five year interval shall begin as directed by the St. Paul District before the completion of initial construction.

25. Any loss of wetland area from the baseline wetland extent shall be described.

Assessment of Potential Indirect Wetland Impacts

26. Contents of each report shall be subject to review and approval by the Corps and the Permittee shall provide any corrections or additional information requested by the Corps within 30 days of the Corps' request.

27. If the St. Paul District makes a determination that wetlands have been adversely impacted, PolyMet shall provide a plan within 60 days for increasing monitoring, implementing adaptive management and/or providing compensatory mitigation for review and approval by the St. Paul District. Upon approval of the proposed plan, the Permittee shall implement the measures described within the approved plan within 60 days of notification of approval from the St. Paul District.

Duration

28. Monitoring well, vegetation and wetland boundary data shall be collected and reported as described above until the St. Paul District notifies PolyMet in writing that data collection may cease.

ADDITIONAL MONITORING OF HYDROLOGY AT SPECIFIC LOCATIONS

29. The well data collected at five wells shall be provided quarterly to the St Paul District. Specifically data collected on wells 2, 12, and 16 shall be provided on a quarterly basis once overburden removal begins at the east pit. Further, data collected on wells 32 and 33 near the west pit outlet shall be provided on a quarterly basis once overburden removal begins at the west pit. This data shall be collected and reported consistent with the protocol established in Barr Memorandum.

COMPENSATORY MITIGATION FOR AUTHORIZED IMPACTS

30. The Permittee shall provide 1278 mitigation credits from the Lake Superior Wetland Mitigation Bank to offset 901.23 acres of direct impacts and wetland loss and 27 acres of indirect fragmented wetland loss. The Permittee has demonstrated its purchase of these credits.

COMPENSATORY MITIGATION FOR INDIRECT EFFECTS

31. If compensatory mitigation to offset indirect effects is deemed necessary by the St Paul District, the Permittee shall be responsible for submitting a proposed compensation plan to offset the impacted wetlands. This plan shall be submitted to the Corps for review and approval within 60 days of notification that compensation is required. The compensation plan shall provide rationale for the location, type and amount of proposed compensation and shall consider the type and quality of impacted resource, the amount of impacted resource, type of impact (full or partial loss of functions), duration of impacts (short or long term, permanent or temporary) and importance of the affected resource in the watershed. The Permittee may propose to use advance credits it has purchased from the Lake Superior Wetland Mitigation Bank for all or a portion of the compensation. If the Corps notifies the applicant that the proposed compensation is insufficient to offset documented impacts, the Permittee shall submit a supplemental compensatory mitigation plan to the St Paul District for review and approval within 60 days of such notification. Once the St. Paul District reviews and approves mitigation plan, the Permittee shall implement the approved

plan within 60 days of notification of approval from the St. Paul District.

32. The Permittee shall retain the option to purchase up to 529 credits at the Lake Superior Wetland Bank. If not needed sooner to offset indirect impacts to wetlands documented in association with the Project, these options shall be retained by the Permittee until at least October 27, 2022.

33. If indirect effects are documented after option credits are no longer available or if indirect effects require more compensation than that available in the option credits, the Permittee shall be responsible for providing a compensatory mitigation plan proposing alternative compensation to the Corps for review and approval. Once the St. Paul District reviews and approves mitigation plan, the Permittee shall implement the approved plan within 60 days of notification of approval from the St. Paul District.

ENVIRONMENTAL REVIEW MEETINGS (ERMs):

34. The Permittee shall be responsible for scheduling ERMs with the Corps to periodically review the environmental compliance of the Project with respect to the Section 404 permit. Meetings shall be scheduled to occur annually and not later than June 30th of each year. No later than thirty days prior to the scheduled date of the ERM, the Permittee shall provide a project status update to the Corps that contains the following information:

- a. A shapefile showing completed work at the Project;
- b. Status of the Project including details on discharges authorized by the permit as well as operations and reclamation;
- c. Status of the Permittee's compliance with special conditions of the section 404 permit;
- d. Status of activities completed under state permits and any modifications, approvals, non-compliance, or other agency actions associated with these permits and/or approvals since the previous ERM;
- e. A summary of water quality data required by and reported to MDNR and MPCA;
- f. An assessment of the current environmental conditions at the site focusing on any new information not previously considered by the Corps and/or new inventories and/or impact analyses conducted by other federal, state, or local regulatory agencies.
- g. A summary of monitoring of indirect effects as required in Special Conditions 16-28.
- h. A summary of compensatory mitigation credit options, if any, that remain available at the Lake Superior Bank to offset indirect effects associated with the Project;
- i. Information on compensatory mitigation options including additional bank credits, in-lieu fee programs, and/or permittee-responsible mitigation if advance credit options have been expended to offset indirect effect debits or are close to being expended.
- j. If all credit options have not been purchased by September 27, 2022, the Permittee shall notify the Corps of its plan to either allow the purchase agreement to expire without purchasing the option credits or propose to extend the term of the option by six or twelve

months. The risk and likelihood of indirect effects shall be described in the Permittee's submittal and the Permittee shall retain the option credits for six or twelve months if directed by the Corps.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.
 - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
 - a. You fail to comply with the terms and conditions of this permit.
 - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.


(PERMITTEE SIGNATURE)

3-21-2019
(DATE)

Brad Moore, Executive VP for Environmental & Governmental Affairs
(PERMITTEE PRINTED OR TYPED NAME)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


Samuel L. Calkins
Colonel, Corps of Engineers
District Engineer

21 March 2019
(Date)

Operations Division
Regulatory Branch (MVP-1999-05528-TJH)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFeree SIGNATURE)

(DATE)

(TRANSFeree PRINTED OR TYPED NAME)