UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

DEC 21 2015

REPLY TO THE ATTENTION OF:

Brenda Halter
Forest Supervisor
U.S. Forest Service – Superior National Forest
8901 Grand Avenue Place
Duluth, Minnesota 55808

Colonel Dan Koprowski
Commander
U.S. Army Corps of Engineers – St. Paul District
180 5th Street East, Suite 700
St. Paul, Minnesota 55101-1678

Tom Landwehr
Commissioner
Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, Minnesota 55155-4040

Re: Final Environmental Impact Statement for the NorthMet Mining Project and Land Exchange, Hoyt Lakes, St. Louis County, Minnesota - CEQ No. 20150317

Dear Ms. Halter, Colonel Koprowski, and Mr. Landwehr:

The United States Environmental Protection Agency (EPA) has reviewed the Final Environmental Impact Statement (FEIS) for the NorthMet Mining Project and Land Exchange. This FEIS was developed by the U.S. Army Corps of Engineers (Corps), U.S. Forest Service (USFS), and the Minnesota Department of Natural Resources (MDNR). These agencies are collectively referred to as the "co-lead agencies." The Corps and MDNR are also among the permitting agencies for the proposed project. EPA conducted its review pursuant to its authorities and responsibilities under the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), Section 309 of the Clean Air Act (CAA), Section 404 of the Clean Water Act (CWA), and its June 27, 2011 agreement to participate as a cooperating agency.

The proposed project is the first non-ferrous hard rock mine on the Mesabi Iron Range. It includes three new surface mine pits, permanent and temporary waste rock stockpiles, an overburden storage and laydown area, a wastewater treatment facility, a water collection and conveyance system, a central pumping station, and a rail transfer hopper. Two processing

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facilities, one for beneficiation and one for hydrometallurgical processing, would be located on the old LTV Steel Mining Company site, and the existing LTV tailings basin would be expanded during use. The proposed land exchange anticipates the exchange of 6,650 acres of Superior National Forest for 6,690 acres of privately-owned lands. The proposed project is within lands ceded by certain Chippewa tribes under the Treaty of La Pointe, September 30, 1854 (10 Stat. 1109), for which these tribes retain reserved hunting, fishing, and gathering rights.

EPA previously reviewed the Draft Environmental Impact Statement and rated it as *Environmentally Unsatisfactory – Inadequate (EU-3)* on February 18, 2010. EPA commented on the Supplemental Draft Environmental Impact Statement on March 13, 2014, and rated it as *Environmental Concerns – Insufficient Information (EC-2)*.[1] EPA also reviewed the Preliminary FEIS, and provided comments to the co-lead agencies on August 5, 2015.

The FEIS adequately resolves EPA's comments on the Preliminary FEIS pertaining to base flow and cumulative impacts, model calibration, and contradictory information. EPA's remaining comments (see attached) can and should be addressed in the USFS Record of Decision (ROD), in the Corps permit evaluation process which culminates in a ROD, and/or in the context of other permitting reviews as appropriate. EPA retains oversight authority for permitting discharges under the CWA's National Pollutant Discharge Elimination System and air emissions under the CAA. EPA also retains regulatory authority, along with the Corps, under CWA Section 404.

We look forward to discussing these comments as needed before issuance of the RODs and to ongoing dialogue throughout the permitting processes. Please contact me at (312) 353-8894 or Kenneth Westlake of my staff at (312) 886-2910 to schedule this discussion.

Sincerely,

Alan Walts, Director
Office of Enforcement and Compliance Assurance

Enclosure: Detailed Comments on the NorthMet Mine Final Environmental Impact Statement

[1] See EPA's comment letters at: https://cdxnodengn.epa.gov/cdx-enepa-public/action/eis/search. EPA's rating criteria are defined at: http://www.epa.gov/nepa/environmental-impact-statement-rating-system-criteria.

cc: Doug Bruner, U.S. Army Corps of Engineers – St. Paul District (email copy)
Tamara Cameron, U.S. Army Corps of Engineers – St. Paul District (email copy)
Barb Naramore, Minnesota Department of Natural Resources (email copy)
Steve Colvin, Minnesota Department of Natural Resources (email copy)
Randall Doneen, Minnesota Department of Natural Resources (email copy)
Lisa Fay, Minnesota Department of Natural Resources (email copy)
Bill Johnson, Minnesota Department of Natural Resources (email copy)
Michael Jimenez, U.S. Forest Service – Superior National Forest (email copy)
Richard Periman, U.S. Forest Service – Superior National Forest (email copy)
Andrew Horton, U.S. Fish and Wildlife Service (email copy)
Ann Foss, Minnesota Pollution Control Agency (email copy)
Shannon Lotthammer, Minnesota Pollution Control Agency (email copy)
Esteban Chiriboga, Great Lakes Indian Fish and Wildlife Commission (email copy)
John Coleman, Great Lakes Indian Fish and Wildlife Commission (email copy)
Darren Vogt, 1854 Treaty Authority (email copy)
Tyler Kaspar, 1854 Treaty Authority (email copy)
Bill Latady, Bois Forte Band of Lake Superior Chippewa (email copy)
Nancy Schuldt, Fond du Lac Band of Lake Superior Chippewa (email copy)
Margaret Watkins, Grand Portage Band of Lake Superior Chippewa (email copy)

