Fond du Lac Band of Lake Superior Chippewa

Resource Management Division

1720 Big Lake Rd.
Cloquet, MN 55720
Phone (218)878-7101
Fax (218)878-7130

Administration
Conservation
Enforcement
Environmental
Forestry
Fisheries
Natural Resources
Wildlife

August 2, 2018

Connie Cummins
Forest Supervisor, Superior National Forest
U.S. Forest Service
8901 Grand Avenue Place
Duluth, MN 55808
r9_superior_NF@fs.fed.us

Chad Konickson
Regulatory Branch, St. Paul District
U.S. Army Corps of Engineers
180 Fifth Street East, Suite 700
St. Paul. MN 55101-1638
chad.konickson@usace.army.mil

Re: Petition for Supplemental Environmental Impact Statement for NorthMet Mine Project

Dear Supervisor Cummins and Mr. Konickson:

The Fond du Lac Band of Lake Superior Chippewa submits this Petition to the federal co-lead agencies to prepare a supplemental environmental impact statement on the proposed NorthMet Mine Project and land exchange ("NorthMet Project" or "Project").[1] As the Band explains below, PolyMet has released new information that calls into question the financial viability of PolyMet's NorthMet Project unless that Project is substantially expanded in size. This new information about the design of Project elements and the likelihood of the Project's expansion was not examined at all in the proceedings on the Final Environmental Impact Statement ("FEIS") that was released in November 2015 and paints a substantially different view of the environmental picture surrounding the NorthMet Project. The agencies must take a hard look at this information in a supplemental EIS, to ensure that the potential environmental consequences of the NorthMet Project to the 1854 Treaty Territory, the Fond du Lac Reservation, and northeast Minnesota are

[1] On June 8, 2018, the Minnesota Center for Environmental Advocacy ("MCEA"), the Center for Biological Diversity, and the Friends of the Boundary Water Wilderness submitted a petition to you and the Commissioner of the Minnesota Department of Natural Resources ("DNR"), requesting that your agencies supplement the FEIS. The Band also incorporates all arguments made in that petition as to why a supplemental EIS should be prepared.

fully understood before final decisions are made on the permits required for the Project.

I. Legal Standard

As you know, the United States Army Corps of Engineers ("USACE") and the United States Forest Service ("USFS"), along with the Minnesota Department of Natural Resources ("DNR") jointly prepared the FEIS for this project. The Army Corps and the Forest Service did this to address the requirements of the National Environmental Policy Act ("NEPA").[2]

NEPA requires that federal agencies prepare a detailed statement of the environmental impact of proposed "major Federal actions affecting the quality of the human environment,"[3] in order to achieve the national environmental policy described in the Act.[4]

NEPA imposes onto the agencies a continuing responsibility to use "all practicable means" to, *inter alia*, "fulfill the responsibilities of each generation as trustees of the environment for succeeding generations," "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings," and "preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice . . . ."[5] In order to further these purposes, agencies are required to take a "hard look" at the environmental consequences of a proposed project, and memorialize them in an EIS.[6]

The NEPA regulations provide that agencies "shall" prepare a supplement to a final EIS if "[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."[7] Agencies also have discretion to "prepare supplements when the agency determines that the purposes of [NEPA] will be furthered by doing so."[8]

Under these provisions, "[t]he need for supplementation 'turns on the value of the new information to the still pending decisionmaking process.'"[9] New information justifies the

---

[2] Minn. Dep't of Nat. Res., et al., *NorthMet Mining Project and Land Exchange Final Environmental Impact Statement* at 1-13 to 1-14 (Nov. 2015), *available at* https://www.dnr.state.mn.us/input/environmentalreview/polymet/feis-toc.html. The DNR did this work to meet its obligations under the Minnesota Environmental Policy Act.
[3] 42 U.S.C. § 4332(2)(C).
[4] *Id.* § 4332(1).
[5] 42 U.S.C. § 4331(b).
[6] *Aberdeen & Rockfish Co. v. Students Challenging Regulatory Agency Procedures (S.C.R.A.P.)*, 422 U.S. 289, 323 (1975).
[7] 40 C.F.R. § 1502.9(c)(1).
[8] *Id.* § 1502.9(c)(2).
[9] *Friends of Capital Crescent Trail v. FTA*, 877 F.3d 1051, 1060 (D.C. Cir. 2017) (quoting *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 371 (1989)).

supplementation of an EIS when, in light of NEPA's regulatory scheme, it "'provides a seriously different picture of the environmental landscape'" than that which existed at the time the EIS was drafted.[10] This is often the case when a project is unexpectedly scaled-up after the issuance of an FEIS: "[L]arge increases in project scale place decisionmakers under a duty to investigate whether it is likely that there would be a significant change in the environmental picture."[11] Federal courts have found that supplementation is required when new evidence indicates that, for instance, the amount of land that could be cleared as a result of a federal project is double what was originally thought, or where new information indicates that a project will need 50% more land than originally projected.[12]

Moreover, NEPA requires agencies to review interconnected or sequential proposals that will have cumulative effects on the environment. A NEPA EIS "shall" include consideration of any "cumulative" impact,[13] which is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."[14]

Agencies must evaluate the "cumulative impacts" of "past, present, and *reasonably foreseeable actions*" regardless of whether those actions are in formal "proposals" before the agency or not.[15] Consistent with its obligation to take a "hard look" at the environmental impacts of government actions, when an agency considers a reasonably foreseeable action it "should not attempt to travel the easy path and hastily label the impact of the [action] as too speculative and not worthy of agency review."[16] And, an agency should not segment one

---

[10] *Nat'l Comm. for New River v. FERC*, 373 F.3d 1323, 1330 (D.C. Cir. 2004) (quoting *Marsh*, 490 U.S. at 374); *see Wisconsin v. Weinberger*, 745 F.2d 412, 418 (7th Cir. 1984).

[11] *Sierra Club v. Marsh*, 714 F. Supp. 539, 569 (D. Me. 1989) (citing *La. Wildlife Fed'n v. York*, 761 F.2d 1044 (5th Cir. 1985); *Envtl. Defense Fund v. Marsh*, 651 F.2d 983, 1006 (5th Cir. 1981)).

[12] *Id. Accord Mont. Envtl. Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1092 (D. Mont. 2017) (agency was required to prepare a new EIS for a proposed mining plan modification that would at least double, and perhaps quintuple, the amount of coal mined annually at the mine, and it could not rely on earlier EISs or EAs associated with the mine that assumed a much lower annual coal production).

[13] 40 C.F.R. § 1508.25(c)(3).

[14] *Id.* § 1508.7.

[15] *Tex. Comm. on Natural Res. v. Van Winkle*, 197 F. Supp. 2d 586, 614-17 (N.D. Tex. 2002) (quoting *Or. Natural Res. Council v. Marsh*, 832 F.2d 1489, 1497-98 (9th Cir. 1987), *rev'd on other grounds*, *Marsh*, 490 U.S. 360) (emphasis added); *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1078-79 (9th Cir. 2005); Terence L. Thatcher, *Understanding Interdependence in the Natural Environment*, 20 Envtl. L. 611, 624 (1990) ("the obligation to analyze cumulative impacts is not limited to actual proposals").

