## PolyMet NPDES/SDS Permit - Response to Comments

### "Water" Spreadsheet Response to Comments: Pages 1 - 167

### "Multiple" Spreadsheet Response to Comments: Pages 168 - 304

### "Water" Spreadsheet Response to Comments

<table>
<thead>
<tr>
<th>Sort ID</th>
<th>Commenter Name</th>
<th>Commenter Org</th>
<th>Comment Text</th>
<th>Combined Theme and Individual Responses</th>
<th>Contested Case Hearing Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Joshua Brand</td>
<td>Citizen</td>
<td>As a Minnesota resident and an annual visitor to the Biwabik area, I would like to state my support for the Polymet mine. The job generation opportunity is important to the area and should move forward as long as the project is in full compliance with all federal, state, and local laws and regulations. I firmly believe that a sound technical solution can be found to any environmental concerns about the project.</td>
<td>Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Chris Loudon</td>
<td>Citizen</td>
<td>NO NO NO NO NO! No sulfide mining near the BWCAW. This mine will fail as all sulfide mines in the past have. The wilderness will be irreparably harmed costing generations of jobs. The state will be on the hook for the cleanup costs as the mining company will have declared bankruptcy and moved on.</td>
<td>Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Ronald Namchek</td>
<td>Citizen</td>
<td>Polymet mine is a good project for Minnesota workers. The mine and all the good workers will protect the water quality at this mine. This mine and the workers want clean water and have a good plan in place to protect the water quality. Please proceed with this mine so good people can get back to work.</td>
<td>Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Kenneth Sansome</td>
<td>Citizen</td>
<td>There is absolutely no 100% guarantee that mining will not produce leaking and contamination of soil and groundwater. Likewise there is no guarantee that cleanup can be done to restore land and water to its current clean condition.</td>
<td>Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Kenneth Sansome</td>
<td>Citizen</td>
<td>If liability occurs to a mining company, there is no guarantee that that firm will forego bankruptcy and avoid ongoing responsibility. Since the BWCAW is unique, pristine, and irreplaceable, no risks to it should be taken. No permit should be given for this mining.</td>
<td>Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
</tbody>
</table>
6 Jim Bambenek Citizen Dear Sir or Madam The Boundary Waters Canoe Area and the surrounding lake country is a national treasure. It deserves the most protection available to it. The earth and the thousands of people, from all over the world who visit here, deserve to have it protected! The earth, and the worlds people need it protected. The PolyMet mine is not in anyone’s best interest, nor the interests of the Boundary Waters Canoe Area. The mine company says they will protect the air and water at the proposed mine site. However mining’s track record with mines is deplorable. The Rio Tinto is a river in Spain polluted by a copper sulfide mine. It runs red and dead, with a pH of 2. The Phoenicians, then the Romans, started to mine here 3000 years ago. Is this the possibility we want to see in Minnesota? Please do not let this ill advised mine proceed. Please stop the PolyMet Mine! Regards Jim Bambenek

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

7 Kathleen Weflen Citizen Copper-nickel mining has never been done anywhere in the world without damaging the environment. Because of this, the assurances of the mining company and its parent corporation ring hollow. All the potential impacts on our lands and waters cannot be known. Therefore, the only way to truly protect our irreplaceable natural heritage in this region is to preserve it as is. Because of pressure from commercial and individual interests, this stewardship will be hard to maintain. But conservation for the common good can and should be done because it is the right thing to do.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

8 Robin Vora Citizen We own property on the St. Louis River south of Aurora and are concerned about water quality and flow, and the long-term safety of the proposed PolyMet mining project, including waste storage dams. We enjoy the river and do not want to see the flow or water quality diminish. Reduced flows or pollution would also considerably devalue our property. Basically, we do not support any permitting that would reduce water flows in the St. Louis River or result in any pollution of that river.

The NPDES/SDS permit does not regulate the volume of water in waters downstream of the project – the DNR water appropriation permit addresses that issue. However, as described in the EIS, the project is designed to distribute the discharge from the facility to the receiving waters such that the flow in downstream waters is maintained within +/- 10% of the existing flow.

Treatment of the discharge through the WWTS using membrane treatment technology (e.g., reverse osmosis) will minimize effects on downstream water quality, and enforceable operating limits for sulfate and various metals apply.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

9 Robin Vora Citizen I find it confusing to understand the overall situation given six different permit applications. It is difficult to ascertain if games are being played with the numbers.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

10 Robin Vora Citizen We understand PolyMet plans to build the large tailings basin dam on top of old mine waste that may not be sufficiently stable for the large proposed dam. LTV did not design the original tailings basin for this purpose and size dam. Regardless of the strength and stability of the new dam, it’s reliability also depends on the strength and stability of its foundation. A large earthen dam would obviously be a major safety and water pollution problem if it should fail, or be breached.

Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.

11 Robin Vora Citizen We are concerned about who would maintain the dams adequately, or who would conduct associated monitoring, long after the 20-year period of mining operations. What happens if PolyMet or a future owner declares bankruptcy and does not perform adequate maintenance? While dams are hopefully long-lived, they all have a finite life expectancy. Will these dams have to be maintained indefinitely? We could be leaving our children with a nightmare. A temporary earthen dam to store water mixed with toxic mine wastes forever is unacceptable.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

12 Robin Vora Citizen We urge Minnesota DNR to require PolyMet to consider alternatives to constructing large dams to treat waste, some of it toxic. The rock and water within the tailings basin may not be as non-acidic as PolyMet believes.

Comment noted. General comments related to impact minimization were considered during the environmental review process and the cross-media analysis. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

13 Robin Vora Citizen At the very least the acidity of the water needs to be monitored and Minnesota DNR maintain the authority to limit raising of the dam during the project, and suspend operations, if acidity limits are exceeded.

Monitoring for pH provides the same general information as monitoring for acidity; the lower the pH, the higher the acidity. Monitoring for pH is required of the influent and effluent of the WWTS, as well as at number of internal monitoring points (e.g., mine pit dewatering, stockpile drainage), in the groundwater and in surface water at the facility.
| 14 | Robin Vora | Citizen | Bonds need to be posted to cover a worst-case scenario. The variance Minntac is presently requesting for their tailings basin illustrates the problem with mining company promises and commitments. Polymet would especially need strongly enforced environmental protections to safeguard water quality. If approved, I highly suspect Polymet, like Minntac at present, will someday be pleading for relief to maintain jobs and will be supported by the same present politicians and local officials, or their successors, who today assure Polymet will never create an environmental problem. I question that Polymet will make sufficient real financial commitments (bonding) to pay any environment problem or catastrophe. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |
| 15 | Robin Vora | Citizen | This proposal is too risky to the environment given that the water in the mine waste will need to be contained forever, long after Polymet ceases to be a company held responsible for its actions. The permit should be denied. Comment noted. This comment pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to this comment. |
| 16 | Robin Vora | Citizen | The taxpayer should be not be left holding the bill for the clean-up. Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments. |
| 17 | Robin Vora | Citizen | Properties downstream could be ruined. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |
| 18 | Robin Vora | Citizen | Please continue to keep me informed if further opportunities to comment, decisions, and any opportunities to appeal decisions. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |
| 19 | Donald Namchek | Citizen | Polymet mine will be a awesome project. Good paying jobs with benefits will be good. Polymet is going to use high tech equipment to protect the water quality. This mine is needed so Americans can become mineral independent. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |
| 20 | Richard Mazur | Citizen | I stand opposed to permitting Polymet because of environmental risks. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |
| 21 | Jason Etten | Citizen | Water is one of the key resources to sustain life. Water is a key resource for the state of Minnesota. Water is a key resource for the current and future economic health of northern Minnesota. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |
The BWCA is Minnesota's crown jewel! People from around the world come to enjoy its priceless splendor. This area demands the most thorough level of environmental review of potential copper mining impacts. Copper mining is horrendously toxic and there are NO excuses for not recognizing that fact and putting this area into great danger!

I am livid, seething mad, that the impact study was negligently and drastically downscaled by the U.S. Forest Service. These failures in the water permitting threaten the health of area communities both with the physical health of the residents and the loss of economic stability from tourism for decades or centuries.

This mine is a terrible idea for the future of Minnesota but the worst part is the proposed care of water resources.

I am completely opposed and am livid with the potential for underground water pollution very high. Finally, it allows the mine to hold polluted water in an earthen dam. This type of dam has failed with horrible consequences. This type of dam is not a proven safe way to prevent water pollution.

The seepage containment systems function on the principle of maintaining an inward hydraulic gradient across the barrier wall that is part of the system design. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape -- instead, water will tend to flow into the capture system. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control wastewater and runoff from the facility. The effectiveness of these controls were evaluated in the EIS and the water quality permit requires their installation/operation.

The DNR needs to hold Polymet mine to the highest standards.

These falls in the water permitting threaten the health of area communities both with the physical health of the residents and the loss of economic stability from tourism for decades or centuries.

This draft water permit is substandard and allows half measures to be taken that will endanger the future of our state.

This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

I am livid, seething mad, that the impact study was negligently and drastically downscaled by the U.S. Forest Service.

I am livid, seething mad, that the impact study was negligently and drastically downscaled by the U.S. Forest Service.

I am livid, seething mad, that the impact study was negligently and drastically downscaled by the U.S. Forest Service.
Julia McCormick: How dare our precious treasure be exploited, ESPECIALLY by another country! The Environment-Killing Trump Administration has NO right to put these lands in great danger of guaranteed contamination. It’s a known fact, that the company(s) behind this knows the dangers involved yet continues to push it down our throats with the knowledge that their mines are completely irresponsible, short-sighted, regressive, self-serving, greed-based, exploitative and deadly to humans and nature! These companies could care less about the maiming of these areas, the people, wildlife, terrain, and water that are affected. This endeavor is greed-based! WE LIVE IN THE 21ST CENTURY! This is horrendous throw-back legislation! If Chilean Billionaires want to destroy and contaminate lands in pursuit of greed, then let them attempt to do it in their own country, NOT OURS! I find it outright criminal that this is being done by a Billionaire’s family who rents property from the Kuschners! How convenient an arrangement is that? The nepotism and racial, metastatic takeover of our pristine lands by the Trump Administration is rampant, sadistic, villainous, outrageous and monstrous! YOU WILL NOT TURN THE BWCA INTO A TOXIC WASTELAND FOR PERSONAL PROFIT! It is not, We have some of the cleanest freshwater and air in the country and world.

Jeanine Kelley: I don’t think the DNR and MPCA has done an adequate job of explaining how Polymet proposes to protect the area water. Comment noted. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Keith Hovland: I fully support the well regulated Polymet project and look forward to seeing it operational in the very near future. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Darryn Ochsner: Hello, my name is Darryn and I am putting forth my comment of FULL support of the PolyMet/NorthMet Water Quality Permit! I as a former citizen of the metropolitan area in Princeton, MN, and now current resident of Buhl, MN as a Iron ranger for the previous three years of my life completely support the acceptance of this Water Quality Permit. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Darryn Ochsner: Growing up near the Twin Cities and having seen life on the Iron Range has been a real eye opener on the importance of this mine coming to fruition. We currently rely on our precious metals we need for everyday life and security to come from other countries where there is no such thing as environmental protections or worker’s health standards. We have those regulations and protections here in MN and are some of the strongest in the nation. I have never experienced such clean water and clean air as there is in northern MN. We have been mining here for almost the last 200 years and have some of the cleanest resources there are. This is proof that mining can be done responsibly without excessive harmful pollution. With the large scale mining projects that have existed like Minntac, Hibbing Taconite, Keetac, Minnora, and the Thunderbird Mine, and all the previous smaller mines that have opened and closed since, if pollution was certain as a result of mining companies, it would be here as we speak and as I write this comment. But it is not, We have some of the cleanest freshwater and air in the country and world.
Darryn Ochsner Citizen  
Northeastern Minnesota has some of the finest, cleanest and freshest water in the state. Please approve this permit so we can continue to have great family supporting jobs in northern MN and fuel our nation independently with the resources we need. Please let this letter participate in the final decision of this Permit. Thank you Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Thomas Mcneil Citizen  
I oppose copper nickel mining in this area of our state. There are other locations in the country that pose fewer risks to the water systems. A corporation can leave a polluted mine for the state to clean up, and this can go on for many years and billions of dollars. It would make more sense for our state to invest in other types of business, especially small to medium types, that would help the economy of the region. I like our motto to stay “the land of ten thousand lakes”, not the land of ten thousand mines.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Mary Erickson Citizen  
Polymet Mining My family has been involved in mining on the Mesabi Range since it began - two great grandfathers, a grandfather, a father, a husband and myself have all worked in the mining industry. I have lived the boom and bust of iron ore and taconite mining and I understand the importance of good jobs. As I look at the permit process for Polymet I can tell that a lot of planning and thought has been done by the mining officials and the government as they both do due diligence with this project. However, this plan has two inherent flaws. And we are fooling ourselves if we don’t face the deeprooted fundamental flaws to this mining site and the inconclusive long range environmental guarantee. The Site: This is a freshwater environment. The St. Louis River flows into Lake Superior which holds Ten Percent of the world’s surface freshwater. Add the water within The Superior National Forest and the Boundary Waters - and we have an important resource. With this type of mining we are putting our water resource at risk for centuries - for 25 years of mining.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Steve Antolak Citizen  
I have studied Polymet for years. I believe that they have done everything correctly to open a successful and profitable mine. I am looking forward to great things from this company! Sincerely, Steve Antolak

