



**Grand Portage Trust Lands  
PO Box 428  
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**Fond du Lac Environmental Program  
1720 Big Lake Road  
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SENT ELECTRONICALLY

Minnesota Department of Natural Resources  
Attention: NorthMetPermitting.DNR@state.mn.us  
500 Lafayette Road  
St. Paul, MN 55155-4045

September 12, 2017

Re: Comments on Draft PolyMet NorthMet water appropriations permits

Dear Commissioner Landwehr:

The Fond du Lac and Grand Portage Bands of Lakes Superior Chippewa thank you for the opportunity to comment on the PolyMet water appropriations permit applications. The Bands are federally recognized Indian tribes, and are member bands of the Minnesota Chippewa Tribe (“MCT”). The Bands were cooperating agencies on the Project during the National Environmental Policy Act review, along with another MCT-member Band, Bois Forte. All the Bands involved retain hunting, fishing, and other usufructuary rights that extend throughout the entire northeast portion of the state of Minnesota under the 1854 Treaty of LaPointe<sup>1</sup> (the “Ceded Territory”). In the Ceded Territory, all the Bands have a legal interest in protecting

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<sup>1</sup> Treaty with the Chippewa, 1854, 10 Stat. 1109, in Charles J. Kappler, ed., *Indian Affairs: Laws and Treaties*, Vol. II (Washington: Government Printing Office, 1904), available on-line at <http://digital.library.okstate.edu/kappler/Vol2/treaties/chi0648.htm> (last visited Mar. 10, 2014).

natural resources and all federal agencies share in the federal government's trust responsibility to the Bands to maintain those treaty resources.<sup>2</sup>

After reviewing the draft water appropriations permits and revised technical documents, the Bands raise generally the same concerns as those we submitted after our review of the permit applications. For the following reasons, the Bands believe the water appropriation permits should not be issued at this time:

- The volume of water requested to be permitted for appropriation far exceeds that presented in the PolyMet NorthMet Final Environmental Impact Statement (FEIS), and the required "hard look" at environmental impacts of appropriating the actual requested volume of water was not performed.
- The draft permits do not ensure an adequate supply of water for sustaining ecological communities and functions through likely flow augmentation requirements at both the Mine Site and Plant Site.
- The draft permits do not, as required by Minnesota statute, sufficiently safeguard critical groundwater resources to sustain ecosystems or protect surface water resources for other current and future users.
- The draft permits do not comply with Minnesota regulations that prohibit consumptive use of more than 5 million gallons per day of Lake Superior Basin waters without meeting specific conditions.
- The draft permits do not substantiate PolyMet's assertion that they are able to collect 90% of contaminated groundwater.

The Bands again evaluated the volumes of water appropriations in the draft permit and compared them to those volumes that were the basis for the FEIS analyses. It is apparent to us that 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 gallons per minute (gpm) vs 2,815 gpm. 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 and underdrain; all mine site infrastructure. 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. In fact, water appropriations related to the Hydrometallurgical Residue Facility (HRF) wick drain operations (3,000 gpm) were not addressed at all in the PolyMet NorthMet FEIS.

The Bands note the change in PolyMet's proposed project plan that eliminates the wastewater treatment facility that was to be located at the mine site, instead of building two wastewater treatment plants as proposed for the FEIS, limits the company's ability to provide some key adaptive management strategies including, but not limited to, augmentation of flow in the upper

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<sup>2</sup>See, e.g., Exec. Order 13175—Consultation and Coordination With Indian Tribal Governments (Nov. 6, 2000) (stating "the United States has recognized Indian tribes as domestic dependent nations under its protection . . .," there is a "trust relationship with Indian tribes," and "[a]gencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the Federal Government and Indian tribal governments.").

Partridge River and surrounding wetlands. In 2008, Barr Engineering provided Cliffs Natural Resources with a Long Range Hydrology Study (“LRHS”) for the NorthShore Mine Peter Mitchell Pit. On page 20 this study states that “Flows in the upper Partridge River immediately downstream of the post-closure watershed boundary may be reduced by close to 100 percent relative to current conditions.” The 4.5 mile reach of the Partridge River that the LRHS suggests might completely dry up is the portion of the Partridge River that winds around the PolyMet mine pits. Based upon this prediction, the DNR *must* consider how augmentation to flows in the Partridge River could be implemented through enforceable conditions in PolyMet’s water appropriation permit. 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 pits at closure. Further, three single-walled pipes have been proposed to move untreated water (high concentration mine water, low concentration mine water, and construction mine water) from mine pits, waste rock stockpiles, and overburden and storage lay-out area from the mine site to the consolidated plant site waste water treatment system (WWTS). This vastly increases the risk of spilling untreated and potentially toxic water to the adjacent wetlands and tributaries of the Partridge River.