[16] *Mont. Envtl. Info. Ctr.*, 274 F. Supp. 3d at 1091 (quoting *Colo. River Indian Tribes v. Marsh*, 605 F. Supp. 1425, 1434 (C.D. Cal. 1985)).

project that affects the environment into smaller pieces and consider them independently of each other, in a way that would prevent analysis of cumulative impacts.[17]

The cumulative impacts analysis requires an agency to consider proposed future phases of a project if they are interdependent with the current phase under consideration, such that "it would be irrational, or at least unwise, to undertake the first phase if subsequent phases were not also undertaken."[18] For instance, a supplemental EIS dealing with a project to build a timber road should also consider effects from cutting down and selling timber, although cutting down timber is not necessarily a part of building a timber road, since it would be "irrational to build the road and then not sell the timber to which the road was built to provide access."[19] It is also improper for an EIS concerning a mining project to rely on a low-end estimate of how much resource will be extracted, when a substantially larger amount of economically viable resources can be extracted, and so it is likely that further mining will take place.[20]

New information about the impacts of PolyMet's proposed mine has arisen here. In subsequently-filed applications for state law permits that are required for Project operations, PolyMet has revealed new information about how it will manage and operate the NorthMet Project that call into question the assumptions on which the FEIS was based. Additionally, substantial new information has been provided in PolyMet's Technical Report on the NorthMet Project. This information obligates the USACE and USFS to supplement the FEIS. In particular, the Technical Report "provides a seriously different picture" of how PolyMet's mining operations will affect the human environment, because it shows that PolyMet will likely expand the Project far beyond its original size and scope, either as a matter of the Project's initial development, or by future development which will result in cumulative environmental effects. As we explain further below, the Technical Report shows that the processing of ore at the NorthMet Project will almost certainly expand far beyond the size contemplated by the FEIS—an outcome that the co-lead agencies expressly decided not to evaluate while preparing the FEIS.[21] In particular, the information about the economic viability of the Project would make it "irrational, or at least unwise," to develop the mine without expanding it to increase PolyMet's rate of return. This new information requires the agencies to prepare a supplemental EIS, in which they must take a "hard look" at the possible impacts of the NorthMet Project on, *inter*

[17] *See Stewart Park & Reserve Coal., Inc. v. Slater*, 352 F.3d 545, 560 (2d Cir. 2003); *Nat. Res. Defense Council v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988).
[18] *Thomas v. Peterson*, 753 F.2d 754, 759 (9th Cir. 1985), *recognized as abrogated on other grounds*, *Cottonwood Envtl. Law Ctr. v. U.S. Forest Serv.*, 789 F.3d 1075, 1088-89 (9th Cir. 2015).
[19] *Id.*
[20] *See Native Vill. of Point Hope v. Jewell*, 740 F.3d 489, 500-04 (9th Cir. 2014).
[21] The co-lead agencies declined to consider potential expansion of the mine in the FEIS. *See* FEIS at 3-5 to 3-6 ("Proposed Action and Alternatives"); *see also id.* at App. A: Response to Comments on the DEIS and SDEIS, at A-449 to A-450.

alia, the surface waters and Treaty Territory resources that could be affected by contamination from the Project.

II. PolyMet's March 2018 Technical Report Paints A Seriously Different Picture of the Proposed Project

PolyMet Mining, Inc. is a subsidiary of the Canadian company PolyMet Mining Corporation.[22] On March 26, 2018, the PolyMet Mining Corporation released its Updated Form NI 43-101 Technical Report for the NorthMet Project, as required by Canadian law.[23] The purpose of the Technical Report is to inform investors of the financial viability of the NorthMet Project.

These investors include the Anglo-Swiss mining company Glencore PLC, which is part-owner of PolyMet Mining Corporation and the primary investor in the NorthMet Project.[24] The Technical Report's findings show that the Project will not be financially viable at the size and scale described and analyzed in the FEIS and recommends a dramatic expansion of the size of the NorthMet mine. Such an expansion will necessarily mean that the impacts of the NorthMet Project will be different, and larger, and that the Project will pose a much more substantial threat to the environment—impacts that have not been evaluated.

In order to provide sufficient information to Glencore and its other investors, PolyMet's Technical Report includes an economic analysis for the life of the NorthMet Mine.[25] The Technical Report assumes that the mine will exhaust a 225 million ton orebody, processing on average 32,000 short tons of ore per day ("STPD") over the twenty-year life of the mine.[26] The Technical Report projects this will generate an average annual revenue of $292 million,

---

[22] Ex. 1, M3, *NorthMet Project: FORM NI 43-101F1 Technical Report* § 1 (Mar. 26, 2018) ("Technical Report") ("Executive Summary" describing PolyMet Mining Corporations' ownership of PolyMet Mining, Inc.). Because both parties are involved in developing the NorthMet Project, we refer simply to "PolyMet" when discussing representations made or actions taken by either the Canadian parent company or its U.S. subsidiary to develop the NorthMet Project. When otherwise necessary, we distinguish between PolyMet Mining, Inc., and PolyMet Mining Corporation.

[23] *See* Technical Report, Cautionary Note & § 2.1 ("Purpose").

[24] *See* Ex. 2, John Myers, *PolyMet Gets Cash Infusion from Glencore*, DULUTH NEWS TRIBUNE (Mar. 26, 2018), https://www.duluthnewstribune.com/business/energy-and-mining/4422866-polymet-gets-cash-infusion-glencore ("PolyMet Mining. Co. has received another $80 million infusion of cash from its largest investor, Swiss-based Glencore, as the proposed Minnesota copper mine inches toward possible approval. PolyMet announced Monday that it has restructured $152 million of debt already owed to Glencore, lowering the interest rate and extending the terms through March 2019."). As described in the Technical Report, "Phase I" of the NorthMet mine's operations will "produce commercial grade copper and nickel concentrates for which Glencore . . . currently holds offtake agreements payable at market terms." Technical Report § 1.1.1.

[25] Technical Report § 1.9, 22.

[26] *Id.* § 22.1.

resulting in an internal rate of return ("IRR") of 9.6% for Phase I of the Mine's operations and 10.3% for both Phases I and II combined.[27] It also found that relatively small changes in the average price of metals over the twenty-year life of the mine could dramatically reduce the viability of the NorthMet Project. For instance, a 5% reduction in the average price of metals expected to be produced by the Project would reduce the IRR to 8.5% for Phase I & II—cutting the IRR by nearly a fifth.[28] A 10% reduction would reduce the IRR to 6.5% - an IRR reduction of nearly a third. Meanwhile, even a 10% increase in average metal prices will only raise the IRR to 13.6%.[29] This presents a serious problem for PolyMet, because even this higher-end rate of return is too low.

As the MCEA and other petitioners explained in their June 8 petition for a supplemental EIS, supported by expert analysis, major mining firms typically require an internal rate of return of 30% or even 40% before approving a new mining project.[30] In 2001, PolyMet decided not to pursue NorthMet after a pre-feasibility study estimated an IRR for NorthMet of 14.09%, and only reversed course and pursued the project after a 2006 feasibly study found that the mine would produce an IRR of 26.7%.[31] The Technical Report's projections do not match either number.

Because of how low the NorthMet Project's IRR is projected to be, PolyMet's Technical Report assesses two alternative plans for the NorthMet Project that would make it economically viable. Both require dramatically increasing the scale of the Project and the amount of ore that would be mined and processed there.[32] Under these scenarios, PolyMet would increase the Project's processing rate to either 59,000 STPD, or 118,000 STPD. The economic analysis of these alternative plans found that increasing the processing rate to 59,000 STPD would increase the IRR to 18.5%, and increasing it to 118,000 STPD would increase the IRR to 23.6%.[33] In short, the only way for PolyMet to approach the level of IRR that would justify the NorthMet Project is to more than triple the Project's daily processing rate, expand the pit mine, and dramatically change the design of its waste processing and storage facilities to handle a huge increase in waste. Adopting either scenario would require substantial changes to the plant site's flotation capacity, the hydrometallurgical plant, and the tailings basin to

[27] *Id.* tbl.1-5 ("Financial Summary").
[28] *Id.* tbl.22-5.
[29] *Id.*
[30] Letter from MCEA, et al., to Tom Landwehr, Comm'r, Dep't of Natural Res., et al., at 6 (June 8, 2018) ("MCEA Petition").
[31] *Id.* (citing PolyMet Mining Corp., *PolyMet Receives Positive Definitive Feasibility Study for Its NorthMet Copper-Nickel-Precious Metals Project* (2006), http://www.marketwired.com/press-release/polymet-receives-positivedefinitive-feasibility-study-its-northmet-copper-nickel-precious-tsx-venture-pom-613636.htm).
[32] Technical Report §§ 1.10, 24
[33] *Id.* § 24.3, tbls.24-4, 24-5.

accommodate an enormous amount of additional waste.[34] The latter, more economically viable option of expanding the mine to 118,000 STPD would require expanding the planned size of the pit mine, and making numerous other modifications to the planned plant and mine sites to address the dramatic increase in production.[35] In light of these findings, the Technical Report recommends that PolyMet engage in "additional engineering and environmental studies . . . at a pre-feasibility study level to further refine the costs, valuations and environmental requirements for the potential 59,000 STPD and 118,000 STPD production scenarios."[36]