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Michael Hughes Citizen  
Northeastern Minnesota has some of the finest, cleanest and freshest water in the state.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
44 Michael Hughes Citizen This, in spite of the fact that mining has been part and parcel to the area for over a hundred years. The business of sulfide being part of the copper and nickel ore is not unique to those ores. Sulfide also is part of iron ore and even though iron has been mined in northeastern Minnesota for over a hundred years, it has not damaged the watersheds. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

45 Michael Hughes Citizen Mining for copper and nickel will be no different and for that reason, I support the application for Polymet to mine copper and nickel in the Arrowhead of Minnesota. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

46 Kristin Pursell Citizen Mining so near to a world-class national (and international!) treasure should be a crime. The permanent damage this sort of mining will certainly do to our state’s natural resource gem should not be allowed. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

47 Kristin Pursell Citizen If this company shuts down and moves— it is the people if Minnesota who will have to clean up this mess for GENERATIONS (if it’s even possible to clean up at all). Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

48 Kristin Pursell Citizen NO to Polymet's permit to mine. Yes to clean water and the future of clean and pristine water in Minnesota. This comment states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

49 Richard Nolan Representative U.S. House of MN 8 Dear Commissioners Landwehr and Lin Stine, Today, I write in support of the NorthMet project’s major draft permits under review, and urge DNR and MPCA to move forward with their issuance. As the elected Member of Congress representing the proposed NorthMet project site and its surrounding communities, I have a longstanding interest and involvement in its development and progress. I also wish to commend both of you and your agencies on the extensive work and open process that has led to the ongoing comment period and public meetings being held in northeastern Minnesota. As both of you are well aware, these draft permits follow a decade of extensive and thorough environmental review that successfully determined the NorthMet project could move forward to this next stage. Under public review and comment today is the “fine print” spanning thousands of pages outlining how Polymet will comply with strict state and federal laws that protect and ensure the quality of our region’s precious waters and air. Below are my specific views on these permits and why I believe they should be issued to help power the next generation of mining on the Iron Range. Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

50 Richard Nolan Representative U.S. House of MN 8 The Draft Permit to Mine (PTM) contains a comprehensive summary of the project, the mining and reclamation plan, environmental and natural resource management and protection, and Polymet’s proposed approach to financial assurance. It also describes in detail specific regulatory standards governing various aspects of the project and the basis of design and/or operational protocols that Polymet will use to meet these requirements. The issuance of a PTM will bolster Minnesota’s efforts to diversify its mineral economy through long-term support of mineral development, production, and commercialization as set forth in Minnesota Statutes. Additionally, consistent with the policies set forth in Minnesota Rules, the project will promote the orderly development of nonferrous metallic mineral mining by using mining and reclamation best practices to minimize and mitigate adverse environmental effects and to preserve and protect natural resources through each phase of the project. Comment noted. This comments pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to this comments.

51 Richard Nolan Representative U.S. House of MN 8 The NorthMet Draft Air Permit [13700345-101] contains the specific parameters Polymet will comply with to ensure operations from mining and processing comply with the Clean Air Act and additional state-specific air requirements. The draft permit demonstrates that adjacent National Parks and Wilderness Areas – which are subject to more stringent air quality requirements – will not be negatively affected by the operation of the project. See air quality permit response to comments.
Richard Nolan

U.S. House of Representatives, MN 8

I object to the Draft Permit to Mine for the following reasons: 1) The refuse created by the mining and processing would be the greatest environmental hazard to the pristine Rainy River watershed, including the BWCA. Wind turbines contain hundreds of tons of steel and copper – and reduce our air pollution and dependency on fossil fuels. And practically every one of the appliances and devices that power our modern way of life rely on iron ore and precious metals. We have limited choices on how we get these minerals.

In fact, these draft permits are proof that we have the brains, science and technology to create good paying jobs and protect the environment on the Iron Range for generations to come. Our Nation requires these strategic Minnesota minerals to strengthen our national security and economy, but perhaps one of their most critical uses will be to propel the next generation of “green” technologies in our society. For example, new hybrid cars contain more than 1 ton of iron, steel, copper, nickel, and nickel-based aluminum. Wind turbines contain hundreds of tons of steel and copper – and reduce our air pollution and dependency on fossil fuels. And practically every one of the appliances and devices that power our modern way of life rely on iron ore and precious metals. We have limited choices on how we get these minerals. Though we can recycle a certain percentage, recycling will never be able to take the place of mining – not even by half. Therefore, we are left with two options. Either we can primarily import our strategic minerals from foreign countries with terrible environmental standards and worker protections. Or we can mine them right here at home, where we control the process, create good paying American jobs, and follow the toughest environmental rules and regulations in the world. In my judgement, the latter choice makes the most ethical, moral, and economic common sense. I therefore urge you to finalize these permits and continue the progress we have made to date. Thank you for your review and consideration of my views, and again, for all of your own individual work and that of your agencies on this project. Sincerely, Richard M. Nolan Member of Congress

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Kelly Dahl

Citizen

I object to the Draft Permit to Mine for the following reasons: 1) The refuse created by the mining and processing activities will produce acid run off that will be devastating to the surrounding area and watershed; 2) The proposed management methods for the inevitable contamination is inadequate; 3) The proposed technology to contain runoff is the same technology used by the Mount Polley mine in British Columbia;

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
In the villages near Africa's biggest copper, you can smell and taste the pollution Aug. 2015. Workers drain away.

There is not enough money to clean up from these mining disasters and PolyMet will be no different.

As climate change marches forward, historical rainfall totals and atmospheric conditions are unreliable and a much greater safety factor is necessary (Duluth has experience historic precipitation events in the recent past exceeding historical norms in amount and frequency).

Mine water sumps and ponds typically have normal operating capacity for the 100-year, 24 hour precipitation event (approximately 5.2 inches), and have additional capacity within the freeboard as a safety factor. In the case of a larger 500-year or 1000-year storm event, water can be transferred to the Equalization Basins if needed, where sufficient freeboard capacity is available to contain the aggregate volume of a 1000-year storm event (estimated at 7.0 inches of precipitation in 24 hours) without an overflow.

We do not want the waters of northeastern Minnesota polluted by PolyMet. The groundwater in Minnesota is a protected public resource, it is not the property of any mining company. We know in advance that PolyMet would pollute our waters and Water treatment would be perpetual. Residents of Salt Lake valley had no choice: their water was undrinkable. We do have a choice. Not to choose perpetual pollution in the first place. Please do not give PolyMet the permit to do harm to our drinking water. Lake Superior is too important to our health. We do not want our children to inherit a toxic environment and be fighting years from now on who let this happen to the water rich environment of Duluth and surrounding area.

I am concerned about the water discharged and if the birds and deer etc. can drink it and if not then there seems to be a better solution. I also am concerned that this could affect my drinking water and property value in Embarrass. I guess I'm scared of the situation. thanks, steve schmidt
Ellyn Wiens  Citizen  I still have not seen proof that the proposed system for containment will work. Why does the experiment have to take place in MN? at the hands of a foreign government? I fear for the BWCA and all surrounding waterways. The damage will outweigh the lives of my grandchildren. Please don’t let this happen!!!

Laura Gauger  Citizen  1. The first expert report I am submitting into the record (Tab 1; electronic page 8 of my submittal) was authored in 2017 by Dr. Robert E. Moran, a hydrogeology consultant from Colorado with over 45 years of domestic and international experience in doing water quality work for the mining industry, private investors, tribal and citizens groups, NGO’s, law firms, and governmental agencies, at all levels (https://remwater.org/). Dr. Moran reviewed Flambeau Mining Company’s own water quality data on file with the Wisconsin Department of Natural Resources and concluded the following: “Roughly 20 years after the cessation of active mining, Flambeau Mine ground waters are contaminated by past Flambeau Mining Company (FMC) activities. FMC data confirm that, as a minimum, dissolved concentrations of the following constituents significantly exceed FMC’s baseline concentrations (1987-88): copper, iron, manganese, zinc, sulfate, alkalinity, hardness, total dissolved solids, specific conductance.”

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Elizabeth Miller  Citizen  I am a life long Minnesotan, born in Hibbing, and migrated to the cities. I am completely against this project as the economic benefits are extremely short term compared to the unknown ecological potentially catastrophic results that compromises the very essence of why we have this beautiful piece of land maintained the way it has been for so many years. This land is sacred and many generations before ours decided to treat it as such. Our future generations deserve to have this space kept safe from poachers trying to extract dollars from the earth with no real regard for the health and beauty of the land.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Elizabeth Miller  Citizen  Northern MN can be a hard place to find a job as mining jobs have slowly gone away in the last 40 or so years, it is important that we do not keep repeating the pattern of digging more holes in the earth for quick money before another round of layoffs.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Elizabeth Miller  Citizen  The damage will be irreversible as the studies are inconclusive and never ever has an enterprise interested in becoming filthy rich off the land ever left the land in the same condition or better. We as Minnesotans, North Americans really, need to protect our forests so that they can continue capturing pollutants and providing oxygen, maintaining a diverse ecology and a legacy to the future inhabitants. Please reject polymet, do not let them begin chipping away at the irreplaceable and priceless gift that is The Boundary Waters. Big business has no business there.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Laura Gauger  Citizen  I am providing information from several different expert reports regarding water contamination at the now-closed Flambeau Mine near Ladysmith, Wisconsin. This is relevant to the present hearing because, in an effort to justify moving forward with the proposed PolyMet project, some have suggested that the Flambeau Mine, which was a copper-sulfide mine, operated “without polluting local waters.” In fact, the trade organization, Mining Minnesota, sent a letter and glossy brochure to Governor Dayton and all of Minnesota’s state and federal lawmakers several years ago in which they stated the reclaimed Flambeau Mine was “home to clean and healthy groundwater of the same quality as before mining took place.”

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
In conclusion, I would like to leave you with a quote from Dr. Moran: "Flambeau ground and surface water quality is reaching the Flambeau River from the Flambeau mine site and the Flambeau pit is leaching contaminants that exceed Wisconsin groundwater quality standards to beyond the slurry wall designed to separate pit water from the Flambeau River." Please note that the Flambeau pit was about 32 acres in size, compared to the PolyMet project that will have three open pits totaling 530 acres. In addition, all of the Flambeau ore was shipped to Canada for processing, so no tailings are stored at the project site. To see additional information on how the two projects compare, please see the attached chart (electronic page 7 of my submittal).

The permit seems very comprehensive and will help PolyMet to mine materials our society needs in an environmentally conscious manner. Reading through the permit, in section 6.16.52.c, “MSDS” (outdated term) should be corrected to "SDS" as it is listed in 6.16.52.b Great work. Amy Berns

As a taxpayer on the state of Minnesota, I am thoroughly upset and disappointed to see the MPCA even considering the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Historically, most such costs are paid by the taxpayers. In terms of water treatment activities at Flambeau, Dr. Moran also documented the failure of PASSIVE water treatment to control surface water pollution. He stated, "Contaminated discharges from the southeast corner of the FMC site have resulted in ... a tributary of the Flambeau River" being added to the Environmental Protection Agency (EPA) impaired waters list for exceedances of acute aquatic toxicity criteria for copper and zinc. Since 1998, FMC has instituted six different work plans to address this soil and water contamination issue. As of fall 2016, copper levels in the Flambeau River tributary still exceed the acute toxicity criterion, and FMC has not secured a mine reclamation Certificate of Completion (COC) for this portion of the mine site.

In conclusion, I would like to leave you with a quote from Dr. Moran: "Flambeau ground and surface water quality is being and has been degraded—despite years of industry public relations statements touting the success of the FMC operation. Rio Tinto said in a 2013 public relations (PR) release regarding the Flambeau Mine: "Testing shows conclusively that ground water quality surrounding the site is as good as it was before mining." In efforts to encourage development of the other metal-sulfide deposits in northern Wisconsin and the Great Lakes region, the industry approach has been to simply repeat this false statement over and over, assuming that repetition will make it believed. Unfortunately, the FMC data show otherwise." I respectfully ask that you please consider the information provided by Dr. Moran, Dr. Chambers and Dr. Zamzow when making your decision about the draft permits for the proposed PolyMet mine.