Throughout the environmental review process, the Bands (and the public) were told that many project analyses and design alterations would be addressed in greater detail during the permitting process, when more complete information would be available. However, it is highly irresponsible of the Minnesota Department of Natural Resources (DNR) to defer an honest accounting of necessary water appropriations until permitting, while judging the FEIS ‘complete’ and ‘adequate’. The Bands see no evidence that the DNR has considered the ecological impacts of the actual proposed appropriations from the Partridge River headwaters, especially in conjunction with the already-permitted appropriations for the Northshore Peter Mitchell Pit. Yet, the DNR commissioner must, according to Minnesota statute<sup>3</sup>, assure an adequate supply of water, including groundwater, when considering the issuance of water appropriations permits; that the use of groundwater is sustainable and will not harm aquatic ecosystems; that groundwater appropriations should be limited to prevent adverse impacts to surface waters; that water should only be used for mining if such use is necessary and will not impair public interests.

The draft PolyMet water appropriation permits would authorize the removal of 3.7 billion gallons per year of water from the Mine Site (Partridge River headwaters), and a total of 6.175 billion gallons per year of water for the entire project. Yet PolyMet’s proposed consumptive use in both the Partridge and Embarrass River watersheds which lie within the Lake Superior Basin, is considered a low priority for water allocation under state regulations<sup>4</sup> and should not overshadow other critical water resource needs within the watershed, including protection of sensitive ecosystems and residential/municipal drinking water use.

In deliberating water appropriation limits, the DNR commissioner must also “consider the sustainability of the groundwater resource, including current and projected water levels, water quality, whether the use protects ecosystems, and the ability of future generations to meet their own needs”. Nowhere in the draft permits is it apparent that this analysis has been done. It is simply not sufficient to rely upon PolyMet’s claims (in the FEIS and the water appropriation

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<sup>3</sup> Minn. Stat. §§103G.265, Subd. 1; 103G.287, Subd. 3 and Subd. 5; 103G.285, Subd. 2 and Subd. 3

<sup>4</sup> Minn. Stat. §130G.261, Subd. 5

permit applications) that changes in average flows in the Partridge River will be less than 10% at all stages of the project. PolyMet has not been required to collect sufficient baseline data to actually demonstrate that they can meet this condition in the future, if permitted. The DNR is responsible for ensuring that consumptive appropriations would be sustainable for future generations, would be protective of aquatic ecosystems, and would not result in degradation of water in the Partridge River headwaters – but the DNR has not yet demonstrated that.

Proposed surface water monitoring requirements measure streamflow in the Partridge River and Embarrass River watersheds to assess potential changes associated with permitted withdrawals and stream augmentation. In addition, a reference surface water monitoring station measures streamflow at a location in the Embarrass River watershed that will not be affected by the Project. Large Table 3 lists the surface water monitoring stations and describes their purpose and locations; the proposed surface water monitoring stations are shown on Large Figure 11. At most stations, stream gages will continuously record flow rates. Stream gage locations were confirmed during field reconnaissance in August 2016 by DNR, PolyMet, and Barr. However, the permitting documents do not define either the existing flows or the predicted flows at upper Partridge River sites that could demonstrate the upper Partridge River flow would not be reduced more than 10% due to PolyMet appropriations.

According to Large Figure 5 in the permit application (PolyMet 2017), 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). This volume is *four times* the baseflow for that location estimated in the 2015 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.

With the obvious potential for substantial impacts to river flows, and the in-stream ecological requirements, all water appropriations must be limited in the permits by month and year. The monthly and annual total appropriations must be set at a rate that does not adversely affect the river, but neither the draft PolyMet permits nor the PolyMet permit applications identify the “protective elevation” for the upper Partridge River or low flow periods when consumptive appropriations are prohibited, as required by state regulations<sup>5</sup>. The DNR must establish a protective elevation for the upper Partridge River, and define the periods of low flow during which appropriations from the proposed Mine Site Area must be prohibited, before permits may be issued.