PolyMet Mining, Inc.'s CEO recently indicated PolyMet would prefer to expand the Project along similar lines as described in the Technical Report, explaining to the press that PolyMet was considering expanding the Project up from 32,000 STPD, as "[t]here's significant additional economic potential for the remainder of the resource, for relatively low additional capital costs."[37] This would be consistent with a valuation analysis that PolyMet commissioned in 2013, which projected that production at the NorthMet Project would eventually increase from 32,000 STPD to 90,000 STPD, because "[t]he real value is in getting that second project [the increase to 90,000 short tons per day] built . . .[t]he economics are huge."[38]

It is clear that, given the economics of NorthMet Project and the viewpoints expressed by PolyMet executives, the Project will have to be expanded far beyond its present capacity to even approach economic viability. Given the apparent economic realities of the Project, it would be "irrational, or at least unwise" for PolyMet to only mine 32,000 STPD without expanding the Project further. The co-lead agencies' reliance on the 32,000 STPD number for the EIS is no longer supportable given that it will need to mine far more of the orebody at the Project site to justify the Project. Thus, it is clearly foreseeable that there will be cumulative impacts resulting from PolyMet's expansion of the Project. PolyMet's own Technical Report recognizes the likelihood of additional, yet-unstudied cumulative impacts, by recommending additional environmental studies for the expanded plans. Below, the Band highlights how the substantial increase to the scale of the project seriously affects the picture of the project's impacts on the environment from that considered in the November 2015 FEIS. These impacts pose serious threats to the surface waters and resources of the 1854 Treaty Territory. We discuss several relevant features of the Project in turn.

[34] *Id.* §§ 24.2.5.3, 24.2.5.6, 24.2.5.7.
[35] *Id.* § 24.2; *see id.* § 24.2.4, 24.2.5.
[36] *Id.* § 1.11; *see id.* § 26.
[37] Ex. 3, Dan Kraker, *As PolyMet Mine's Costs Rise, Potential Profits Called Into Question*, MPRNEWS, Mar. 27, 2018, https://www.mprnews.org/story/2018/03/27/polymet-costs-rise-but-so-do-potential-profits.
[38] MCEA Petition at 9 (quoting Josephine Marcotty, *Before Open Pit Copper Mine Opens in Northern Minnesota, the Expansion Debate Has Started*, STAR TRIBUNE, Nov. 27, 2013, http://www.startribune.com/beforecoppermine-opens-in-ne-minn-expansion-debate-begins/233560181/ (attached as Ex. 4)).

III. The Proposed Expansion of the Project Has Significant Environmental Impacts that Require Examination in a Supplemental EIS

The issues discussed in Sections III.A through F below highlight several of the major environmental issues that are triggered by the substantial expansion in the size and scope of the proposed NorthMet Project discussed in PolyMet's March 2018 Technical Report. All of these have direct effects on water quality downstream of the Project both within the 1854 Ceded Territory where the Fond du Lac Band holds treaty-reserved rights to hunt, fish and gather natural resources, as well as the Fond du Lac Reservation itself. The likely expansion of the mine will have environmental impacts that will inevitably affect the Band's ability to exercise treaty rights that are critical to Band members' ability to provide food for themselves and their families and to engage in practices that are central to Ojibwe culture, religion and identity. The likely expansion of the mine and its effects on the waters within and surrounding the mine, will also expand the mine's adverse impacts on the habitat of fish and game by, for example, increasing the loss of irreplaceable wetlands and increasing bioaccumulative contaminants in the food chain, such as mercury. The proposed expansion of the mine will also likely increase adverse impacts on traditional cultural properties—putting at greater risk the Spring Mine Lake Sugarbush and wild rice waters which are sacred to the Ojibwe. The federal government's obligations to carefully evaluate these impacts and to then bring that evaluation to bear on decisions regarding the project are compelled not only by NEPA, but by the obligations that the United States assumed in its treaties with the Lake Superior Chippewa and its trust responsibility.

A. Hydrometallurgical Residue Facility

The FEIS, which was issued in November of 2015, contemplates that hydrometallurgical residue produced by ore processing will "be placed within new dams built on top of the existing LTVSMC Emergency Basin adjacent to the existing tailing facility."[39] Residues produced during processing will be pumped into this "hydrometallurgical residue facility" ("HRF"), where "[t]he solids would settle . . . to be stored permanently . . . ."[40] The November 2015 FEIS predicted that, at a 32,000 STPD processing rate, "the projected hydrometallurgical residue generation rate would be 313,000 tons annually and up to total of 6,170,000 tons."[41] This already-massive

[39] FEIS at 3-93. The LTVSMC Emergency Basin is a retaining basin which was constructed by the former owner of the Project Site, LTV Steel Mining Company ("LTVSMC"), which operated ore processing facilities at the Project site. The LTVSMC Emergency Basin was filled with various waste products from LTVSMC's ore processing facilities, including taconite tailings, accidental waste overflows, spillage, and floor drainage, and sump overflows. FEIS at 4-438 to 4-439.
[40] FEIS at 3-114.
[41] *Id.* at 3-117; HRF Mgt. Plan at 6.

amount of waste would be held back by dams, coated in a double lined cell, "developed incrementally as needed, expanding vertically and horizontally from the initial construction."[42] Building up the dam would "occur as needed to maintain adequate capacity."[43] The HRF, including the earthen dams, will be lined by a "composite liner system utilizing a geomembrane liner above a geosynthetic clay liner," designed to eliminate leakage of residue into groundwater.[44] The FEIS says that the liner is designed to work for 500 years and is "not expected to degrade over that time."[45]

Although PolyMet has repeatedly maintained that its concentrated residue waste would not be "hazardous," it did admit in its HRF Management Plan, attached to its application for a state dam permit, that HRF waste would be acidic and that over the long-term acid generation would likely be greater than neutralizing capacity.[46] Other dangerous materials will be retained in the HRF. The FEIS acknowledges that 164 pounds of mercury would be deposited in the HRF each year.[47] Therefore, over the course of the proposed 20-year life of the mine, up to 3,280 pounds of mercury could be deposited in the HRF. PolyMet technical reports indicate that hydrometallurgical residue would have sulfate levels of 7,347 milligrams per liter.[48]

The FEIS also anticipated that sludge from wastewater treatment would be stored in the HRF.[49] As discussed below, since the FEIS, PolyMet has changed its design for waste water treatment at the Mine and Plant Sites from that contemplated in the FEIS. PolyMet has since submitted a state dam permit application for the HRF dam, specifying that it intends to recycle "solid wastes" from its new wastewater treatment system into the Hydrometallurgical Plant, which would deposit residues from processing those solid wastes into the HRF.[50] Wastewater treatment reject concentrate processed by the HRF could contain concentrations of arsenic,

---

[42] FEIS at 3-117.
[43] *Id.*
[44] *Id.* at 3-125.
[45] *Id.*
[46] Barr Eng'rg, *NorthMet Dam Safety Permit Application: Hydrometallurgical Residue Facility* (May 2017), ("HRF Dam Permit"), Appendix A, Barr Eng'rg, *NorthMet Project Residue Management Plan*, at 6 (May 15, 2017), *available at* https://files.dnr.state.mn.us/lands_minerals/northmet/dam-safety/v2/dam_safety_permit_application_hydromet_residue_facility_v2_may2017.pdf.
[47] FEIS at A-414.
[48] SRK Consulting, *RS33/RS65 – Hydrometallurgical Residue Characterization and Water Quality Model – NorthMet Project*, at 26 tbl.6-2 (Draft-01, Feb. 2007), *available at* https://files.dnr.state.mn.us/lands_minerals/northmet/permit_to_mine/25_hydromet_residues_wq.pdf .
[49] FEIS at 3-53, 5-101 & figs.3.2-12, 3.2-13, 5.2.2-20.
[50] HRF Dam Permit at 1.

lead, manganese, copper and other metals as much as three orders of magnitude above applicable water quality standards.[51]