As a taxpayer on the state of Minnesota, I am thoroughly upset and disappointed to see the MPCA even considering the possibility of allowing the PolyMet mine to operate so close to a state and national treasure, the boundary waters. WATER, not metals, is our most valuable, precious resource. In a time of declining water quality AND scarcity, this is a foolish idea to even be entertaining. I ask that any further permitting by the MPCA not be made to allow this foolish idea to be entertained. I am tired of seeing foreign entities come into our state and make money off of our resources. This is not worth the few jobs it will provide. We need to look more at sustainable sources for employment.

The permit seems very comprehensive and will help PolyMet to mine materials our society needs in an environmentally conscious manner. Reading through the permit, in section 6.16.52.c, “MSDS” (outdated term) should be corrected to "SDS" as it is listed in 6.16.52.b Great work. Amy Berns

PolyMet has not even provided near enough money for the clean up once they are done. I am tired of seeing foreign entities come into our state and make money off of our resources. This is not worth the few jobs it will provide. We need to look more at sustainable sources for employment.

The permit seems very comprehensive and will help PolyMet to mine materials our society needs in an environmentally conscious manner. Reading through the permit, in section 6.16.52.c, “MSDS” (outdated term) should be corrected to "SDS" as it is listed in 6.16.52.b Great work. Amy Berns

Laura Gauger Citizen
Laura Gauger Citizen
Laura Gauger Citizen

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Shona Snater Citizen
Shona Snater Citizen

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

As a taxpayer on the state of Minnesota, I am thoroughly upset and disappointed to see the MPCA even considering the possibility of allowing the PolyMet mine to operate so close to a state and national treasure, the boundary waters. WATER, not metals, is our most valuable, precious resource. In a time of declining water quality AND scarcity, this is a foolish idea to even be entertaining. I ask that any further permitting by the MPCA not be allowed for this or any mine near the boundary waters.

The permit seems very comprehensive and will help PolyMet to mine materials our society needs in an environmentally conscious manner. Reading through the permit, in section 6.16.52.c, “MSDS” (outdated term) should be corrected to "SDS" as it is listed in 6.16.52.b Great work. Amy Berns

PolyMet has not even provided near enough money for the clean up once they are done. I am tired of seeing foreign entities come into our state and make money off of our resources. This is not worth the few jobs it will provide. We need to look more at sustainable sources for employment.

The permit seems very comprehensive and will help PolyMet to mine materials our society needs in an environmentally conscious manner. Reading through the permit, in section 6.16.52.c, “MSDS” (outdated term) should be corrected to "SDS" as it is listed in 6.16.52.b Great work. Amy Berns

Laura Gauger Citizen

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

As a taxpayer on the state of Minnesota, I am thoroughly upset and disappointed to see the MPCA even considering the possibility of allowing the PolyMet mine to operate so close to a state and national treasure, the boundary waters. WATER, not metals, is our most valuable, precious resource. In a time of declining water quality AND scarcity, this is a foolish idea to even be entertaining. I ask that any further permitting by the MPCA not be allowed for this or any mine near the boundary waters.

The permit seems very comprehensive and will help PolyMet to mine materials our society needs in an environmentally conscious manner. Reading through the permit, in section 6.16.52.c, “MSDS” (outdated term) should be corrected to "SDS" as it is listed in 6.16.52.b Great work. Amy Berns

Laura Gauger Citizen

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

As a taxpayer on the state of Minnesota, I am thoroughly upset and disappointed to see the MPCA even considering the possibility of allowing the PolyMet mine to operate so close to a state and national treasure, the boundary waters. WATER, not metals, is our most valuable, precious resource. In a time of declining water quality AND scarcity, this is a foolish idea to even be entertaining. I ask that any further permitting by the MPCA not be allowed for this or any mine near the boundary waters.
<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>J Lang Citizen</td>
<td>The damage to this beautiful area cannot be allowed. Our environment needs to be protected from those who want to exploit it for profit. Safeguards will fail as they always do.</td>
</tr>
<tr>
<td>79</td>
<td>J Lang Citizen</td>
<td>The promise of &quot;jobs&quot; should not be a carrot to approve jeopardizing the environment and the tourist industry.</td>
</tr>
<tr>
<td>80</td>
<td>Robert Stodola Citizen</td>
<td>The DNR’s draft permit would allow PolyMet to use the same wet slurry tailings storage method that resulted in a catastrophic collapse and devastating pollution at the Mount Polley mine in British Columbia, Canada, even though better and safer technologies are available. A tailings dam failure would threaten downstream populations, including Duluth, Cloquet &amp; the Fond du Lac Reservation. The recent tailings basin disasters of Canada’s Mount Polley dam in 2014 and Brazil’s Fundao dam in 2015, whose toxic waste flowed over 400 miles downstream, demonstrate that large-scale mine dam failures are not only possible, but likely. Sulfates directly contribute to the methylation of mercury, with resulting fish consumption advisories. The old LTV taconite property purchased by PolyMet is already leaching sulfates and other metals into the watershed.</td>
</tr>
<tr>
<td>81</td>
<td>Robert Stodola Citizen</td>
<td>In addition to an acute potential for Acid Mine Drainage (AMD) and the discharge of heavy metals to the St. Louis River watershed, the PolyMet mine would discharge sulfates at a level that could decimate wild rice stands downstream. Wild rice holds critical importance for Minnesota’s Native American tribes, and the St. Louis River watershed flows through tribal lands. During the EIS process, PolyMet offered to resolve outstanding issues related to sulfate and wild rice by incorporating into the project design advanced wastewater treatment that is capable of achieving 10 mg/L sulfate, the current wild rice standard. The permit includes an operating limit of 10 mg/L sulfate for the effluent from the WWTS. This operating limit for sulfate is an enforceable permit limit; if it is exceeded, it will be a violation of the permit. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control wastewater and runoff from the facility. The effectiveness of these controls were evaluated in the EIS and the water quality permit requires their installation/operation. Because the authorized discharge from the WWTS is limited to 10 mg/L and the required engineering controls will prevent unauthorized discharges, the project as designed will not harm wild rice.</td>
</tr>
<tr>
<td>82</td>
<td>Paul Bultman Citizen</td>
<td>This type of mining, in the entire history of the world, has never not polluted groundwater with toxic chemicals. Why would you think this mine will be any different? If you call yourselves scientists, history has provided the perfect scientific study with 100% conviction that this mine will damage precious water resources. Why would we knowingly and intentionally permit this to happen? What, for some temporary jobs that will end in the not distant future when the next recession occurs?</td>
</tr>
<tr>
<td>83</td>
<td>Ben and Barry Wolfe Citizen</td>
<td>Regarding &quot;restoration&quot; when the PolyMet DOES in the future contaminate and destroy the environment... remind yourself what is happening today...and supposedly the science at the time was &quot;good&quot;! BAD will only come from what may happen if the permits are allowed...and most important, there is NO guarantee after PolyMet or any similar company destroys the safety and quality of the water, they will EVER have the money to pay for it...LET ALONE IT MAY NOT BE FIXABLE!!!! WE OPPOSE ANY TYPE OF COPPER-SULFIDE MINING....</td>
</tr>
</tbody>
</table>
84 Ben and Barry Wolfe Citizen Below is the article about the toxic problems trying to be paid for due to contamination by 3M...you know how bad it will be if PolyMet is allowed to mine, or any copper-sulfide mining company. This was in the Duluth News Tribune, Sunday, February 11, 2018 Minnesota vs. 3M. A guide to the $5B trial: State’s biggest environmental lawsuit, over company’s PFCs in groundwater, starts this month By Rob Shaw / St. Paul Pioneer Press on Feb 10, 2018 at 4:25 p.m. ST. PAUL — Call it the $5 billion Teflon trial — Minnesota’s biggest environmental lawsuit ever. *Summary: The news article details the future lawsuit against 3M. The state says chemicals were made by 3M, dumped by 3M and consumed by 57,000 local water drinkers and have now spread around the world. The article provides viewpoints from both sides of the lawsuit. The article provides other examples of major environmental lawsuits, such as Deepwater Horizon and Exxon Valdez. The article discusses the chemicals used by 3M and their dumping of those chemicals. The article provides information about concentrations of chemicals and potential consequences to the environment and human health.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

85 Dominic DiVita Citizen To whom it may concern: Water quality in Minnesota is known to have been held to a higher standard than many other places, and for good reason. Minnesota contains the most visited recreational natural area in the United States, and one of the driving forces behind its popularity is the pristine lakes and rivers that keep people returning to the Boundary Waters Canoe Area Wilderness. Having connected personally with the land there and having my love of the outdoors and parks developed there makes it an extremely important place for me and many others. Because of this, any attack on this land that holds a special place in my heart feels like an attack on my soul.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

86 Dominic DiVita Citizen Copper-nickel mining has a terrible history, with not one of its sites being handled correctly for the environment. Runoff from these mines causes acid mine drainage, which, due to the location of the potential mine near the Kawishiwi river, threatens the Boundary Waters. This threat is not an isolated issue that would only affect water resources near the mine, since small waterways, groundwater, wetlands, and a host of other pristine bodies of water connect nearly every water system in the entire Northeastern region of Minnesota.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

87 Dominic DiVita Citizen Even without considering the negative environmental effects that this mine would potentially cause on the water quality of the area, is job creation the only force at play? Sometimes money is never worth the potential risk that a project will cause. According to the the PolyMet Fact sheet, the mine will directly disturb 900 acres of wetlands, which they claim they will replace. However, leaving these wetlands alone in the first place will be infinitely better for the area, allowing habitat to be maintained for hundreds of species, allowing water to flow the way it has been for millions of years, and keep carbon sequestered rather than release it into the atmosphere. Copper nickel mining has an awful history, and even with computer modeling, the results from the mine are highly uncertain (see attached Acid Mine Drainage Technical Document published by the EPA). I am passionate about this issue, and Minnesota will be greatly disappointed if the community sees the government put a few jobs above the well being of an entire ecosystem, even more recreational jobs generated by tourism to the boundary waters, and some of the most pristine water that still exists in the United States. The first attachment is an essay I wrote back in freshman year of high school, detailing the negative effects of this mine. Please read it closely. Think about your decisions carefully, and refuse to put business before the environment as governments have been doing for so many years. Sincerely, Dominic DiVita

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

88 Kathryn Stodola Citizen AGAINST PolyMet: the wrong mine in the wrong place. Deny the permits.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

89 Kathryn Stodola Citizen There are inadequate funds to be set to aside regarding state financial assurance regulations. PolyMet's proposed $75M in cash for financial assurance was always a joke, and even with the DNR increase of several hundred million, this amount would not even begin to cover the inevitable environmental damage, including widespread air pollution.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Further, much of the information in PolyMet's applications for permits is ten years old. Using incorrect information for such an important decision is misleading at best.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Take, for example, the assessment of directly impacted wetlands if permitting and construction proceed, most recently conducted by the Corps of Engineers. These results should be made available and should be public knowledge. However, the Corps is not allowing access to this information which almost certainly reveals that larger areas than originally estimated will be impacted.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

It’s time for meaningful reinvestment on the Range instead of allowing permits for PolyMet and other similar mines.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I object the proposed system of liners for the hydrometallurgical residue facility. I see no evidence that the liners will last indefinitely as they must to contain the sulfide/sulfur concentrate indefinitely. Also the hydrometallurgical residue facility will have to be monitored and maintain indefinitely violating Minnesota Administrative rul 6132.3200 part 1 that requires the goal of a post closure mines to be "maintenance free."

The HRF liner system is designed to meet the long term solid waste storage requirements for the HRF waste. This includes: a drainage collection system; a primary 100 mil HRF liner; a leakage collection system; and a secondary 40mil HRF liner placed on top of a geosynthetic clay liner. This has been determined to be a robust liner system for the proposed waste. After operations at the facility cease, the drainage collection system will remain head as the primary liner to reduce the possibility of seepage losses. If seepage through the primary liner occurs, the leakage collection system will serve as a means of detecting and collecting that seepage.

I believe that the proposed HRF liner system is appropriate for this type of waste at this specific site. HDPE has increasingly become the liner material of choice since the 1980s. As noted by the commenter, this restricts HDPE liner usage to approximately the last 40 years. Therefore, the actual life of HDPE membrane is unknown. Degradation of HDPE liners is contingent on multiple variables including factors such as temperature and exposed vs. covered applications. A.M. Koerner, et al predicts that "the half life of covered HDPE geomembranes (formulated according to the current GRI-G401 specification) is estimated to be 489 years at 27°C. "Limited exposure to sunlight on elevated temperatures will prolong the liner life. This primary liner of the HRF would be exposed to the elements for the first few years of its service life before residue levels rise and provide some protection. Further, the residue is expected to be discharged from the hydrometallurgical plant at temperatures in the range of 95-150°F (35-66°C); however, some degree of cooling would be expected in the HRF and these elevated temperatures would not be expected for the life of the system. As a result of these factors, during operations the primary liner would experience some exposure to the natural elements and to higher temperatures which will decrease – at an unknown rate – the predicted half life of the primary liner from the predicted baseline. After operations cease, the primary liner would remain covered for the rest of its life. The secondary liner would be covered and protected for the entirety of its service life.