Detailed Comments on the NorthMet Mine Final Environmental Impact Statement

Potential Mine Site Pollutant Migration Northward in the Bedrock Aquifer

The FEIS acknowledges that a northward flow path in bedrock cannot be ruled out as a possibility. It proposes monitoring during construction, operation, closure, and post-closure to more accurately determine the potential for a northward flow path. It also proposes four contingency mitigation measures to address any future northward flow path associated with the project. Those measures are:

1. Create a pit lake cone of depression (maintain the East Pit water level at the same elevation as the NorthShore Mining Company's Peter Mitchell Pit (PMP));
2. Grout pit walls to seal fractures and faults, as needed;
3. Install a groundwater extraction system north of the Mine Site; and
4. Recharge groundwater to create an artificial groundwater mound that prevents groundwater pollutants from flowing north.

We agree that a northward flow path is a possibility. In our PFEIS comment letter, we recommended that the FEIS analyze and assess the impacts of implementing the proposed contingency mitigation measures. The FEIS includes basic qualitative estimates and presents a general description of the proposed contingency mitigation measures in Section 5.2.2.3.5. This is adequate for purposes of the FEIS. However, further impact assessment is needed during the permitting process, including information on water quality and quantity impacts that may occur as a result of a northward flow path and/or contingency mitigation measures.

In addition, limited site-specific data is currently available to assess the potential for a northward flow path, and to design effective contingency mitigation measures should northward flow occur. The permitting agencies have proposed to begin routine groundwater monitoring when active operations begin. EPA continues to recommend that the permitting agencies collect and analyze additional site-specific data during the permitting review process as the project design is being further developed. It appears that technology is currently available to implement contingency mitigation measures. However, the selection of any measures determined to be necessary must be informed by data that sufficiently support refining their design and assessing their impacts in the context of the project as a whole (e.g., by determining the rate of downward water leakage at the One Hundred Mile Swamp).

> *Recommendation 1:* Given the possibility of a northward flow path, analyses of environmental impacts associated with this possibility should be conducted and evaluated during the permitting process. These analyses should include anticipated direct and indirect environmental impacts that may occur if one or more of the proposed contingency mitigation measures are implemented.

Preparing for Permitting

We understand that the monitoring program outlined in the FEIS will be refined and implemented in greater detail during the permitting process. We share the goal of the permitting agencies to ensure that pollutant migration from the site and impacts to surface waters are

minimized and meet the requirements of the CWA. We also want to ensure that a robust monitoring program is put in place to identify pollutant migration pathways in a timely manner, so that permitting and contingency mitigation-related decisions can be made as quickly and effectively as possible. To this end, the following points and recommendations related to monitoring and the contingency mitigation measures should be addressed during the permitting process to inform permit decisions:

1. The trigger(s) for implementing contingency mitigation measures should be defined.
2. Because each contingency mitigation measure, if implemented, would result in other impacts to the project and/or to the environment, each measure requires additional study before approval.
3. In the event that the requirement for one or more contingency measures is triggered, time will be required for additional study, permitting, planning, design and construction. This possibility should be considered in further project development to avoid or minimize any period of noncompliance before such measures are in place.

> *Recommendation 2:* A robust and sufficient monitoring program should begin as soon as possible to establish adequate baseline data that help to identify pollutant migration pathways in a timely manner and can detect a potential northward flow. Monitoring data should be collected and analyzed before any major grading or excavation of soils or conveyance or pumping of water is carried out at the site for any purpose other than to install monitoring equipment.

> *Recommendation 3:* Any contingency mitigation measures implemented in a permit must include measureable and enforceable outcome-based requirements. The permit applicant should also be required to demonstrate that the proposed contingency mitigation measures will be an effective means to return the project to compliance should non-compliance occur.

The potential for water transfer from the Lake Superior watershed to the Rainy River watershed needs to be further evaluated and addressed.

> *Recommendation 4:* Potential inter-basin water transfers should be quantified. Inter-basin transfers from the Great Lakes watershed are subject to approval under the Great Lakes-St. Lawrence River Basin Water Resources Compact.