A massive increase in the amount of ore processed by the NorthMet Project would cause a concomitant increase in the amount of waste residues that would need to be deposited in the HRF, requiring the HRF and its retaining dam to be much larger. This has been, and continues to be, especially concerning because of the inadequate nature of PolyMet's review of the potential that the HRF could fail, and the potential results of failure. In the documentation supporting the proposed state permit for the HRF, PolyMet provided a cursory and incomplete analysis of what might happen in the event of a dam break,[52] simply writing off the need to disclose any consequences of any dam breach or failure at the HRF, claiming that no potential hazards need be discussed since various failure scenarios are "improbable" or "have a low probability" of occurrence.[53] However, the engineering consultants retained by the DNR to review HRF dam safety determined that there is a serious potential for HRF dam failure due to inadequacy of the foundation beneath the proposed HRF and the risk of liner deformation. The EOR Dam Safety Review team advised the DNR in May 2017 that "[t]he soft ground beneath the proposed residue facility consists of up to 30 feet of slimes, peat and tailings concentrate. This will not be an adequate foundation for the 80-foot-high basin."[54] The EOR review further noted, "[t]he basin will have a geomembrane or geosynthetic liner. The liner could deform and fail if the existing underlying material cannot support the material added to the basin."[55] That risk is amplified by the fact that PolyMet seeks to place the HRF on top of wetlands adjacent to St. Louis River tributary streams. This is especially concerning to the Band, which is a downstream water regulator on the St. Louis River. Obviously, this risk would be magnified further by an expansion of the HRF, as would be required if mining and ore processing at the NorthMet Project is increased to the amounts that the Technical Report indicated are necessary to approach economic viability.

---

[51] *See* Barr Eng'rg Co., *NorthMet Project Water Modeling Data Package Volume 1 – Mine Site* at 452 (2015) (FEIS reference document PolyMet 2015m), (data showing wastewater reject concentrate, even before it is dewatered would contain: 1,150 µg/L of arsenic (2 µg/L criterion for drinking water); 16,600 µg/L of manganese (100 µg/L HRL for drinking water); 847 of cobalt (5 µg/L surface water limit); 11,600 µg/L of copper (9.3 µg/L limit in water with 100 mg/L hardness); 1,290 µg/L of lead (3.2 µg/L limit in water with 100 mg/L hardness)).

[52] HRF Dam Permit, Appendix A, Attachment L, Tech. Memo. from Tom Radue, Barr Eng'rg Co., to PolyMet Mining Co. (July 11, 2016).

[53] *Id*. at 2 ("[H]ydrologic and hydraulic modeling to detail the extent of inundation from an HRF dam break is not warranted because no plausible HRF dam failure scenarios have been identified.") *See also id.* at 2-4.

[54] Emmons & Olivier Res. Review Team, PolyMet Dam Safety Permit Application Review, at 5 (May 15, 2017), *available at* http://files.dnr.state.mn.us/lands_minerals/northmet/dam-safety/memo_dam_safety_permit_review20170515.pdf.

[55] *Id.* at 6.

PolyMet's March 2018 Technical Report presents a significantly changed picture of the scale of the HRF. The proposal to more than triple the mine's production compels a reassessment of what methods and technologies will be used to contain residues, the content of those residues, the likelihood of dam failure for an expanded HRF, and the potential effects of such a failure on the downstream watershed. A supplemental EIS is absolutely necessary to address these changes.

B. Flotation Tailings Basin

The FEIS anticipated that the NorthMet Project would produce 11.27 million short tons of flotation tailings annually.[56] These tailings will be deposited into a Flotation Tailings Basin ("FTB"), constructed on top of an existing basin of tailings and slimes left behind by LTVSMC, and a nearby Coal Ash Landfill.[57] The LTVSMC tailings basin is made up of three cells, each of which is held back by dams of different heights, ranging from 1,595 above mean sea level to 1,735 above mean sea level.[58] Tailings from the NorthMet Project will be deposited into the FTB in a slurry form, through a system of pumps and movable pipelines.[59] Slurry would be deposited over discharge beaches or underwater in the FTB pond.[60] The tailings in the slurry would be held back by a series of twenty-foot fall "lifts," constructed out of tailings from the LTVSMC basin, built one on top of each other as the FTB fills.[61] When they reach their final elevation after the construction of eight lifts, the FTB dams will be roughly the same height as the highest existing LTVSMC tailings basin dam, which is about 150 feet above the lowest LTVSMC tailings basin dam.[62] In short, PolyMet will dump so much slurry on the LTVSMC tailings basin cells that it will merge the existing cells into one massive reservoir, as high as the currently-highest cell of the LTVSMC tailings basin, and filled to the brim with waste. In order

[56] FEIS at 3-104.
[57] The LTVSMC Tailings Basin is a "disposal facility" that LTVSMC built to hold the accumulated tailings produced during its former operations at the Site. *See* FEIS at 4-113, 4-126. LTVSMC deposited tailings there from 1953 until 2001. *Id.* at 4-147. The LTVSMC Tailings Basin is unlined and its perimeter embankments do not have a clay core or cutoff, meaning that water seeps both through and under the basin embankments – in 2015, the FEIS estimated the total seepage rate from the LTVSMC Tailings Basin to the Embarrass River to be 2,590 gpm. *Id.* In short, it is not a natural feature, was not designed to comply with modern environmental protection standards, and was not constructed to serve as the foundation for an expanded waste storage basin. The Coal Ash Landfill was a "solid waste storage site" into which LTVSMC dumped fly ash, dredging spoil, and coal pile cleanup material. *Id.* at 3-105. As with the LTVSMC Tailings Basin, the Coal Ash Landfill was not designed as the foundation for a waste storage basin.
[58] *Id.* at 3-104.
[59] FEIS at 3-105.
[60] *Id.*
[61] *See* FEIS at 5-647. The final "lift" as planned would be ten feet tall.
[62] *Id. See id.* fig.5.2.14-6 (showing cross-section of planned tailings basin on top of existing tailings and slimes).

to support the new dams required to hold back this immense amount of material, PolyMet will also construct a rock buttress around the existing dams at the LTVSMC tailings basin.[63]

The new dams, much like the existing LTVSMC tailings basin dams, will not have an interior liner.[64] But PolyMet plans to build a "bentonite-amended oxygen barrier layer" into the exterior sides of the new dams "as part of construction."[65] PolyMet has designed a storm water management system for the dams, but if that system proves unable to prevent erosion of the dams, then as yet undefined but "more robust erosion control measures would be implemented."[66] In the event of overflow from precipitation, excess water would be pumped into the planned waste water treatment plant—if this is not sufficient to handle the excess, then water would be directed into an "emergency overflow spillway."[67]

It is unclear how PolyMet's plan for the FTB will change if it increases ore processing by two- or three-fold. Such an increase in production will also substantially increase the amount of tailings slurry that PolyMet will need to deposit on top of the existing LTVSMC tailings basin and Coal Ash Landfill. That being the case, PolyMet will likely need to construct more "lifts" to create bigger dams to hold back all the waste. It is not clear whether the existing LTVSMC tailings basin dams could support bigger FTB dams, or whether the existing tailings would provide enough material to build the additional "lifts." PolyMet may also need to change its dam construction plan to ensure the existing dams provide sufficient support for the new FTB dams. Larger dams may also require new or different storm water management systems to prevent erosion.

The increased size of the FTB may also have impacts on water quality which need to be assessed in a supplemental EIS. There should be an evaluation of whether a large increase in the amount of tailings stored on top of the LTVSMC tailings basin and Coal Ash Landfill could directly impact water quality. The expanded "lifts" required to hold back the waste could also cause greater constituent loading into pore water. If the FTB is larger, then overflow caused by unusual precipitation events would also be more substantial, calling into question the efficacy of PolyMet's overflow design. And, as discussed below, PolyMet has redesigned the Plant Site waste water treatment plant that it described in the FEIS, and has since developed a plan for a waste water treatment system to serve both the Plant Site and Mine Site. Without analysis in a supplemental EIS, it is unknown whether, and how, this new system will address overflow from an expanded FTB.