Ultimately, there is no certainty that any waste liner system can reasonably be expected to function in perpetuity without degradation. However, under a dewatered scenario with little to no head on the covered liner system, MPCA believes that the proposed HRF liner system is appropriate for this type of waste at this specific site.

This same "maintenance free" objection and violation pertains to the reverse osmosis and nanofiltration (WWTS) proposals in the permit.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

How do you calculate the costs and therefore the amount of financial assurance to be required as part of this permit? The permit must be withheld until the issues are resolved protecting MN and US taxpaying citizens.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
96 Robin Raplinger Citizen How do you calculate the costs, and therefore the amount of financial assurance to be required as part of this permit?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

97 Robin Raplinger Citizen The permit must be withheld until the issues are resolved protecting the MN and US taxpaying citizens.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

98 Mark Delver Citizen Allow Polymet to proceed as standards are met.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

99 Kathy Littler Citizen I support the Polymet mine project.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

100 Cynthia Klaras Citizen I believe Polymet has gone above & beyond to prove that mining can go hand in hand with the environment.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

101 Barry Lesar Citizen The time has come to stop this nonsense and either approve or disapprove the permits based on the science. To base a decision such as this on what might happen is ludicrous, if everyone based their activity on bad things that could or might happen, no one would do or manufacture anything. Let's move on and mine these materials here, where the mining will be monitored & the environment protected, not elsewhere where the environmental pollution will be far worse & more far reaching.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

102 Roxanne Wright Citizen Rain water is dirttier

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

103 Thomas Gentilini Citizen Polymet has and will meet all requirements that it should move forward.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

104 Tom Rukavina Citizen After 14 years, it is time to issue the necessary permits & let us move forward so we can safely provide the minerals that society demands. 134 of mining in NE MN proves we can do it correctly.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

105 Karl Littler Citizen I support the Polymet Mine Project

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Name</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>106</td>
<td>Ken Vogl</td>
<td>Citizen</td>
<td>Water is life, already, significant area’s of this planet, and literally millions of it’s inhabitants have no clean drinking water, or unpolluted air. Once begun man's greed for quick profits over peoples well being, will, snowball, as it has in other (poor) communities all over this world.</td>
</tr>
<tr>
<td>107</td>
<td>Ryan Fink</td>
<td>Citizen</td>
<td>I support the water quality permit.</td>
</tr>
<tr>
<td>108</td>
<td>Don Guttormson</td>
<td>Pastor</td>
<td>I believe that a permit should be granted and that adequate monitoring take place. The impact of potential jobs is of great benefit. It will help address poverty on the Iron Range. National avg 12%, St Louis County 15.5%, Virginia, MD 20-25%. Drug addiction is epidemic - Jobs are critical to change this!</td>
</tr>
<tr>
<td>109</td>
<td>Pierce</td>
<td>Citizen</td>
<td>You have done a great job.</td>
</tr>
<tr>
<td>110</td>
<td>Robert Kohzmeter</td>
<td>Citizen</td>
<td>I attended 5 hearings on sulfide-ore mining both here in duluth and on the iron range. I heard many good comments both for and against. One comment stood out: a pro miner stated defiantly &quot;we will mind.&quot; If I would have had the opportunity to respond, I would have said, &quot;I'm ok with that but you will not pollute out lake superior. We drink from that lake and it is not yours to pollute. You don't drink from it but we do!&quot; If the permit to mine is issued, which I believe it will be, the DNR and Polyimet is 100% responsible. Lake Superior cannot be permitted to be polluted. Thank you for protecting the water we drink.</td>
</tr>
<tr>
<td>111</td>
<td>Virgil Sohm</td>
<td>Citizen</td>
<td>I am enrolled member of the Lake Superior Band of Ojibwe, Treaty of 1854, Bois Forte tribal member. Our lakes and streams of the Arrowhead region of the state of MN include our treaty rights to hunt, fish and gather. As a tribal member your proposed facility to mine copper endangers our water. Water is life.</td>
</tr>
<tr>
<td>112</td>
<td>Jason Wall</td>
<td>Citizen</td>
<td>Water is essential to healthy living. We cannot compromise one of our greatest natural resources in Minnesota because we could potentially make some money and jobs available. The risk of long term harm is great and no amount of redundancy will safe guard our water against large scale mining. Water is worth more than transient copper and nickel.</td>
</tr>
<tr>
<td>113</td>
<td>Kim Davis</td>
<td>Citizen</td>
<td>Sulfide mining will damage our water forever! We all need water to survive and can't live without clean water. Please do not approve this permit! Thank you!</td>
</tr>
<tr>
<td>114</td>
<td>Paul Christensen</td>
<td>Citizen</td>
<td>The mine will damage the water quality irreparebly for hundreds of years. We need clean water. We can't live without clean water, we can live without copper and nickel. Please do not approve this permit!</td>
</tr>
</tbody>
</table>

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
115  Wendy Salin  Citizen  I strongly oppose the polymet mine. I have serious concerns about the high risk to water, human health, and environment. I am appalled to hear that a health impact analysis has not been thoroughly conducted. I am appalled that we would prioritize a high-risk mining endeavor over precious and rare fresh water.  Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

116  Wendy Salin  Citizen  I am not in favor of the liability this poses to MN's taxpayers. The risk is too great. The reward, too little.  Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

117  Tahera Mammadani  Citizen  Sulfide mining poses great danger to fish, other wildlife and humans.  This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

118  Tahera Mammadani  Citizen  The acid mine drainage and discharge of heavy metals could decimate wild rice stands downstream.  During the EIS process, PolyMet offered to resolve outstanding issues related to sulfate and wild rice by incorporating into the project design advanced wastewater treatment that is capable of achieving 10 mg/L sulfate, the current wild rice standard. The permit includes an operating limit of 10 mg/L sulfate for the effluent from the WWTS. This operating limit for sulfate is an enforceable permit limit; if it is exceeded, it will be a violation of the permit.  In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control wastewater and runoff from the facility. The effectiveness of these controls were evaluated in the EIS and the water quality permit requires their installation/operation. Because the authorized discharge from the WWTS is limited to 10 mg/L and the required engineering controls will prevent unauthorized discharges, the project as designed will not harm wild rice.

119  Joanne Isdahl  Citizen  Please deny all permits to Polymet. This mining has never been done successfully in a water rich environment. There are documented disasters with this type of mining. The effects of this could last 500 + years. Why would we risk our beloved northern MN when the stakes are so high?? The EPA itself has said sulfide mining is the most toxic industry. We need to protect our water & environment at all costs. Deny all Polymet permits.  Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

120  Rachel Schardenbey  Citizen  I request that the DNR reject any motion to issue a permit for the proposed polymet mine, until assurance of 0% contamination can be made. There has be no such assurance under normal conditions and are most certainly not assured in the event of a disaster.  Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

121  Sally Downing  Citizen  All mines pollute, there is no way we can undo the damage. No matter how much money PolyMet says they will provide for clean up, history shows us it is never enough.  Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

122  Mary Klausen  Citizen  There is no way to safely mine this product. It's never been done without devastating & permanent damage to water, habitat & ecosystems. Don't do it. Shame on us for even considering this in this state of water & huge interconnected watersheds. MN is the giant sponge for water far south of us. Just say no.  Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Eleonora Lesar  
I believe that mining & clean water can co-exist. Polymet has met all the particulars asked of them. I strongly support mining & Polymet  
Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Barry Lesar  
Citizen  
Living downstream of the plant that Polymet will use, I firmly believe the science & technology exist to protect the water I drink. It is time to grant the permits & start mining & processing the Cu Ni deposits.  
Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jeffrey LeDoux  
Citizen  
The information available to all who attended this event shows due diligence. I was particularly interested in all of the wells that have been drilled so you can effectively track and trend water quality. I am very impressed! Thank you!  
Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Floyd Littler  
Citizen  
Support  
Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Ronald Childs  
Citizen  
I support Polymet 100%  
Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Donna Littler  
Citizen  
Support  
Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Carrie Nicklow  
Citizen  
Hello, I am writing to share my deep concern and position to the draft permit for PolyMet. I do not feel that this process has adequately explored the potential ramifications of a mine such as this, nor has it met state requirements for environmental review, protection of groundwater [per state law] or protection of the watershed.  
Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Carrie Nicklow  
Citizen  
There are many unknowns in a project such as this, and of course no mine such as this has been undertaken in Minnesota yet. In fact, no mine such as this has been implemented ANYWHERE without causing grievous harm to the surrounding watershed, anywhere in the world. Northern Minnesota as a pristine location, and is not the place to skimp on environmental review, or fast-track industry requests just to create a few jobs (or make some company a profit at the taxpayers expense.) I understand that there has been taconite mining up there for years, which is fine, but PolyMet proposes an entirely new kind of mining with much more severe and essentially unavoidable catastrophic consequences.  
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Carrie Nicklow  
Citizen  
I do not feel that the future cost of the all-but-inevitable leaking of the dam has been adequately assessed. Truly, anyone who says that they can account for the cost of managing this boondoggle for 500 years is either lying, ridiculously uninformed, or both. I think that the DNR and the MPCAs stop this process if they cannot ensure that they can be ONE HUNDRED PERCENT confident that adequate protections exist for the watershed. Further, if approved, which I strongly disagree with, POLYMET SHOULD PAY IN ADVANCE for the cost of maintaining their mess for the next 500, 1000 years, whatever it is to deal with the fallout of this dam bursting forth its toxic sludge.  
Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Carrie Nicklow  
Citizen  
I've lived in Minnesota my entire life and have spent many seasons up north in many parts of Minnesota and my husband and I plan to retire near the area where this mine is proposed. I cannot express to you the depth of my concerns for the natural habitat of the area, the watershed, the tourist economy, and the preservation of the area for future generations. Please oppose this permit, as it's just not sufficient to protect the best interests of Minnesota. Thank you, Carrie Nicklow  
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Doris Malkmus
Citizen

I am not a scientist I am an elder in our community. When people speak with pride of Minnesota, they think of the lakes and their purity. The MPCA 401 certification should not be given when there is such a vast quantity of tailings to be maintained for so long when climate change may make projections of today unstable. Please act with caution not concern for the next very short 20 years.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

Liv Mostad-Jensen
Citizen

While I understand people’s desire for good jobs, I do not believe the long-term risk is worth taking for a limited number of jobs in the short-term.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Liv Moostad-Jensen Citizen

Also, looking at the history of mining operations around the world, I do not trust Polymet to supply the funds needed for potential clean-up. They might promise the world, but it is another thing to actually come through with promises when the time comes.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Candice Pierce Citizen

Polymer intends to use the cheapest, least safe way to contain toxic tailings; wet tailing behind a 45+ year old dam. They should be made to use the best, if more expensive, technology: dry tailings containment. Sincerely Candice Pierce.

Alternatives for tailings basin design were addressed in the EIS process, and the EIS was deemed adequate. Tailings dam design is addressed in the DNR Dam Safety permit. No changes were made to the draft permit in response to these comments.

Anita Tillemans Citizen

There are not problems with self-monitoring by the permittee. The permit includes specific requirements on the sampling, analysis and reporting of monitoring data. For example, the permit requires that all analyses must be conducted by a laboratory certified by the Minnesota Department of Health. The permit also states that knowingly making a false statement or certification is subject to criminal and civil penalties. The NPDES permitting program nationwide is reliant on self-monitoring by the permittee. The permit includes specific requirements on the sampling, analysis and reporting of monitoring data.

The monitoring, assessment and reporting requirements of the permit are intended to identify potential problems before they impact water quality. For example, the permit requires the annual Groundwater Evaluation and Performance Evaluation reports to evaluate the monitoring data on a proactive, forward-looking basis such that adaptive management or mitigation can be implemented before impacts occur.

Anita Tillemans Citizen

Among the facilities referenced in this draft, the following: o A Beneficiation plant o A hydrometallurgical plant o A flotation tailings basin (FTB) including Seepage Capture Systems o A hydrometallurgical residue facility (HRF) o A waste water treatment system (WWTS) – discharge of which will be routed through pipes to maintain flows in Trimble Creek, Second Creek, and Unnamed Creek, with some being recycled directly to FTB pond. o Other ancillary facilities (eg Colby Lake water pipeline): o Mine water filtration train o Tailings basin seepage treatment train o Wastewater treatment solids/hydropods: from the tailings basin seepage treatment train including waste from filters and membrane cleaning and concentrate, which will be routed to FTB pond and mine water chemical precipitation treatment train.