A comprehensive surface water/groundwater monitoring and modeling approach would satisfy the requirements of various permit programs by evaluating the hydrology and pollutant migration from the site during all phases of the project (construction, mining and post-mining). This could avoid duplication by enabling use of the same sampling points for various purposes during further project design and permitting. It would also provide PolyMet with a full understanding of the monitoring that will be expected during the project to meet various permit requirements. We strongly encourage the permitting agencies for this project to involve a specialized expert who can inform the permitting agencies' review of this comprehensive monitoring and modeling approach. Any such review should consider the influence of other nearby mining operations

(such as NorthShore's PMP). It should also establish a process that provides for refinement of modeling as additional data become available, and adjustments to the monitoring regime when necessary.

> *Recommendation 5:* The permitting agencies should involve a specialized expert to inform the permitting agencies' review of a comprehensive monitoring and modeling program at the Mine Site. Information gathered through such a program should inform permitting conditions and requirements.
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> *Recommendation 6:* EPA also recommends initiating a community environmental monitoring program as part of further project development. This would provide ongoing information about the project's environmental performance to the community, including assessments of water quality and quantity near the NorthMet site.[2]

In addition, EPA would like to continue our constructive engagement with the permitting agencies going forward.

> *Recommendation 7:* EPA recommends that we continue to engage in a close dialogue with the permitting agencies about the details of modeling, monitoring, and project design (including contingency mitigation measures), as relevant to project construction and permitting decisions. EPA will seek expert input as needed to support this process.

Wetland Impacts

The FEIS describes the proposed compensatory mitigation for direct wetland impacts and wetland fragmentation impacts. This mitigation includes wetland restoration, upland buffer, and wetland preservation. Two of the wetland mitigation sites are outside of the St. Louis River Watershed and include some out-of-kind wetland replacement. Greater credit ratios are required for out-of-kind and out-of-watershed compensatory mitigation. Based on the credit ratios outlined in the FEIS, if performance standards are met, the three sites would provide sufficient mitigation for direct impacts (Table 5.2.3-17).

The FEIS identifies uncertainties in estimating the extent of indirect wetland impacts (pp. 5-257 – 5-260). EPA agrees with the FEIS' statement that an indirect impact monitoring plan, adaptive management plan, and a plan to provide compensatory mitigation are needed to assess and mitigate for indirect wetland impacts if the project moves forward. The descriptions of indirect impact monitoring, adaptive management, and compensatory mitigation within the FEIS should be further developed during the permitting process to sufficiently assess, avoid, minimize, and compensate for indirect impacts to wetlands.

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[2] This approach is discussed in Jarvie-Eggart, M. (Ed.). (2015). *Responsible Mining: Case Studies in Managing Social & Environmental Risks in the Developed World* (pp. 151-230). Society for Mining, Metallurgy, and Exploration. For an example of such a program and two case studies that are included in this chapter, see <http://eaglemine.com/approach/community/community-environmental-monitoring-program/>.

Recommendation 8: EPA recommends that the Corps require PolyMet to establish additional wetland monitoring sites, develop a detailed impact assessment method, and plan for the contingency of additional indirect wetland loss as part of an adaptive management strategy that identifies sufficient wetland mitigation opportunities and compensates for all indirect impacts. This could be incorporated into the comprehensive plan called for in Recommendation 5. Because of the importance of these indirect impact plans and any permit conditions outlining them, EPA requests an opportunity to review the Corps' final permit evaluation and draft CWA Section 404 permit – including the indirect and direct wetland impact monitoring, adaptive management, and mitigation plans – in order to assess compliance with the CWA Section 404 Guidelines before permit issuance.

Mineral Fibers

The FEIS notes the current lack of scientific consensus regarding health risks associated with exposure to non-asbestiform varieties of amphibole minerals; and an "ongoing effort" to develop the "scientific tools and expertise" to establish health-based standards for these mineral fibers (p. 5-515). Part of this ongoing effort is a study currently undergoing peer review, which examines the relative cancer potency of various elongated mineral particles based on dose characterization data collected at EPA's Duluth laboratory between 1978 and 1986.

Recommendation 9: To address uncertainties regarding health risks, the permitting agencies should consider this research and any further credible scientific evidence that becomes available during the permitting process. The most current scientific understanding of health risks should continue to be considered as appropriate in project design and implementation, in order to minimize worker and public health risks related to mineral fibers. EPA will provide this study and other relevant research it identifies to all agencies with relevant permitting responsibilities.

Impacts to Moose

We are glad to see additional analyses in the FEIS relating to impacts to moose, particularly given the significance of this species to the Chippewa peoples. As the FEIS points out, the decline in the moose population in northern Minnesota is likely due to multiple factors.

Recommendation 10: During the permitting process, the permitting agencies should require avoidance or minimization strategies that reduce impacts to moose to the greatest extent possible. Examples may include avoiding wetland impacts, preserving known wildlife corridors, and constructing appropriately-placed wildlife crossings at new and existing roads and railroads. Constructing one or more wildlife crossings along the roads and railroads within the project area should be considered as a strategy to reduce collisions between vehicles and wildlife.