---

[63] *Id.* at 3-105.
[64] *Id.*
[65] *Id.*
[66] *Id.* at 5-646.
[67] *Id.*

Moreover, as the Band has previously stated, there are already significant unanswered questions about the efficacy of the FTB dams, from both safety and environmental protection standpoints. As noted in the FEIS, "[t]he large-scale waste material storage facilities proposed for the NorthMet Project Proposed Action would require compliance with MDNR nonferrous mining and dam safety rules, as well as the MPCA NPDES/SDS permit. The Dam Safety permit requires that design and safety criteria be met to reduce the risk of potential failure."[68] The FEIS found that the FTB dams would meet relevant stability requirements on the basis that PolyMet would construct the dams using Cement Deep Soil Mixing (CDSM) in conjunction with dam toe buttressing.[69] However, in the draft state dam permit, submitted after the FEIS was approved, PolyMet abandoned reliance on the CDSM method, and proposed to use larger, modified toe buttressing as an alternative. This major modification in FTB dam construction has not been appropriately evaluated since it was not included in the FEIS and has not been subject to the environmental review process. The likely expansion of the size of the FTB makes the need for proper evaluation in a supplemental EIS even more pressing.

In its comments on the state dam permit, the Band additionally raised the possibility of increased direct wetland impacts from the additional fill required for constructing these larger buttresses, and from potential affects to the proposed seepage capture and collection system for contaminated water discharging from the tailings basin toe.[70] As to contaminated water discharging from the tailings basin toe, the FEIS estimated that 3,880 gallons per minute ("gpm") of water would seep out of the basin up to mine year 25, and then there would be 1,620 gpm of seepage during subsequent long-term maintenance.[71] The FEIS further estimated that, during mine operations, 3,860 gpm of the total 3,880 gpm of seepage modeled would be collected from the unlined, permanent FTB. This represents a nearly perfect collection rate of 99.5%.[72] The FEIS estimated a similar collection rate of 98.8% during long-term maintenance.[73] In order to arrive at this conclusion, the FEIS first assumed that all but 200 gpm (5%) of total NorthMet tailings seepage will be "surface seepage."[74] Then, based on PolyMet's modeling, the FEIS assumed that 100% of both tailings surface seepage and groundwater seepage would be captured on both the east side and the south side of the tailings waste facility,[75] and that 100% of the surface seepage and 90% of seepage retained in groundwater would be captured at the

[68] *Id.* at 5-627.
[69] *See* FEIS at 5-645 to 5-647.
[70] Ex. 5, Letter from Nancy Schuldt, Water Projects Coordinator, Fond du Lac Band, to Tom Landwehr, Comm'r, Minn. Dep't of Natural Res., at 4 (Oct. 16, 2017).
[71] FEIS at 5-181, tbl.5.2.2-37.
[72] *Id.*
[73] *Id.*
[74] *Id*. at 5-179.
[75] *Id*. at 5-8, 5-102.

north, northwest and west toes of the tailings storage facility.[76]

However, in contrast to the commitments on which the FEIS was based, PolyMet walked back these promises in its state permit to mine application, stating that "tailings basin seepage will be *collected to the extent practical* by the FTB seepage capture systems."[77] This change is substantial, as it eliminates the performance standards that the FTB design was intended to meet. The recent disclosure, in PolyMet's March 2018 Technical Report, that the mine will likely be substantially expanded from a 32,000 STPD processing rate, to as much as 118,000 STPD, compounds the need for a careful and comprehensive review of the projected seepage and capture rates as well as the design of the FTB.

In sum, the FEIS did not consider the plans that would need to be in place to address the amount of tailings that would be produced by an 118,000 STPD processing rate over the life of the mine. Increasing processing means increasing the amount of tailings produced, which will inevitably affect the size and scale of the FTB, the size of the dams required to hold back tailings, the design of the dams and buttressing, the potential seepage from the basin into wetlands and waterways, the demands on the waste water treatment system, and the impact on surface water streams that will be depleted by water appropriations and seepage containment. All of these have vastly different and far more extensive adverse environmental impacts—none of which have been considered at all in the FEIS released in November 2015. This substantial increase in the scale of the project could well require alternative design, operation, and remediation to limit adverse environmental effects. For example, the massive increase in the scale of the mine heightens the need for careful consideration about whether an interior basin liner, or dry tailings storage, would be less environmental damaging alternatives to a flotation tailings basin. Supplementation of the FEIS to consider the environmental effects of PolyMet's likely expansion of the Project is therefore required.

C. Waste Water Treatment

The FEIS described the operation of two facilities where waste water produced by Project operations would be treated: A Plant Site Waste Water Treatment Plant ("WWTP"), and a Mine Site Waste Water Treatment Facility ("WWTF"). The operations of the WWTP and WWTF directly affect water quality not only at, but also downstream from, the Project site. The WWTF would treat water from the Mine Site contaminated by contact with stockpiles, the mine pit, and reject concentrate from the WWTP.[78] The WWTP would treat water contained by the FTB containment and seepage management system, as well as water dewatered from the

[76] *Id*. at 5-186.
[77] PolyMet Mining, *Permit to Mine Application: NorthMet Project* at 354 (Dec. 2017), *available at* https://www.dnr.state.mn.us/polymet/permitting/ptm/index.html ("Permit to Mine Application") (emphasis added). This is one of many examples where the Permit to Mine substantially departs from the elements of the proposed project as evaluated in the FEIS.
[78] FEIS fig.5.2.2-20.

HRF.[79] Both the WWTP and WWTF would provide treated water that would be used to fill the FTB,[80] including WWTF-treated water diverted from the East Pit of the Mine to prevent overflowing during periods of high precipitation and the annual spring snowmelt.[81] WWTF-treated water would be discharged into the mine pits and eventually into surface waters that flow into the Partridge River,[82] while WWTP-treated water would be discharged into surface waters, and into the West Pit of the Mine.[83] Because WWTF- and WWTP-treated water would be deposited into waters that flow into the Band's Treaty Territory and then downstream to the Fond du Lac Reservation, their operations will have a direct effect on the Band's ability to protect its waters and exercise treaty rights that depend on those waters.

The WWTF was a part of PolyMet's purported plans throughout the environmental review process; beginning with the release of the supplemental draft EIS, PolyMet assured that the project would protect water quality in the Partridge River watershed by upgrading the mine site WWTF during closure to provide reverse osmosis treatment of discharge and collected seepage.[84] In the FEIS, the WWTF is an essential part of the company's plans to protect water quality at the mine site during operations, closure, and post closure, and, according to PolyMet, would provide flexibility for adaptive engineering and contingency mitigation. The WWTF is referred to hundreds of times in the FEIS, and FEIS modeling of solute levels in the mine site surficial aquifer and surface water included treatment at the WWTF as a fundamental assumption.[85]

However, in a major change from the plans examined in the FEIS, PolyMet's state Permit to Mine Application proposes to eliminate the Mine Site WWTF and replace the WWTP with a "waste water treatment system," which will process waste water from both the Plant Site and Mine Site[86] This, in and of itself, is new information that dramatically changes the environmental picture considered by the FEIS and therefore requires a supplemental EIS. The importance of the WWTF to the FEIS is emphasized by the DNR's record of decision ("ROD") on the FEIS and USFS/PolyMet land exchange.[87] The agency relied on the WWTF to provide

[79] FEIS fig.5.2.2-21.
[80] FEIS at 5-102.
[81] *Id.* at 5-101.
[82] *Id.* fig.5.2.2-20.
[83] *Id.* fig. 5.2.2-21.
[84] *See, e.g.*, MDNR et al., *PolyMet NorthMet Supplemental Draft Environmental Impact Statement*, at ES-24, figs.3.2-1, 3.2-13, 3.2-19 (Nov. 2013), *available at* https://www.dnr.state.mn.us/input/environmentalreview/polymet/sdeis-toc.html.
[85] FEIS at 5-117 to 5-118, 5-162 to 5-178, 5-224 to 5-232 (regarding solute modeling).
[86] *See* PolyMet Mining, *NorthMet Project Adaptive Water Management Plan* § 1.0 (Dec. 8, 2017), *attached as* App. 11.4 to Permit to Mine Application.
[87] Record of Decision, *In re Final Envtl. Impact Statement for PolyMet Mining, Inc., NorthMet Mining Project & Land Exchange, St. Louis Cnty., Minn.* at 23, 30, 39 (Minn. DNR Mar. 3, 2016), *available at* https://files.dnr.state.mn.us/input/environmentalreview/polymet/polymet-eis-rod-030316-final.pdf.

adaptive engineering, adaptive mitigation, contingency mitigation and to achieve compliance with water quality criteria. The ROD specified that the project would include a "WWTF at the Mine Site (upgraded in closure to include reverse osmosis or an equivalently performing technology)."[88] The ROD repeated that "[t]he WWTF would be upgraded to a reverse osmosis ("RO") process or equivalently performing technology that would meet water quality targets during closure and long-term maintenance to manage sulfate concentrations."[89] Yet, now, under the terms of DNR's draft permit to mine, which incorporates the Permit to Mine Application[90], the WWTF will not exist at all, and it and the WWTP will be replaced by a "waste water treatment system," without any NEPA review of how this new system could potentially impact the environment.