The NPDES permitting program nationwide is reliant on self-monitoring by the permittee. The permit includes specific requirements on the sampling, analysis and reporting of monitoring data. For example, the permit requires that all analyses must be conducted by a laboratory certified by the Minnesota Department of Health. The permit also states that knowingly making a false statement or certification is subject to criminal and civil penalties. The monitoring, assessment and reporting requirements of the permit are intended to identify potential problems before they impact water quality. For example, the permit requires the annual Groundwater Evaluation and Performance Evaluation reports to evaluate the monitoring data on a proactive, forward-looking basis such that adaptive management or mitigation can be implemented before impacts occur.

Anita Tillemans Citizen

Can we rely on a for-profit corporation to monitor itself? The permittee, Polymet, is expected to report all data from the required monitoring stations, whether favorable or not. If reported accurately and standards are not met, then Polymet will be required to monitor again until standards are met. What worthy and worthwhile actions will be taken at the "end of the day?"

See response to Comment 143.

Anita Tillemans Citizen

If the unfathomable number of reports (essentially required just to monitor the discharge from this mining operation) are maintained accurately with regularity, consistency and competency, what truly effective actions can be taken when standards are exceeded? What of the monitoring stations that have no set standards as guidelines? What of those that are not enforceable? What actions are possible that will return the water to its base levels when the degradation becomes apparent to us all? What amount of money in the form of fees or financial guarantees can reclaim what is lost?

See response to Comment 143.

Anita Tillemans Citizen

In addition, there is little that anyone can do to prevent natural processes and disasters from occurring, or human error whether knowingly or not, and so, by any standard, this mine will degrade our water resources in Minnesota and beyond. Can any permit for such a mine adequately address these issues?

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Anita Tillemans Citizen

Once copper mining has run its course in the Arrowhead by setting precedent with Polymet, the first of many to come, what will remain and what can truly be reclaimed? "Downstream," the St Louis River estuary and Lake Superior, the largest body of fresh water in the world? "Downstream," the BWCA, and the Rainy River Watershed, the Superior National Forest and Voyageurs, the most pristine wilderness areas on the planet?

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.
Anita Tillemans
Citizen
Can we afford this mine? There are hundreds of pages listed in the water permit draft of essential equipment and gauges required just to monitor pollution on a continuing basis daily, monthly and/or annually through the life of this mine and beyond. This alone speaks for itself and cannot be reconciled with the safety of our greatest natural resource. I respectfully request that MPCA deny this permit to pollute our waters.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Candice Pierce
Citizen
PolyMet intends to use cheaper, more dangerous wet tailings capture behind a 45+ yr old dam. Instead they should be made to use the safer, dry tailings containment option. After all, that is the best & safest technology. Sincerely, Candice Pierce

Alternatives for tailings basin design were addressed in the EIS process, and the EIS was deemed adequate. Tailings dam design is addressed in the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.

Jesse Coenen
Citizen
My name is Jesse Coenen of Duluth, MN. I am addressing the Water Quality permit. I am trained in molecular biology, and medicine. I am a family doctor. I live and work in Duluth, which lies downstream from the proposed PolyMet mine area. It is my job to look after the health of the people in this community and the greater region. I feel the need to speak because, when considering effects on human health, sulfide copper nickel mining represents a very different situation than traditional iron ore mining. It has never been done in Minnesota before, and for this, we are fortunate! I want to reiterate: We are fortunate that this type of mining has never been done before in Minnesota. Most of the currently operating copper sulfide mines in the country are located in the west and southwest places like New Mexico, Arizona, and Utah, where the climate is arid, and precipitation is limited, minimizing the amount of mercury that will end up inside of humans. There are claims that modern technology will prevent this pollution from happening, but they have not been proven in a water rich environment.

The permit includes enforceable Operating Limits for mercury (1.3 ng/L) and sulfate (10 mg/L) for the WWTS discharge that will minimize the potential for increased mercury methylation as a result of the project. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control the wastewater and runoff that may contain elevated mercury and direct it to the WWTS for treatment. The effectiveness of these controls was evaluated in the EIS and the water quality permit requires their installation/operation.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Jesse Coenen
Citizen
The concern lies in the fact that the desirable minerals, such as copper, are connected to sulfur. And when these minerals are mined, they are exposed to air and water, and sulfuric acid is generated. This acid is released into the surrounding environment, and pulls heavy metals from the rocks. This is acid mine drainage.

The permit includes enforceable Operating Limits for mercury (1.3 ng/L) and sulfate (10 mg/L) for the WWTS discharge that will minimize the potential for increased mercury methylation as a result of the project. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control the wastewater and runoff that may contain elevated mercury and direct it to the WWTS for treatment. The effectiveness of these controls was evaluated in the EIS and the water quality permit requires their installation/operation.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jesse Coenen
Citizen
Regarding human health, one particularly concerning metal is mercury. Mercury contamination of fish, which WE EAT, is already widespread in Minnesota. We must prevent additional mercury from entering the environment, as this is damaging to our brains, in particular, those of fetuses and children.

The permit includes enforceable Operating Limits for mercury (1.3 ng/L) and sulfate (10 mg/L) for the WWTS discharge that will minimize the potential for increased mercury methylation as a result of the project. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control the wastewater and runoff that may contain elevated mercury and direct it to the WWTS for treatment. The effectiveness of these controls was evaluated in the EIS and the water quality permit requires their installation/operation.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jesse Coenen
Citizen
I am not wiling to put the brains of our children on the line. The Land of 10,000 Lakes is definitely not the place for this type of mining. We must address this problem BEFORE it affects our children, because as we already know about mercury in our environment, there is no simple cure. As I ask for the denial of this permit for Polymet, I want to make the point: We must prevent that which we cannot cure.

The permit includes enforceable Operating Limits for mercury (1.3 ng/L) and sulfate (10 mg/L) for the WWTS discharge that will minimize the potential for increased mercury methylation as a result of the project. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control the wastewater and runoff that may contain elevated mercury and direct it to the WWTS for treatment. The effectiveness of these controls was evaluated in the EIS and the water quality permit requires their installation/operation.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Abigail Nordstrom
Citizen
Please reject mining proposals in northeastern Minnesota. I’m not against mining; I’m against mining that is economically and environmentally unsound from the start, meaning that the odds of a cleanup in the future are even worse. This is one of the reasons people speak of the “resource curse,” one aspect of which is that some people make money—not but the locals, who just get stuck with the Superfund site. For a grand total of 350 jobs, this one is a bad bargain from every angle.

The permit includes enforceable Operating Limits for mercury (1.3 ng/L) and sulfate (10 mg/L) for the WWTS discharge that will minimize the potential for increased mercury methylation as a result of the project. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control the wastewater and runoff that may contain elevated mercury and direct it to the WWTS for treatment. The effectiveness of these controls was evaluated in the EIS and the water quality permit requires their installation/operation.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
157 Abigail Nordstrom Citizen

If we are going to risk ruining the BWCA and sinking tourism around the Iron Range, why are we offering this to the least experienced, smallest company of its kind instead of the most experienced corporation with a track record of success in this type of mining? PolyMet itself has no track record for this type of operation. The company has no earnings and is what’s called a shell corporation. Its stock (PLM) trades for 95 cents per share and is priced not on current operations but on possible future projections, the most risky type. Companies like this go out of business every day which is why the stock is priced so low. Everyone including the Governor and Mr. Landwehr state there is some risk to this effort. So I’ll ask again why are we placing this risk in the hands of a company that is inexperienced with no track record to demonstrate their ability to manage the risk we are placing in their hands? It’s not in the interest of the state, to allow PolyMet to use out-dated methods to extract the ore, and Yes, mining generates jobs, but they are ALWAYS temporary.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

158 Abigail Nordstrom Citizen

They always put at risk the potentially permanent tourism jobs. Moreover, I personally believe clean water will be the “oil” of the next generation – worth big $ and fought over. So please let’s not put water – our invaluable, irreplaceable, and to some degree uniquely Minnesota – resource at risk for some temporary jobs.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

159 Abigail Nordstrom Citizen

Why not find opportunity, and create jobs recycling the same metals they are going to extract? Copper and copper alloys have been recycled for thousands of years. Landfills, doing no good to our environment and human health, are a source we can utilize for metal materials. Also green energy. Minnesota has a dozen landfills, and with wise investment, each have an opportunity to be a source of recoverable materials, and energy if burned. Why not create jobs here? Minnesota would be making another stride in it’s admirable green-energy economy AND taking care of the burden of human waste, already placed on the environment and our health. The ore has been and will continue to be in the ground and available forever. There is no demand for this ore that outweighs the risks. Leave it there until sometime in the future when it can be safely extracted and not create such a huge risk to us and the environment.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

160 Abigail Nordstrom Citizen

During the mine’s permitting phase, Eagle (copper-nickel mine in M) pledged to use environmentally responsible bag-house filters to remove heavy metals, sulfide rock particles, exhaust from underground equipment and cancer-causing particulates ejected from the mine following blasting. The have since changed the design, revised the permit and removed all filters. Why are we being so shortsighted? Jobs are important. BUT once the natural world is polluted, there is no way back.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

161 Candice Pierce Citizen

Theme: Reasons why PolyMet Mine Permit is a bad idea in its present form.

1) DNR draft permit allows PolyMet to use out-dated methods to extract the ore. Use of water & draining the headwaters of the Partridge River. DNR draft permits don’t protect surface water, ground water or the Lake Superior Basin. No changes were made to the draft permit in response to this comment.

Comment noted. This comment pertains to issues considered in the development of the DNR Water Appropriation permits. No changes were made to the draft permit in response to this comment.

2) DNR draft permit allows PolyMet to use 6.2 BILLION gal/yr of water & drain the headwaters of the Partridge River. DNR draft permits don’t protect surface water, ground water or the Lake Superior Basin. No changes were made to the draft permit in response to this comment.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

3) DNR reasonably estimates mine closure & centuries of water treatment to cost more than $1 BILLION. But the DNR PolyMet’s permit to mine to guarantee less than 10% of that amount upfront, with almost no insurance for spills or collapse. No changes were made to the draft permit in response to this comment.

Comment noted. This comment pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to this comment.
4) The PolyMet draft permit does not implement all of the steps the State's own experts & engineered recommended to protect MN taxpayers. The best practice is upfront cash. PolyMet's draft permit doesn't require this. After the initial $10 million, PolyMet is only required to put up $26 million after 9 yrs of mine operation to pay for a potential $1 BILLION cleanup. Instead of cash upfront, Poly Met's permit depends heavily on "surety bonds" & "letters of credit", despite the State's own experts stating it likely won't work.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

5) DNR should, if PolyMet is permitted: a) Have outside experts annually review Poly Met's financial-assurance. This should be open & transparent to the public. b) DNR should have options other than mine closure should PolyMet fail to meet its financial-assurance obligations. Options such as prohibiting dividends to shareholders or bonuses or stock options to executives if PolyMet fails to meet its financial-assurance obligations. c) State of MN should have the ability to require full cash funding of all financial assurance obligations if the mine is sold.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

6) DNR permit allows PolyMet to pollute many square miles of ground water in blatant violation of state law. The permit ignores promises made in the EIS to contain & collect at least 90% of ground water from the most polluted areas. The draft permit to mine doesn't protect public interest, puts people downstream at risk, & leaves the taxpayer unprotected. It is the job of the DNR to protect the public interest. Sincerely, Candice Pierce

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Theme: The PolyMet mine permit is a bad idea in its present form. Content 1) Sulfuric acid produced could leach heavy metals & other pollutants into pristine waters downstream.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

2) The PolyMet project is located in a particularly bad location for a sulfide mine: a) It is located at the headwaters of the St. Louis River; the largest tributary to Lake Superior. b) Is located by wetlands/peatlands & streams in the Lake Superior Basin. c) Located upstream of drinking water of Fond du Lac reservation & City of Duluth, & estuary where the St. Louis River meets Lake Superior.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

3) Across the country there is NO example of a sulfide mine that has been operated& closed in a water-rich environment ( like that in Northern MN ) without polluting surface, and/or ground water with acid mine drainage, sulfuric acid, and/or toxic metals. This is a striking 100% FAILURE RATE in protecting clean water.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

4) There is an expected 2 BILLION gal/ yr of toxic tailings seepage.

Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

5) PolyMet plans to use 6.2 BILLION gal/yr of MN water, paying MN taxpayers only $50,000/ yr for its use. Essentially this is unlimited free freshwater usage for the mine.

Comment noted. This comment pertains to issues considered in the development of the DNR Water Appropriation permits. No changes were made to the draft permit in response to this comment.