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<sup>5</sup> Minn. Stat. § 103G.287, Subd. 2

The draft St. Louis River Watershed Restoration and Protection Strategy (WRAPS) Report (July 2017) specifically identifies the Partridge River as a priority watershed for both restoration and protection activities, and identifies impairments in the Embarrass River watershed that require the responsible state agencies (including the DNR) to restore and mitigate. For instance, one watershed-wide strategy or action identified for the Partridge River was a surface/groundwater interaction study to understand and address effects of mine dewatering and discharge on regional groundwater and stream baseflow. Another watershed-wide strategy applicable to both the Partridge River and Embarrass River watersheds is to reduce the effects of current and legacy mining activities. In being identified as a priority watershed for protection, multiple responsible state agencies determined, per the requirements under the state's Clean Water Legacy Act (CWLA), that the Partridge River watershed is particularly threatened or vulnerable. Issuing water appropriation permits to withdraw more than the existing measured flow in the upper Partridge River would clearly violate the intent of the CWLA and the WRAPS process, and essentially constitute 'piracy' of critical headwater resources.

Although the draft permit 2016-1369 requires PolyMet to augment streamflow in Trimble Creek, Unnamed Creek, Second Creek and Unnamed (Mud Lake) creek to maintain the "mean annual streamflow" in each stream within  $\pm 20\%$  of existing conditions, there has been no hydrologic model or analysis of any kind by PolyMet to ensure that this condition can be met. The draft permit asserts that "Adaptive management shall be required if monitoring results show that streamflow cannot be maintained within  $\pm 20\%$  of average annual tributary streamflow." The draft permit then maintains that the DNR will review streamflow data collected after the water appropriations permits have been issued to "determine if a hydrologic model needs to be created," for the Embarrass River. The Bands submit that the DNR's approach for determining whether PolyMet can meet permit conditions that limit streamflow changes in the Embarrass River watershed fails to ensure the sustainability of water resources.

At the Plant Site, appropriations of 3,000 gpm related to wick drains at the HRF during construction are apparently required to remediate foundation deficiencies where PolyMet has proposed to locate the facility in the former LTV Emergency Basin. According to an expert consultants' report prepared for the DNR in May 2017, "The 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."<sup>6</sup> However, the DNR consultants' review did not contemplate any alternative locations for the HRF that could avoid the need for wick drains, nor were alternative sites for the HRF evaluated during the environmental review process. Unless alternative locations for the HRF are identified and properly assessed, the DNR is not in a position to determine whether the quantity of requested Plant Site area water appropriations is in fact necessary, as state regulations require.

In our earlier comments on the Water Appropriations Permit Application, the Bands noted that it appeared likely that the Great Lakes Basin threshold for consumptive use **will be exceeded** by the Project (see Table 5-3 below). Further, it appeared that PolyMet was applying for total water appropriations of 48.5 million gallons of consumptive use per day, almost **ten times** the volume for which the IJC requires provinces and states to issue a consumptive use notification. But

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<sup>6</sup> Dick Van Zyl, Steve Gale, Cecilio Olivier, Stuart Grubb, *PolyMet Dam Safety Permit Application Review* (May 15, 2017), p. 6

between the April permit applications and the release of the draft water appropriation permits in August, that volume has increased substantially; the draft permit would authorize 56.7 million gallons per day of water use. This is greater than ten times the statutory threshold of 5 million gallons per day<sup>7</sup>. Unless the DNR can convincingly demonstrate that PolyMet would never, over the entire course of mine construction, operations and reclamation, exceed this limit set to protect the Lake Superior Basin, the DNR commissioner has an obligation to notify other Great Lakes states and provinces, and the International Joint Commission, to solicit comments.