PolyMet's more recent disclosures in its March 2018 Technical Report, stating its need to increase the amount of ore processed by the Project by more than three times the amount assumed in the FEIS, provide even more need for a supplemental EIS. Both the FEIS and the Permit to Mine Application anticipate the need to treat waste water produced by a 32,000 STPD processing rate. Neither explains whether the facilities they envision could meet the needs of the mine if its processing rate more than triples to meet the demand caused by a 118,000 STPD processing rate. And it is wholly unknown how discharges from either the WWTF and WWTP, or the modified waste water treatment system described in the draft permit to mine, would affect water quality if the mine's operations are expanded beyond 32,000 STPD to 118,000 STPD. A supplemental EIS is essential to evaluate these fundamentally important questions.

D. Water Appropriations

In addition to the foregoing, there are several substantial changes regarding water appropriation that were not addressed by, or are contrary to, assumptions made in the FEIS and which warrant a supplemental EIS.

First, as discussed in the Band's comments on PolyMet's draft state law water appropriations permit, the volumes of water appropriations in the draft permit are considerably larger than the volumes that were the basis for the FEIS analyses. The total appropriations for the Partridge River headwaters (the Mine Site) are more than an order of magnitude higher than FEIS estimates (P90): 28,820 gpm vs 2,815 gpm.[91] The total mine site appropriations include East, Central and West Pit dewatering; Category 1 waste rock containment, foundation, liner drainage; equalization basin and other construction; ore surge foundation, liner drainage

[88] *Id*. at 39.
[89] *Id*. at 54.
[90] *See Permit to Mine*, DNR, https://www.dnr.state.mn.us/polymet/permitting/ptm/index.html (issued Jan. 5, 2018) (website last visited July 10, 2018).
[91] *See* Draft Water Appropriations Permits Nos. 2016-1363, 2016-1364, 2016-1365, 2016-1367, 2016-1369, *available at* https://www.dnr.state.mn.us/polymet/permitting/water_app.html.

and underdrain; and all mine site infrastructure.[92] Plant Site water appropriations, as defined in the draft permit, are more than double the volume estimated in the FEIS: 7,150 gpm vs 2,697 gpm.[93] In fact, water appropriations related to the HRF wick drain operations (3,000 gpm) were not addressed at all in the FEIS.[94] Apparently, PolyMet's plans have changed since the FEIS was issued, and these changed plans now form the basis for PolyMet's required state law permit. A supplemental EIS is required to assess how PolyMet's new appropriations amounts will affect the environment.

Second, as discussed above, PolyMet has changed its Project to eliminate the WWTP and rely on one waste water treatment system for both the mine and plant sites. As the Band noted in our comments on PolyMet's application for a state water appropriations permit, this would "limit[] the company's ability to provide some key adaptive management strategies including, but not limited to, augmentation of flow in the upper Partridge River and surrounding wetlands."[95] This is especially concerning in light of the fact that, in its state water appropriations permit application, PolyMet requests enough water to reduce flows in the upper Partridge River "immediately downstream of the post-closure watershed boundary" to "close to 100 percent relative to current conditions."[96] That PolyMet might now be allowed to completely dewater a 4.5 mile reach of the Partridge River was not contemplated by, much less studied in, the FEIS, and as a result, no plans are in place to require PolyMet to augment these waters. Additionally, wetlands near the mine site may need augmentation and treated water may be needed to prevent a northward flowpath of contaminated groundwater from the mine

[92] *Id.*

[93] *See* Draft Water Appropriation Permit No. 2016-1369, Attach. A, *available at* https://files.dnr.state.mn.us/lands_minerals/northmet/water-approp/water-appropriation-draft-permit-2016-1369.pdf.

[94] The change from the FEIS to the draft permit is especially troubling since the volume of water that will be removed from the Partridge River watershed above SW004 is estimated to be an annual average of 3.7 cfs (1,660 gpm). *See* Draft Water Appropriations Permit Large Table 5. This volume is *four times* the baseflow for that location estimated in the FEIS (PolyMet 2015m, Table 4-9). Upstream at the Dunka Road (SW003, PolyMet 2015m: Large Figure 20), where most impacts of water withdrawal will already be experienced by the river, the baseflow was estimated in the 2015 FEIS to be only 0.5 cfs. It has not been made clear in the draft permit or any of the technical documents how the Partridge River can maintain ecologically necessary flows during low-flow periods, given the volume of water proposed to be removed from the watershed on an annual average basis. Further, the maximum annual appropriations defined in the draft permit suggest the net movement of water out of the Partridge River watershed could reach 15.7 cfs; this is more than *seventeen times* the baseflow in the Partridge River at site SW004. Finally, based upon the maximum daily rates proposed in the draft permits, greater than 45 cfs (20,000 gpm) could be permitted for appropriating out of the Partridge River watershed. This is *fifty times* the flow of the Partridge River at SW004 during low-flow periods.

[95] Ex. 6, Letter from Margaret Watkins, Water Quality Specialist, Grand Portage Band, and Nancy Schuldt, Water Projects Coordinator, Fond du Lac Band, to Tom Landwehr, Comm'r, Minn. Dep't of Natural Res., at 3 (Sept. 12, 2017).

[96] *Id.*

pits at closure—none of which issues were considered in the FEIS, but have arisen only because of new and different terms in the subsequent draft permits. A supplemental EIS is required to address this new information.

Third, the effects of water appropriation on surrounding surface water must be considered in light of the likely expansion of the FTB. The FEIS states that, as currently designed, "[t]he seepage containment systems that would be built around the Tailings Basin would result in a significant reduction in flow to four tributaries around the Tailings Basin that would require augmentation . . . ."[97] The FEIS anticipated that this augmentation would be provided by treating seepage water at the plant site WWTP and then discharging it into the streams.[98] If ore processing is expanded, requiring a larger FTB, that will necessarily affect the seepage containment systems around an expanded FTB, the effects of those systems on the flow in tributaries, and the amount of augmentation required to restore surface water flows. Moreover, the availability of treated seepage water is likely to be affected by PolyMet's planned elimination of the Mine Site WWTF and the replacement of the WWTP with a "waste water treatment system" serving both the Mine Site and Plant Site. All of these changes will impact how PolyMet's appropriation of water will affect the environment, and so a supplemental EIS is necessary.

Fourth, the new information provided by PolyMet's March 2018 Technical Report—showing that the NorthMet Project is likely to be greatly expanded tripling its size—makes these concerns about the extent and impact of water appropriations even more pressing. While PolyMet has applied for the right to appropriate 6.175 billion gallons per year of water for the entire Project, the need to appropriate water would only increase if PolyMet doubles or triples the amount of ore that it will process at the Project. This alone requires a supplemental EIS. When viewed in light of the concerns raised by PolyMet's state draft water appropriations permit, that conclusion becomes inescapable.