6) PolyMet touts the 300 jobs/ yr it will provide over 20 yrs. But Paul Renneisen warns that the rapid automation in the mining industry will soon replace Humans with Robots in MN mines as is happening in mines worldwide. PolyMet state permits have no contracts mandating HUMAN employment numbers.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Candice Pierce  
7) We recycle 1/3 of copper globally. If permitted, PolyMet would only increase global copper production by 0.2%. Discarded iPhones are 40x richer in copper than the Northmet ore body. Their extraction is far less destructive & dangerous than the PolyMet proposal. Let’s learn to recycle. Only 10% of e-waste was recycled in 2016. But a total of $65 BILLION worth of e-waste was generated in the USA in 2016. E-waste contains rich deposits of gold, silver & copper & more. We don’t need more polluting mines... We need to learn to recycle.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Candice Pierce  
8) We should not accept mining practices that outside experts from all over the world have repeatedly warned against. Remember the Mount Polley disaster. Sincerely, Candice Pierce

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Susan Bembenek  
Hello. I am not in favor of granting any permits to PolyMet. At this time there is no safe way to mine without a serious threat to polluting Lake Superior or the BWCA. Jobs are important, but the number and how long they will exist in not worth the possibility of polluting these great bodies of water.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Susan Bembenek  
Recycling the metals from out digital gadgets is better than constantly starting with new minerals.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Susan Bembenek  
If you live in an area that does not offer good jobs, one has to move. My relatives live in a small town and their children have had to move to earn a proper living. This is unfortunate, but reality. Tourism is a BIG industry in this area. How will pollution upset this industry?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Susan Bembenek  
Too many goals are based on greed and short term return. That is the case here. How many environmental disasters have happened that were not supposed to? Stored sewage from fowl farms, invasive fish from fish farms, oil from pipelines, all leaked and polluted.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Susan Bembenek  
Your job and mine as a citizen is to protect that which cannot speak for itself. I stand with mother nature on this one. From "Letters From Yellowstone". A telegram written by a park ranger about train property and protecting Yellowstone.

"...Invited to dinner with Northern Pacific and Senator Jackson to discuss virtues of private enterprise. You must know I am not in agreement....The Park belongs to all Americans. Should be nurtured for generations to come. Not exploited for short term financial gains of few. Nation has but one Yellowstone Park. (my words - Lake Superior, BWCA) I intend to ensure it is protected..." I am also happy to report that Captain Craighead has declared his own independence on behalf of the Nation and our National Park. He has steadfastly refused to entertain any additional railroad leases, in effect ending the history of monopolization of the public trust for the profits of a few."Those words hold the heart of my feelings about Poly Met and our sacred trust to protect Lake Superior and the BWCA. Sue Bembenek 2-18-2018

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Shannon Martin  
I formally request that the MPCA reject this mine proposal on the grounds that it will have extremely long-term deleterious effects to our state's water resources. According to PolyMet's own Environmental Impact Statement, water treatment at the plant site would be required for 500 years. Any project requiring that level of long-term maintenance to protect our water supply and resources is simply too dangerous to allow in Minnesota, let alone anywhere else. It is not in the long-term interest of this state to approve such a mine.

Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
181 Sh_martin Citizen Short short income for rural communities should not be the tradeoff for such severe environmental damage. Additionally, since pollution would contaminate Hoyt Lakes' drinking water, the Embarrass, Partridge & St. Louis Rivers, kill downstream wild rice, and increase mercury contamination of fish, it is simply too big of a risk to take. Please reject this proposal for the health of the environment and the people of MN.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

182 Sarah Nelson Citizen Issuing a permit for copper-sulfide mining in our water-rich north is absolute madness - from both an environmental and a public health standpoint. Allowing this dangerous industry to operate in MN - a landscape defined by the abundant presence of water - is the absolute opposite of protecting MN's water quality, and I am deeply disappointed in the DNR and MPCA's decision making. We know, without doubt, that the proposed mining will contaminate ground water. The company knows it; the state knows it. And no one has a plan or a way to prevent the problem. Copper-sulfide mining has been identified by the EPA as "America's most toxic industry." And water pollution problems result 100% of the time where these mines operate. Drinking water for adjacent and downstream communities will be negatively impacted and this is just an absolutely unacceptable risk. It's also a violation of state law. Polluted, highly dangerous water would need to be contained and treated for centuries to come - long after Polymet (and all of us) are gone.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

183 Sarah Nelson Citizen Besides the inevitability of pollution leaking into ground water and seeping downstream (considerable problems in themselves), the risk for accident is catastrophic. Accidents at similar mines (such as the Mount Polley mine in B.C.) have contaminated ground water and hundreds of miles of waterways - with devastating environmental, health, and financial costs to the public.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

184 Sarah Nelson Citizen Furthermore, we have a clear, moral obligation to protect and preserve our beautiful natural resources and our remaining wilderness areas. The Boundary Waters region is a national treasure and an area of unique beauty and biodiversity. It deserves our awe and our respect. When I was a girl my family cannoted through a portion of the area; when we were thirsty, we drank fresh water straight from the lakes. We got a rare experience to connect with nature and to experience the real Minnesota. For me, it was transformative.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

185 Sarah Nelson Citizen Those who are lucky enough to live in the far north certainly (like all of us) need jobs. But more than that, they need clean drinking water - now and generations from now. And that's really the only consideration for your agency. We rely on you at the MPCA to protect us from dangerous projects like the Polymet copper-sulfide mine. Please do your job and rethink and rescind this permit.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

186 Vince Trovato Citizen This is madness! How can we allow environmental super-villain Tony Hayward of BP oil disaster infamy to potentially poison the pristine boundary waters for a thousand years? The company Hayward is chairman of owns the vast majority of Polyemt. He has already shown his true colors - total disregard for water quality and the environment.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

187 Vince Trovato Citizen We rely on the MPCA to protect our water quality! A permit to Polymet for copper-sulfide mining does the opposite - it sells off our precious water resources to what the EPA calls "America's most toxic industry." Water pollution problems result 100% of the time where these mines operate. Drinking water for adjacent and downstream communities is at risk. This is a terrible chance to take. It's also a violation of state law and antithetical to your agency's purpose. In addition to inevitable and widespread ground water pollution (a result your agency knows for sure is an outcome) the potential for catastrophic accidents is horrifying.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

188 Vince Trovato Citizen When the Mount Polley mine disaster occurred in B.C., hundreds of miles of waterways were contaminated - with devastating environmental, health, and financial costs to the public now and for decades to come. The proposed Polymet mine plans to use the same water containment systems as the B.C. mine. Again, total madness. This mine is an awful deal for Minnesota - ten or twenty years of jobs for a few, followed by centuries of danger or disaster. We would be fools to permit this exploitation.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Have you heard about 3M polluting ground water? Have you heard that metro waters are polluted with road salt? Have you heard that S. Africa is almost out of drinking water? You MUST not allow PolyMet to pollute our waters! Just the fact that PolyMet has been required to put up upfront cleanup monies proves that you believe there will be pollution. I am concerned about my grandchildren’s lives without clean air and water. This is not an economic issue, it is an issue of human survival and I implore you to look at the long term and not cave in to greed for today. Thank you.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Dear Commissioner Stine, I live northwest of PolyMet’s proposed mine site, in western Cook County. I ask you not to issue the water quality permit for NorthMet. Over the past several years, we’ve all learned so much about the critical necessity of protecting the wetlands in this headwaters region, and the inevitability that they would be polluted by this project. Downstream, wild rice, waterfowl habitat, healthy fish populations, and people who depend on these things would all suffer.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

One of the many reasons NorthMet is a very bad idea is pretty well illustrated in recent news stories about Minntac’s variance request. They want to continue to pollute to the degree to which they’ve become accustomed — over the decades — which state agencies have allowed. Minntac is in a different category of the mining industry than NorthMet, but it’s a great example of the shameful behavior all these companies tend to engage in: This is a predatory delay — a strategic, deliberate dragging of the feet when it comes to meeting obligations, keeping promises, and following the law, with the sole purpose of maximizing profits for as long as possible — while preying on others who will have to foot the bills and clean up the mess — that is, us and our descendents.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

There is a long and well-documented record of sulfide ore copper-nickel mining that predicts that we should expect the project. Downstream, wild rice, waterfowl habitat, healthy fish populations, and people who depend on these things would all suffer.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

But the wildlife, the forests, the traditional land uses, the clean waters and fresh air and our descendenst that would be hurt so badly by this kind of mining are so precious to us that we have to persevere, and ask that even at this late stage you thoughtfully consider the many unresolved problems with NorthMet, and deny this permit. Loss of wetlands. As I understand it, nearly 1000 acres of wetlands located within the NorthMet Project area would be permanently destroyed, including coniferous bog, shrub swamp, coniferous swamp, shallow marsh, deep marsh, sedge/wet meadow, hardwood swamp, and open bog. This represents a very rich mix of a multitude of plants and animals.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

No mitigation can replicate the degree of biodiversity that would be lost — and what ineffective mitigation measures are planned are outside the St. Louis River drainage basin, so nothing would make up for the losses to that watershed.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Ellen Hawkins Citizen

Wetlands that would be harmed or destroyed by the PolyMet mine are part of the headwaters of Lake Superior, and recognized by many people and by the EPA as being water resources of national and international importance. Many more acres of a diversity of wetland types would be degraded to various degrees; some quite possibly to devastating degree, given that an unknown, yet surely huge amount of water will drain into the mine pit, thus drawing down surface waters and groundwater. Also, due to the vanities of the water modeling, the degree of pollution suffered by wetlands further down the drainage can’t be known. A larger total acreage of wetlands than this has been lost in Minnesota since it became a state, but never this much for a single operation. I don’t believe the proposed project, which is expected to operate for only about 20 years, is worth this level of destruction of such a vital natural resource as our precious waters.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Ellen Hawkins Citizen

The draft permit would allow PolyMet to appropriate 6.175 billion gallons per year of water from the small the headwaters of the Partridge River. Water flow. The diversity of wetland types hints at the complexity of groundwater movement through and away from the project location. This is hugely important – all sides agree that this type of mining provides many ways for the environment to become polluted - so the ways the various toxic substances will travel is a key issue. The complex hydrologic system underlying and surrounding the operations sites doesn’t appear to be understood by PolyMet, or by the DNR, based on what we see in the draft - even though this is key to a safe mining operation.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Water appropriations are addressed in the DNR’s water appropriations permits. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Ellen Hawkins Citizen

Water pollution. NorthMet squats on the headwaters of the St. Louis River, the greatest river to flow into the Great Lakes on the US side. Its freshwater estuary is so important, ecologically and for recreation, that taxpayers have spent millions - maybe billions - of dollars over the past several decades to clean it up. PolyMet and the agencies have the responsibility to make sure that those efforts weren’t wasted. Yet it appears that crafters of the permit have jugged too factors so that the end result is “hey, no problem!”

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Ellen Hawkins Citizen

That includes discounting the importance of mercury pollution that would be generated by the project, even though here in the Great Lakes Basin every new source of mercury is significant. All waters potentially impacted by the PolyMet operation already exceed water quality standards for mercury. It would be morally reprehensible to choose to add to the problem. PolyMet and DNR apparently agree that mercury will leach from waste rock at more than four times the water quality standard. Sources of mercury leachate include mine pits, tailings, disturbed peat, and waste rock, and this project will generate massive tonnes of all of these. Some would enter both the Partridge and the Embarrass Rivers. Wetlands lost or degraded by the project will no longer function to bind up mercury as they do now; as far as I can tell you don’t care about that. Increased sulfates and mercury will combine to further endanger the ecological health of the St Louis River Watershed, including its vital estuary.

The permit includes enforceable Operating Limits for mercury (1.3 mg/L) and sulfate (10 mg/L) for the WWTS discharge that will minimize the potential for increased mercury methylation as a result of the project. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control the wastewater and runoff that may contain elevated mercury and direct it to the WWTS for treatment. The effectiveness of these controls was evaluated in the EIS and the water quality permit requires their installation/operation.

The EIS evaluated the project’s potential for increasing mercury loading to downstream waters and determined that overall, the project would result in a very small net decrease in mercury loading.

Ellen Hawkins Citizen

Wild rice and fish, both essential tradition resources protected by and managed under the 1854 Authority as well as being important recreationally, are already severely degraded. The tailings pond that would be incorporated into the proposed operation is currently under court order to meet its permit standards, and that seems a good predictor of its success under PolyMet. Operations at the tailings pond are a crucial part of the plan to keep pollutants from getting out into the environment, yet they sound problematic. The idea that a barrier, of unspecified content, can be inserted through various types of soil, rock, peat and wetland to make a tight seal - or to “key” - with the uneven and cracked surfaces of ancient bedrock at varying depth, is not credible. Realistically, the barrier’s effectiveness will vary along its miles-long length, water will move through bedrock to get past the barrier, precipitation amounts will vary across seasons and years, there will be catastrophic precipitation events, and all of these are out of human control. The pond and seepage collection systems will not function indefinitely. These problems will result in more sulfates and other pollution entering the Embarrass River and points downstream.