Individual Permit	Maximum Daily Rate (gallons per minute)*	Maximum Daily Use (gallons per day)**	Average Annual Rate (gallons per minute)*	Low Estimate Annual Average Rate (gallons per day)**	High Estimate Annual Average Rate (gallons per day)**
East Pit	2,340	3,369,600	200 - 800	288,000	1,152,000
Central Pit	1,300	1,872,000	50 - 250	72,000	360,000
West Pit	2,640	3,801,600	150 - 550	216,000	792,000
Mine Site Infrastructure	20,250	29,160,000	50 - 500	72,000	720,000
Plant Site Infrastructure	3,750	5,400,000	250 - 300	360,000	432,000
Colby Lake	3,400	4,896,000	550 - 2,000	792,000	2,880,000
<b>Total Pumping</b>	<b>33,680</b>	<b>48,499,200</b>	<b>1,250 - 4,400</b>	<b>1,800,000</b>	<b>6,336,000</b>

\* From Table 5-3 of the Water Appropriations Application.

\*\* Calculated using gallons per minute multiplied by 1440 (the number of minutes in 24 hours).

The Bands also maintained, in our comments on the water appropriation permit applications, that there was not any logical or supportable justification for *individual* water appropriation permits. Regardless of the geologic formation from which water will be pumped, the entire PolyMet project footprint lies within the Lake Superior Basin. The rationale for dividing up consumptive use into three areas and six individual permits, and providing data on consumptive water usage in gallons per minute instead of gallons per day appeared to be a way to obfuscate total consumptive use and skirt legal requirements. The Bands were left with the impression that results of the “further consumptive use analysis” is what actually triggered PolyMet to submit an application with six individual permit requests rather a single request with specified appropriations for each project area.

Clearly, the water appropriations are for one single project, not three separate projects with six water appropriations permit applications. The total water usage for a single project is what triggers the threshold for reporting, under the Great Lakes Water Quality Agreement (GLWQA). It appears highly likely that the PolyMet project may result in “a New or Increased Consumptive

<sup>7</sup> Minn. Stat. §103G.265, Subd. 4.

Use of 5 million gallons per day or greater average over any 90-day period”; thus it must undergo Regional Review.

The DNR, in response to the Bands’ challenge to the position that the IJC, states and provinces did not need to be notified was that there was already a “baseline of consumptive use for this project<sup>8</sup>” that was created by LTV. LTV was a taconite operation that declared bankruptcy in 2001. PolyMet is not planning on mining the same pits that LTV mined. The NorthMet project involves developing three deep side-by-side pits in an area that has not been previously disturbed. Although PolyMet will be re-using the tailings basin, they are processing copper, nickel, and other precious metals, not taconite. Their consumptive water usage will likely be different because different processes are required to remove precious metals from the ore. The only actual “baseline”, is in fact the pre-existing limit on how much water can be withdrawn from Colby Lake.

Finally, the Bands reiterate our skepticism that PolyMet can capture at least 90% of the groundwater seepage at the Plant Site tailings basin (unlined) and at the Mine Site Category 1 waste rock stockpile, as the company had repeatedly claimed during the environmental review phase and as the DNR parroted in the Water Appropriation Permit fact sheet provided with the August 11, 2017 draft permits. Although we have repeatedly raised questions about evidence for this claim, and in fact called attention to actual measured capture performance at a nearby tailings basin (experiencing, at best, 50-60% capture), PolyMet has never provided evidence that their capture rate is remotely possible. But more disturbingly, the draft water appropriation permit includes no conditions requiring PolyMet to demonstrate compliance with their optimistic seepage capture rate, and the DNR has not identified the necessary monitoring and data transparency that could address the Bands’ concerns and serve the public interest by validating (or not) the company’s as yet unsubstantiated claim.

The Bands believe that the draft water appropriation permits are not consistent with state regulations, that insufficient information exists at this time for the DNR to be able to establish protective limits and conditions on the volume and timing of water withdrawals, and that the permits are deficient in their requirements for compliance monitoring. Further, the DNR must clearly assess the probability that PolyMet’s water appropriations would exceed the threshold established for the protection of water quantity in the Lake Superior Basin, and take the necessary steps to solicit input from the other Great Lakes states and conduct a Regional Review.

Sincerely,



Margaret Watkins  
Grand Portage Water Quality Specialist



Nancy Schuldt  
Fond du Lac Water Projects Coordinator

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<sup>8</sup> Telephone conversation between Margaret Watkins, Grand Portage Environmental Department, and Julie Eckman, MN DNR, on May 4, 2017.