E. Wetlands Impacts

The project's potential impact on wetlands is a critical issue for the Band, given their connection to waters that support the resources of its Reservation, and the 1854 Treaty Territory, where the Band exercises its treaty rights. The FEIS discusses direct and indirect impacts to wetlands from the NorthMet Project "at the Mine Site, along the Transportation and Utility Corridor, at the Plant Site, and around the Mine Site . . . and north of the Plant Site."[99] Based on the assumption that the project will process ore at the rate of 32,000 STPD, the FEIS states that the NorthMet Project would directly impact 913.8 acres of wetlands, the majority of which—758.2 acres—would be affected by fill and excavation related to mining activities at the

[97] FEIS at 3-125.
[98] *Id.* at 3-134.
[99] FEIS § 5.2.3. *Id.* at 5-255; *see id.* tbls.5.2.3-13, 5.2.3-14.

Mine Site.[100] An additional 148.4 acres would be affected at the Plant Site, and 7.2 acres would be affected along the Transportation and Utility Corridor between those two Sites. *Id.* In addition, the FEIS estimated that between 6,568.8 and 7,694.2 acres of wetlands would be indirectly affected by, among other things[101]:

> changes in wetland hydrology resulting from changes in the watershed area . . . changes in wetland hydrology due to groundwater drawdown resulting from open pit mine dewatering . . . changes in wetland hydrology from groundwater drawdown resulting from operations of the Plant Site, including groundwater seepage containment . . . changes in stream flow near the Mine Site and Plant Site, as well as associated effects on wetlands abutting the streams; and . . . changes in wetland water quality related to atmospheric deposition of dust and rail car spillage associated with Mine Site and Plant Site operations.

But the FEIS analysis of wetlands impacts is not, in fact, complete, because the wetlands delineation on which the FEIS analysis relies appears to be erroneous, and the Corps is still undertaking work to evaluate and, if necessary, correct it. In August 2017, the Band, with expert assistance from Dr. John Coleman at the Great Lakes Indian Fish and Wildlife Commission, undertook additional work to aid in the proper delineation of the wetlands at the project site. Dr. Coleman provided his work to the Corps last August, and the Corps expressed its intent to evaluate his analysis, including undertaking a site visit which we understand occurred in September. The Band has since learned, as a result of information obtained in response to FOIA requests, that the Corps and PolyMet's consultant, Barr Engineering, undertook a two-day field review in September, which involved visiting a sample of discrete areas of the Mine Site. Although the field review assessed only a small fraction of the affected area, even this limited review confirmed Dr. Coleman's analysis that the wetlands delineation set out in the FEIS understates the acreage of wetlands inside the Mine Site and those that would be directly destroyed by the Mine. A rough extrapolation could well mean an increase of 18.5% additional wetlands beyond what PolyMet had previously identified.

It is our understanding that the Corps has not yet completed the work needed for a proper delineation of affected wetlands. We recently learned that EPA staff have been invited to join the Corps on a site visit sometime in the near future, to assist in evaluating the wetlands delineation. But again, although it was the Band through its experts, which brought the problems regarding the wetland delineation to the Corps' attention, and although the Band has served as a cooperating agency on the EIS, our requests that our expert join the federal officials in these site visits have been rejected (apparently at PolyMet's request). This is contrary to the federal government's consultation duties and trust responsibility. But at a minimum, as we have expressed to the Corps in earlier letters, the full and proper delineation of the wetlands

[100] FEIS at 5-255.
[101] *Id.* at 5-257. *See id.* tbl.5.2.3-15.

impacted by the project is essential since the replacement of the impacted wetlands acreage is necessary under both federal and state law. Certainly, no permits should be issued until this most fundamental environmental analysis has been completed and fully scrutinized by all of the responsible agencies, the tribal cooperating agencies and EPA, and the public—most appropriately in a supplemental EIS. Not only is the directly-impacted wetland acreage vital to an accurate inventory, but the wetland types must also be documented.

The need for a supplemental EIS to determine the scope and nature of the impacts on wetlands is now substantially compelled in light of the new information regarding the proposed expansion of the mine as set out in PolyMet's March 2018 Technical Report. If the size of the mine is increased, and the quantity of ore processed is to be tripled in order to make the Project economically feasible, then the amount of wetlands that are directly or indirectly impacted will be affected. As described above, the Technical Report envisions expanding the mine to obtain more ore to meet the 118,000 STPD processing rate, which will mean more direct impacts on wetlands and possibly more deposition of dust and rail car spillage from Mine Site and Plant Site operations. Processing more ore means producing more waste. This could mean more waste storage, more seepage into groundwater, more water drawdowns, and other changes to wetland hydrology. These changes may require additional modifications to PolyMet's plan for the Project, or other wetlands mitigation, to reduce the overall impacts on the environment. They may, for instance, mean that PolyMet must obtain more compensatory mitigation credits by paying for the restoration of more wetlands elsewhere. The location and quality of additional compensatory wetlands acreage may, in turn, affect the ratios that must be applied by the USACE to determine whether PolyMet's compensatory mitigation acreage is sufficient, increasing the total amount of acreage that PolyMet must obtain.[102] The FEIS should be supplemented to consider these impacts on wetlands in light of the new information in the Technical Report.

A supplemental EIS is also needed to allow the evaluation of the changed plans by which PolyMet would mitigate impacts to wetlands. PolyMet's amended Permit to Mine Application that was released to the public on December 13, 2017 included a completely new and unanticipated wetland replacement plan. This new plan was not included in any environmental review, nor does the Permit to Mine Application provide sufficient information to determine whether PolyMet's plan complies with federal or state law. While this fundamental departure from the mitigation plan that was in front of the public for the past eight years may, on its face, represent an improvement with regards to the location and type of wetlands proposed for mitigation, the Band has not been able to verify that the wetland bank that is the source for mitigation credits has sufficient credits available to replace the public value of the wetlands that will be lost at the site. Accordingly, the supplemental EIS that is needed to determine the impacts to wetlands for a greatly expanded project, as reflected in PolyMet's March 2018

[102] *See id.* at 5-256 (discussing USACE St. Paul wetland compensatory mitigation replacement ratios and factors used to determine them).

Technical Report, should also include an examination of the newly proposed wetlands mitigation plan so that a proper determination can be made on whether the replacement plan is adequate.

F. Financial Assurance

The FEIS recognizes that PolyMet must provide financial assurance to obtain a state permit to mine, in order to ensure that DNR could complete closure and reclamation activities if PolyMet fails to do so.[103] The FEIS did not calculate detailed financial assurance amounts but assumed that financial assurance will be "evaluated in detail during the permitting process."[104] It does, however, state the "preliminary cost estimate for closure" that was provided by PolyMet,[105] and discusses what the financial assurance instruments must provide in order to comply with Minnesota law.[106] Such a financial assurance package must be sufficient to cover the costs of reclamation as well as any required corrective action, in the event that PolyMet is unable to meet its responsibilities in the future and the State must step in to take over all reclamation and remediation.[107] As such, the package, and whether it can realistically be funded, bears directly on the Project's potential environmental impacts—most fundamentally the costs of water treatment which the FEIS found would be required for 200 to 500 years after the mine ceased operations. Thus, while the financial assurance package is most directly relevant to the state's permit to mine, it has equal relevance to the standards that the federal government must apply in making federal decisions on the project.