The effectiveness of the FTB seepage containment system, including the barrier component, was evaluated in the EIS. The permit has been revised to include the barrier design specifications (i.e., thickness, permeability) that were evaluated in the EIS. The permit also requires that the effectiveness of the seepage capture system be evaluated on an on-going basis.

Ellen Hawkins Citizen

Unforeseen problems. It doesn’t look like you’ve planned for dealing with the kinds of failures and mishaps that routinely occur in mining operations. While this mine is still in operation, more than 6 million gallons of polluted water would need to be treated every day. Pipeline spills, accidental releases, failure of water collection and treatment infrastructure, and tailings basins failures will occur.

The permit has been revised to include “system redundancy” at key locations such as the FTB seepage containment system and equalization basins. This provision requires that redundant pumping capacity and spare parts be kept on site, or be available within 48 hours from a local source, to minimize downtime and prevent an unauthorized discharge.

See response to Comment 60 regarding management of large precipitation events.
And because the provisions regarding financial assurance are so plainly inadequate, the possibility of responding to such failures looks unlikely.

The DNR’s draft permit would allow PolyMet to use the same tailings basin design that caused the catastrophic collapse and devastating pollution at the Mount Polley mine in British Columbia. MPCA should demand truly state of the art designs and techniques.

Perpetual treatment. PolyMet acknowledges that the stream of pollution will continue indefinitely. Graphs illustrating water treatment of discharge show 0 decline for the presence of sulfate, lead and copper after a certain point. Every year for decades and centuries, millions of gallons of polluted water will seep and flow from the operations sites. Apparently you blithely ignore impacts to water quality, wildlife, and human health if the water treatment system ceases operations at some time during the 500+ years during which the polluted water is being discharged.

Financial assurances. Even now we don’t have basic information as to the costs of various treatment, containment, abatement, and mitigation measures; or amounts of water that will leave the mine site; or how much contaminated water will have to be treated and/or contained - for perpetuity. This has huge implications for how much it will cost to maintain all the systems necessary to handle the contaminated water – for perpetuity. The PolyMet project would require perpetual tailings dam maintenance, hundreds of years of water quality treatment, and long term containment of toxic tailings and processing wastes, which the DNR has estimated would cost more than $1 billion. Yet DNR proposes that PolyMet guarantee less than 10% of that amount up front, with most of that in letters of credit and other less than reliable substitutes for cash. I don’t think anybody really believes PolyMet will be around to follow through on clean up, restoration, and to respond to failures of their various systems, do you?

So it really seems that the only honest action for an agency charged with protecting Minnesota’s water quality is to deny this permit. At the listening session at the DECC in Duluth earlier this month, speakers who are members of Fond du Lac Band as well as an employee of the public.

I think that somebody should make a better decision scientifically what standard they can live with as far as mining.

I don’t know how they are going to take and harness this scientifically. I don’t think there is any proven theory that can take and harness it. Mining companies, when they want to walk away, they walk away. I am a witness, because I worked 42 years for that mine that’s going to be PolyMet.
209 Jim Seme Citizen

So I think the three agencies have to take and stand their ground and do what's right to protect our most precious resources, water. They have to take and come up with a standard. Right now, 1992 is the last water permit US Steel had, and they are flowing sulfides into the Dark River into Lake Vermilion and it exceeds the 10 milligrams per liter. It's running around 200 right now. So I'm concerned about protecting our water and I hope they make the right decision, and it's in their court that they have to take and make that decision because that's what we have those agencies for. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

210 Dianne Rowse Citizen

My name is Dianne Rowse. I live at 10704 Prescott Court, Burnsville, Minnesota. As a citizen of Minnesota and a professional interpretive naturalist with 33 years of experience, I advocate for the safekeeping of the Boundary Waters Canoe Area Wilderness for future generations. I’ve been canoeing with my family in the Boundary Waters since 1980. I value this wilderness for its clean water and air, its dark skies and quietude. The NorthMet mine proposed location is not compatible with its close proximity to this federal wilderness area. The State of Minnesota must protect this magnificent wilderness area by prohibiting copper-nickel mining within the surrounding watershed.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

211 Dianne Rowse Citizen

Because the long-term integrity of tailing ponds in mines worldwide has proven to be inadequate, resulting in irreparable water pollution, the MPCA must deny the water quality permit. There is no fail-safe technology to contain these mine waste products in perpetuity and protect Minnesota’s water resources. Mining that results in sulfates in the water systems will damage or destroy wild rice production which will impact tribal people.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

212 Dianne Rowse Citizen

For all these reasons, Minnesota must deny the four pending draft permits for PolyMet’s proposed NorthMet mining project. Thank you for considering my comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

213 Robin Raplinger Citizen

So my name is Robin Raplinger. I live in Virginia, Minnesota. I have concerns about the hydrometallurgical residue facility or HRF. I understand through discussions with EPA or MPCA representatives here at the open house that the HRF containing many remnants of toxic waste from the mining process will be stored with containment that is made up of one layer of 100-mil or one hundred-thousandths -- a mil is one-thousandth of an inch. So this is a 100-mil HDPE plastic barrier separated by permeable material and then an additional 60-mil HDPE barrier. The representatives from the MPCA could cite no long-term or longitudinal studies on the expected lifespan of HDPE. It was mentioned that HDPE has probably only been on the market some 40 years. I’m very concerned that this toxic waste is going to be contained by two relatively thin layers of a material, HDPE, that we do not have any longitudinal or lifespan studies or guarantees of. The threat to our water and the environment are depending on these two very thin layers of apparently not very well understood material.

See response to Comment 93.

214 Robin Raplinger Citizen

I think this part of this permit needs to be reviewed and more information about the longevity of any containment basin materials needs to be understood. Everybody is telling me that this is supposed to last hundreds of years, but nobody can tell me how long the containment vessel is going to last. I object to this part of the permit and hope you investigate and review this part of the permit. And I’m particularly referencing the draft water quality permit number MN0071013, section 6.10.92, page 51 of 103.

See response to Comment 93.

215 Michael Pfau Citizen

Thank you. That’s spelled Michael Pfau, P-F-A-U. I appreciate the chance to speak to you tonight. The message that I’d like to take to you is that the risk is too great. Any risk is too great. I’ve been inspired by the example, in recent years, of the Water Protectors who have taught us that water is life, that you can live without fresh water, clean water.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

216 Michael Pfau Citizen

So I’d like to suggest to you today that we are truly lucky here. Duluth, we look to the south and the east and we see the greatest fresh-water sea in the world, with 10 percent of the nonfrozen fresh water on the planet. We look to the north and see a pristine wilderness of lakes, rivers, and streams. We are truly blessed, and if, as some serious thinkers say, that water, in the 21st Century, is the new oil, then we are the Saudi Arabia of the water, and we have a special duty to protect this resource. Now, if our water resources were to come under a threat from terrorists wielding chemical weapons, every single resource of our government would be levied against preventing that threat from coming to fruition. You know, if we can prove they were foreign terrorists, even the president might take an interest in protecting Lake Superior’s water.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
But I want to suggest to you that Lake Superior is under a threat from a chemical weapon of even greater magnitude
than could ever be wielded by any terrorist. The true chemical threat comes not from imagined foreign terrorists
hungry for blood, but from foreign multinational corporations hungry for our minerals. There are more than 200 million
tons of toxic acid and heavy metal-bearing waste generated by this mining proposal, and it's a ticking time bomb. And
it's not a matter of if it will go off, but when this time bomb will go off, sending millions of tons of toxic cargo straight
down the St. Louis River towards Lake Superior.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

All parties agree, including the mining companies, on three things. First of all, hundreds of millions of tons of extremely
toxic waste will be generated by the proposal. Second of all, it is so toxic that it must be permanently and totally
contained. Third, it will be toxic for hundreds of years, perhaps, and any water even leaching from it has to be treated
with a complex process. All parties agree to this, but where they disagree is, the mining companies believe that this
toxic slurry can be contained for hundreds of years. Opponents believe, maybe not. The risk is there, and the risk is too
great.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Now, we've told that this time it will be different, that all of the previous times when this mining has destroyed water
ecosystems, after promises it wouldn't, are exceptions, that that's the past, that we have new technology, things are
different now. Well, what is the new technology? As several speakers have noted, the new technology is a 40-year-old
dam. That's right. The only thing separating us from 200 million tons of weapons-grade chemical materials is a 2 1/2
mile-long dam. Please, it's too risky. Water is life. I ask --

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

PolyMet is the largest threat to our region's supply of fresh water. To mine copper sulfide ore, the metal needs to be
separated and finely crushed, crushing sulfide-bearing rock. When exposed, the sulfide creates acid, which leaches into
-- leaches several heavy metals, such as mercury and lead, from the remaining waste rock. These heavy metals need to
be contained to prevent them from getting into our air and our water. When contamination fails, and it will, they'll leak
heavy metals, and then sulfates are released and converted into methymercury in our rivers and in our bodies when
we eat the fish from the contaminated rivers.

See response to Comment 198.

1 in 10 newborns in Lake Superior Basin already have unsafe levels of mercury in their blood. This simply cannot add --
the risk cannot be adding more mercury to our environment.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

PolyMet plans to place a 250 -- tall earthen dam on top of the existing LTV tailings pond to contain the toxic waste
produced. They believe that containment pond will last hundreds of years. Over those hundreds of years, it will nearly
be impossible to prevent catastrophic failure of the contaminant, and the pollution would work its way down the St.
Louis River and into Lake Superior. Additionally, any environmental safeguards will be expensive to maintain and will be
abandoned, eventually, by PolyMet when they close the mine. It should be crystal clear to all of us that we will be left
to deal with the mess. We cannot trust these companies to simply do the right thing.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Plus, our current political power in Washington, D.C. and St. Paul is bent on eliminating environmental regulation and
handcuffing our enforcement agents. Therefore, it would be in everybody's best interest to approach, wouldn't it, with
our best approach would be to let -- never let PolyMet begin mining in the first place. PolyMet has been preying upon
our desperate workforce by offering them exclusive jobs like a caret on a stick. So let's understand fully: They are only
mainly there for profit. Thank you.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Hello. My name is Virgil Sohm, V-I-R-G-I-L, S-O-H-M, and I'm from Tower, Minnesota. I'm here to represent seven
generations of our people. I am an enrolled member of the Lake Superior Band of Ojibwe, and I have great concern for
all of our grandchildren. I want to thank you, commissioners, representatives, people here with open hearts that are
listening. We need to hear the truth. We need to get away from scientists that are leading us down a sordid path. When I go up to Lake Vermillion, when I go up to our land at Net Lake, which is a prime rising lake, I know that our
grandfathers are continuing to watch over us, and they will continue to be here with us. We do not need a toxic
environment. We need good wild rice, we need to be able to hunt moose, our wolves need land to live on.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
226 Virgil Sohm  Member, Lake Superior Band of Ojibwe  I've driven by your PolyMet site many times, and I know the area. I know the way that the rivers flow through there and the creeks, and you do not have permission to have that water to flush out some crud that's in the ore and throw away 99 percent of it. Miigwech.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

227 Rachel Burroughs  Citizen  Hello. I'm Rachel Burroughs from Duluth. I'm here tonight as a Duluth resident to speak for the protection of the water, to speak out against corporations and colonialism, even when I've benefited from it. In the land of 10,000 lakes, we do not often think about water scarcity, but I think about seven generations and beyond, and the world that we will leave believe for them.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

228 Rachel Burroughs  Citizen  We can't drink poisoned water. Those future generations won't be able to drink poisoned water, and they should not have to pay corporations in order to have access to this life-sustaining resource.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

229 Rachel Burroughs  Citizen  This corporation wants you to believe that this project is about jobs. This company, with foreign interests, will close up shop and leave its mess behind for generations and few jobs. It's time to say no. I speak for the water. Water is life. The water sustains us. Mi Wiconi.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

230 Beth Blick  Citizen  Yeah, hi. My name is Beth Blick. It's B-E-T-H, and Blick is B-L-I-C-K. I'm from Oak Park Heights in the Twin Cities, and I urge this commission to put a damper on not -- on not putting a license on -- out for -- for -- you know, for this company, because, you know, water is life.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

231 Beth Blick  Citizen  And we need better alternatives for jobs, and I think, you know, what's going on, you know, is a copout, and we just can't have it. There are much better things.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

232 Beth Blick  Citizen  And I keep thinking too much about what took place in -- out in Detroit, Michigan -- well, not in Detroit, but in Flint, Michigan, when all the water went poisonous, and people cannot live on poisonous water. That is not good. That just isn't good, and we need better than that. People don't deserve this. Again, water is life.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

233 Cindy Whiting  Citizen  My name is Cindy Whiting, and I'm here to do what I can to protect our clean water. I would like all of you to think for a moment where any of us would be, jobs or not, without our clean water. I would -- and that goes to the risk, Representative Tom Bakk. Where would you be without clean water? And if there's any further question on that, any of us could ask Cape Town, South Africa.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
I've been at this for a while and I would like, and encourage everyone, to go online and Google some of the destruction that has happened by sulfide mining in Canada. You will be astounded.