It was not until it submitted its Application to Minnesota for a state Permit to Mine that PolyMet outlined its planned financial assurance package.[108] As the Band explained in its comments on the draft permit to mine,[109] it is unlikely that PolyMet will be able to fund the financial assurance package as currently structured. In particular, the schedule by which payments would be made into a trust fund is improperly and unrealistically structured. It would allow PolyMet to make only very modest annual payments in the early years of the

[103] *Id.* at 2-12.
[104] *Id.* at 3-140.
[105] *Id.* at 3-142.
[106] *Id.* at 3-143.
[107] Minn. R. 6132.1200. Such financial assurances must satisfy five criteria: (1) that the amount of funds are "sufficient to cover the costs estimated" for reclamation or corrective action; (2) "the funds will be available and made payable to the commissioner when needed;" (3) "the funds will be fully valid, binding, and enforceable under state and federal law;" (4) " the funds will not be dischargeable through bankruptcy;" and (5) "the commissioner, in evaluating financial assurance, shall use individuals with documented experience in the analysis." *Id.* subpt. 5.
[108] *See* Draft Special Conditions, *available at* https://files.dnr.state.mn.us/lands_minerals/northmet/permit_to_mine/permit_to_mine_draft_special_conditions.pdf.
[109] Ex. 7 Letter from Nancy Schuldt, Water Projects Coordinator, Fond du Lac Band, to Tom Landwehr, Comm'r, Minn. Dep't of Natural Res. (Mar. 6, 2018).

mining operations, with the size of the annual payments only substantially increased in the later years when the mine is likely to be far less profitable. An analysis prepared by independent expert Jim Kuipers shows that PolyMet will not have sufficient revenue to make the required payments. Additionally, the package improperly relies on contractor estimates rather than a standard reclamation cost estimator to estimate the costs of reclamation—the result of which is an underestimation of costs by 25-50%.[110] The information in PolyMet's March 2018 Technical Report raises even more questions about the adequacy of PolyMet's financial assurance package. On the one hand, if PolyMet does not expand its production rate or the size of its mine, then it appears to be even less likely to meet its financial responsibilities under the financial assurance package. On the other hand, if PolyMet does expand its mine by tripling its size, then the costs of reclamation may far outstrip the costs that its financial assurance package can cover.

The Technical Report also improperly discounts the long term costs of the project. In the Technical Report, PolyMet states that the "reclamation costs that form the basis of the financial assurance will be updated annually" based on possible changes in applicable law or the mine plan.[111] For purposes of calculating the cost of the financial assurance package, PolyMet then "assumed that the Minnesota water quality standards governing sulfate in wild rice water will be revised, as required by law, after the Project is in operations."[112] In other words, unlike the analysis contained in the November 2015 EIS, PolyMet is now assuming that Minnesota's water quality standards, especially the sulfate standard for wild rice waters, will be eliminated, and with that assumption, PolyMet, in its Technical Report, anticipates lower long-term project costs. But, PolyMet's assumption that the sulfate standard for wild rice will be eliminated has been rejected by a Minnesota Administrative Law Judge which examined proposed changes in the wild rice standard and concluded that any such change would be contrary to the requirements of the federal Clean Water Act.[113] Accordingly, the project's projected costs (especially the related financial assurances necessary to ensure water treatment post-closure), are understated.

Moreover, the information contained in PolyMet's Technical Report shows the difficulty that PolyMet will have to raise the capital necessary to undertake the Project, further hampering its ability to fund the financial assurance package. That would, in turn, make

[110] *Id.* (citing Jim Kuipers, PE, *PolyMet NorthMet Mine Application Review Comments* at 5-6 (Feb. 23, 2018), submitted to the DNR as Exhibit 3 with the Joint Petition for a Contested Case Hearing by the Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness (Feb. 28, 2018)).
[111] Technical Report § 20.5.
[112] *Id.*
[113] *In re Proposed Rules of Pollution Control Agency Amending Sulfate Water Quality Standard Applicable to Wild Rice & Identification of Wild Rice Waters*, No. OAH 80-9003-34519 (Office of Admin. Hr'gs Apr. 12, 2018).

PolyMet even more dependent on its part-owner and the majority funder of the Project, Glencore. Glencore's ability to provide necessary capital is itself open to question, given recent developments. The company is currently under investigation by the United States Department of Justice and the United Kingdom Serious Fraud Office for possible corrupt dealings in the Democratic Republic of the Congo, Nigeria, and Venezuela.[114] After the news of the investigations became public, Glencore's share prices fell, resulting in multiple shareholder lawsuits, alleging that Glencore misled shareholders by failing to disclose these pending investigations.[115]

PolyMet's reliance on Glencore for capital also makes the question of whether the financial assurances package is sufficient even more pressing. Glencore has indicated in another remediation plan for one of its mines overseas, that it intends to hand over remediation responsibilities to the local government as quickly as possible, to reduce its own risk exposure.[116] The same could happen here, leaving the State with insufficient funding to address the environmental impacts of the Project and no one with the resources necessary to provide the waste water treatment that will be essential for hundreds of years after the Project's closure.

As all this shows, the evidence in the 2018 Technical Report calls the sufficiency of the financial assurance package into question, and the issues regarding the measures necessary to fund reclamation need to be revisited. Now that the draft permit to mine includes details on a financial assurance package, and PolyMet has recently disclosed more complete information on the financial viability of the proposed project, the adequacy of the financial assurance package can and must be reviewed as part of a supplemental EIS, in order to assess whether the Project will be sufficiently protective of the environment or the measures necessary to mitigate harm if the project is to be approved.

---

[114] Ex. 8, Stanley Reed & Michael J. de la Merced, *Glencore's Shares Drop After Justice Department Subpoena*, NEW YORK TIMES (July 3, 2018), *available at* https://www.nytimes.com/2018/07/03/business/glencore-subpoena-mining-commodities.html; Ex. 9, Franz Wild & Suzi Ring, *Glencore May Face U.K. Bribery Probe Over Congo Dealings*, BLOOMBERG (May 18, 2018), https://www.bloomberg.com/news/articles/2018-05-18/glencore-said-to-face-u-k-bribery-probe-over-congo-dealings-jhbxhab4.

[115] *See* Ex. 10, Compl., *Robison v. Glencore PLC*, No. 1:18-cv-06286-VEC (S.D.N.Y. filed July 11, 2018), ECF No. 1; Ex. 11, Compl.*, Church v. Glencore PLC*, No. 2:18-cv-11477-SDW-CLW (D.N.J. filed July 9, 2018), ECF No. 1.

[116] Ex. 12, Helen Davidson, *Glencore Documents Suggest Mine Site Could Revert to NT Before Rehabilitation Project*, GUARDIAN (U.K.) (Aug. 25, 2017), *available at* https://www.theguardian.com/business/2017/aug/25/glencore-document-suggests-mine-site-could-revert-to-nt-before-rehabilitation-complete (describing Glencore's apparent plan to withdraw from remediation of a mine site in the Northern Territory of Australia and leave a 1000-year monitoring and remediation responsibility to the territorial government).

G. Other Environmental Impacts.

Tripling the amount of ore to be processed will also have other impacts—not only on water quality, but also air quality, wildlife, and traditional cultural properties. For example, based on the premise that the project would process 32,000 STPD and the air modeling done on that basis, the FEIS reports that the recognized traditional cultural property, namely the Spring Mine Lake Sugarbush, "is not in an area expected to be affected by dust deposition."[117] A mine that is tripled in size most certainly will increase dust deposition. The extent of that deposition has not been modeled, nor have its effects on the Spring Mine Lake Sugarbush and surrounding air and water resources been assessed.

The proposal to develop a considerably larger mine, as set out in PolyMet's March 2018 Technical Report, calls for a re-examination of less environmentally harmful alternatives. These include not only the use of dry tailings, but also the possible alternative for an underground mine. The co-lead agencies previously recognized that an underground mining was technically feasible. An underground mine would offer substantial environmental benefits, including: significantly less wetland destruction; less mine-generated waste; less groundwater and surface water pollution; reduced expenses from the perpetual treatment and control of pollution; fewer reclamation and closure activities; less nuisance and reactive dust to be controlled; fewer noise and vibration impacts; and fewer visual impacts. In addition, an underground mine Project would not require a federal land exchange, resulting in lower start-up costs and avoiding the permanent loss of high quality resources. Despite these benefits, the co-lead agencies dismissed it as an alternative based on PolyMet's position—at that time—that underground mining would not provide a sufficient return on investment. However, the new information released in PolyMet's March 2018 Technical Report—which call for a considerable expansion of the project to make it financially viable—requires reconsideration of the possible alternatives to an open pit mine.

In sum, the effects of a considerably larger mine producing vastly more ore per day was never considered in the FEIS, and the newly released information by PolyMet about the need to expand the mine to make the project economically viable compel a supplemental EIS.

[117] FEIS at 5-563.

IV. Conclusion

For the foregoing reasons, the Band requests that the federal co-lead agencies prepare a supplemental EIS that examines the environmental impacts of the two Project expansion scenarios presented in the Technical Report, and PolyMet's changed plans reflected in its applications for state permits to mine and for water appropriation.

Sincerely,

Nancy Schuldt, Water Projects Coordinator

Enclosures