Hello, I'm Al Anderson from Hermantown, Minnesota. I'm not much of a speaker, but I've got to say what I need to say. If you were here, you would be grateful for the miners and what they did in the past for making steel and everything for the wars we went through, but this is a different animal, this is sulfide mining.

Sulfide mining, you've got to make the dams, whatever, last 500 years, whatever. I talked to these people out here and they said, "Oh, there's going to be a 255 berm? I didn't know that." They're DNR people. Am I supposed to trust these people? I'm not sure.

Alan Anderson
Citizen

I went through the -- what, the school, trust land thing back about four or five weeks ago. And I said, "Is this land going to be for mining or anything?" Well, yes, it was. They didn't tell me that. They were dishonest with me. Don't trust them.

Because I found out a couple weeks later, Twins Metals had interest in it. Did I know that? Were they honest with me? No, they put up a facade on. I don't trust the DNR. I used to, not no more.

Now, my thing is, water is precious. When I grew up population in the United States was 225 million, now it's 325 million. So, water is a more precious resource in the long-term, more people, very precious. We need water.

We're downstream living in the Duluth area, the St. Louis River, it's going to be polluted, heavy metals. We have more rains. We have heavy rains. I think 1970s we had a ten-inch rain. Back a few years ago we had a ten-inch rain. Those dams can hold? I think not.

I'm pretty good at stats. And you can crunch the numbers. Is these dams going to hold for 500 years, 200 years? I rather doubt it.

I'm pretty good at stats. And you can crunch the numbers. Is these dams going to hold for 500 years, 200 years? I rather doubt it.

No, they put up a facade on. I don't trust the DNR. I used to, not no more.

Please, please do not allow this permitting to go forward. Clean water. I defer the rest of my time to Kevin Lee.
That is because the likelihood of a mining disaster, from which no recovery is possible to achieve the pre‐disaster level of environment, could occur. In summary, residents would have preliminarily data certification of their well water for post mining comparisons. A voluntary program. Monte Carlo Simulation would show, in understandable probabilities, the likelihood of a mining failure. This stress test shows due diligence rather than untested acceptance of an insufficiently bonded mining operation. Paul F. Renneisen 954‐812‐2674

Hello! Thank you for reading my comments. I believe that water is going to be, if not already, our most precious resource. Only 3% of the water on Earth is considered fresh water. Lake Superior makes up 10% of that amount. Patricia Renneisen

Once the tailing pond fails, as I believe they all will eventually, rivers, streams, and ground water will all be contaminated, Lake Superior included. On this basis alone, I would ask that the water permit be denied. Patricia Renneisen

To Whom It Concerns: Groundwater belongs to the public even when it is located on private property, just like surface water. The problem with the Polymet Permits is that they are written to allow contamination up to the sites boundary line. This is not allowed in Minnesota law and demonstrates a very poor public policy. Duane Gustafson Citizen

The permits do not mandate that an underground barrier be totally effective to prevent underground and surface water pollution. There are also no fines applied if the system fails - the mining company should cover all expenses... See response to Comment S60. In the event of noncompliance with the permit, the assessment of penalties is determined through the MPCA's enforcement process. As with any NPDES/SDS permit in Minnesota, penalties are not "pre‐established" as a term of the permit. MPCA enforcement actions include corrective actions to be taken by the regulated party. Duane Gustafson Citizen

Permitting a tailings basin with toxic waste in liquid form behind a dam is a very dangerous act that could threaten the safety of our clean waters for generations to come. Thank you for your attention. Duane Gustafson Citizen

I know there is probably little that I can say at this point that can change the mind of our state experts. We all know the chemistry and the water flow. The process has been followed and the proposal has been found "adequate," but the PolyMetal project is wrong for the state of Minnesota. John Novak Citizen

Copper‐Sulfide mining is wrong for a state where we boast proudly "Land of 10,000 lakes." It is our water that makes Minnesota unique. It is what people from other parts of the union comment on when they meet them at a state park. "So much water here. Nothing like my state." We are the guardians of three watersheds and a drop of water falling on Minnesota could end up in the Mississippi, the Great Lakes, or even Hudson Bay. It is a job Minnesota should not take lightly and it worries me that the plan is found adequate by antiquated standards. My issue is sulfide mining and water do not mix. In the land of 10,000 lakes, the waste will meet water. With available water, the sulfide waste creates sulfuric acid waste that needs to be contained forever. Any chemist knows that atoms are forever - not just 100 years like the proposal implies. John Novak Citizen

Second, the "stress test" of all permits should be accomplished using Monte Carlo Simulation where variables, probabilities, and the costs in extreme events would show the likelihood of a disaster in the mining operations. This information is likely in use by the environmental insurance underwriters. These insurance measures were available at the exhibit hall. However, no stress test evidence was present. Also, the insurance underwriters were unwilling to insure the project for the extremes and probabilities of a Monte Carlo Simulation. There is no provision in state or federal permitting rules that requires a "stress test" for predicting the likelihood of a disaster prior to permitting. Furthermore, such a stress test is beyond the scope of the NPDES/SDS permit. However, the EIS did evaluate a range of possible outcomes using a probabilistic Monte Carlo approach.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Second, once you deem PolyMet’s proposal satisfactory, you have given the green light for the Twin Metals project. If the Mission of the MPCA, is to protect and improve the environment and enhance human health, the PolyMet mine will put an end to this goal. After all, we have the BWCA wilderness and the land will never be the same even if everything goes right, and there is no recovering what was lost if this go poorly. Northern Minnesota is a delicate landscape when it comes to acidic waters. I grew up in the 80’s during the acid rain years. As a kid I wondered why the north latitudes were affected more than the south.

Finally, gone is gone for good. It does not matter how much money you have to clean up the mess left behind, the land will never be the same even if everything goes right, and there is no recovering what was lost if this go poorly. Northern Minnesota is a delicate landscape when it comes to acidic waters. I grew up in the 80’s during the acid rain years. As a kid I wondered why the north latitudes were affected more than the south.

As a chemistry major, and educator, I now understand the idea of buffers. Calcium carbonate in the south acts as a buffer, but the granite lined lakes in Northern Minnesota have no buffer capacity. Gone will be gone for good. I know the project has checked all the boxes. They have promised all the right things, and proven on paper they have good intentions, but profit, not protection, drives their decisions. PolyMet will only do the bare minimum forced on them and nothing more. There are no policies that will make this a good idea.

If an accident happens, or there is a bankruptcy - tax payers will ultimately pay for the damage and at the end of the day the one thing that makes Minnesota unique will be irreparably damaged. We have fought wars over land and oil. It will not be long before we start to fight over clean water. Water is what makes us Minnesota. When my grandkids ask me about what happen in 2018, I hope I will be able to tell them that the good people of Minnesota put their future above our present.

I appreciate all the DNR and MPCA has done to make this an open responsive process. I attended the hearing in Duluth and found it very informative. Based on what I heard there, learned from the state’s technical experts, & my own readings, I oppose the certification of the PolyMet mine Project permits for the following reasons.

If the Mission of the MPCA, is to protect and improve the environment and enhance human health, the PolyMet mine should not be allowed anywhere near our state. The risks are great (99% waste rock & potential toxic tailings) and the rewards (1% copper /nickel) are minimal. Those are not odds worth betting on. I love me cell phone (which needs copper), but if I have to choose between copper needed for my phone and Guaranteed clean water for future generations, I’ll let my cell phone go. No contest.

I appreciate all the DNR and MPCA has done to make this an open responsive process. I attended the hearing in Duluth and found it very informative. Based on what I heard there, learned from the state’s technical experts, & my own readings, I oppose the certification of the PolyMet mine Project permits for the following reasons.

If the Mission of the MPCA, is to protect and improve the environment and enhance human health, the PolyMet mine should not be allowed anywhere near our state. The risks are great (99% waste rock & potential toxic tailings) and the rewards (1% copper /nickel) are minimal. Those are not odds worth betting on. I love me cell phone (which needs copper), but if I have to choose between copper needed for my phone and Guaranteed clean water for future generations, I’ll let my cell phone go. No contest.

If an accident happens, or there is a bankruptcy - tax payers will ultimately pay for the damage and at the end of the day the one thing that makes Minnesota unique will he irreparably damaged. We have fought wars over land and oil. It will not be long before we start to fight over clean water. Water is what makes us Minnesota. When my grandkids ask me about what happen in 2018, I hope I will be able to tell them that the good people of Minnesota put their future above our present.
260 Nell Wegmann  Citizen
If it weren’t for 350+ jobs over the next 20 years, no one would want to take on the risks of introducing toxins to our air, wetlands & water. MN spend billions / billions to clean up our air, our water and restore out wetlands. Why would we go backwards and bring in great risks to all three? This project is backward thinking, not forward thinking.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

261 Nell Wegmann  Citizen
MN CO2 emissions are already cause for great concern and I understand the PolyMet mine will increase that. Please don’t deliberately add to the CO2 emissions in the state. There is only so much we can do to remediate (mass transit, organic composting, biking, ride sharing, using more solar & wind energy). Everyone is trying to do their part to remediate the destructive impact of chemicals on our planet, so please don’t make this even more of an uphill battle.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

262 Nell Wegmann  Citizen
The risk of mercury contamination to our waterways and fish is already out of control and that threatens us all. There is more mercury risk from the PolyMet mine. MN is already over the mercury TMDL (Total Maximum Daily Load). Again don’t let us back even further.

See response to Comment 19B.

263 Nell Wegmann  Citizen
We’ve lost precious wetlands that filter our water and MN is trying to restore them, as they are a vital part of the overall ecosystem. Why would we take wetlands, precious to the state, and the native people and jeopardize them by putting a discarded mine tailings dump on them? The kind of mine PolyMet is proposing has never been done successfully before in a water sensitive place like the NorthMet Deposits in northeastern MN. This is not a gamble we should take. It jeopardizes our fish, tourism and overall water quality.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

264 Nell Wegmann  Citizen
Sometimes you need to take risks with our environment because something like copper is scarce, but it isn’t. There is plenty of copper and recycling copper would be far more appropriate and less risky. But if we were going to risk our precious natural resources, we would need to have a trusting partner. Glencore / PolyMet is not really local and will not be around to suffer the consequences of any environmental impact. Glencore, the major financial backer is based in Switzerland, and has no vested interest in our state. In addition, they (or at least Marc Rich) do not have a good track record with the environment or with unions. PolyMet is not who we want to partner with when there is so much at stake. The amount of monitoring that the MPCA requires in order to certify these permits is extensive & expensive. Monitoring requires judgment and interpretation and organizations like Glencore, who have a history of fraud and a focus on financial gain may well put their profits before long term environmental safety. Will they even be around in 500 years when the tailings are still posing a risk to our state? Think Mount Polly in British Columbia.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

265 Nell Wegmann  Citizen
A cautionary tale from Houston TX, where I lived & raised my family. Because of the petro-chemical industry, there are MANY Superfund sites. They were contained and supposedly not damaging the surrounding environment until Hurricane Harvey hit last August. No one could have predicted that Houston would receive over 50 inches of rain in 24 hours. They did and the superfund sites were flooded spilling toxins into surrounding neighborhoods, wetlands and the Gulf of MX. People broke out in rashes from touching the flooded material. No one knows the long-term effect of detected chemical releases into the air, ground water and on health. There are known risks from PolyMet mentioned above, but there are also unknown risks that come from disturbing the environment. Climate change is real and we have to be cautious about what we expose ourselves too. Keeping the sulfide in the rock is safe. Mining it is not; Keep it in the ground.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

266 Nell Wegmann  Citizen
This is a deal with the devil to get jobs, any jobs, at any costs. At any cost, to the very people who are already hurting because they don’t have good jobs. They are the ones who will live near the toxic tailings, whose water may be tainted & whose families may be sickened. And the rest of us live “downstream” of those risks.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

267 Nell Wegmann  Citizen
I’ve heard that the Democrats (Gov Dayton & Amy Klobachur) have sold out on their environmental concerns for political gains. They want more DFL seats and they think PolyMet is one way to get them. This puts more pressure on the DNR & MPCA to be a political and put the stewardship of the state’s natural resources before political interests.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
268 Nell Wegmann Citizen
Bottom line: We can live without copper, we can’t live without water. MN is steward of some of the best water in the world and we need to protect that at all costs. Water is the new oil and any forward looking state is going to invest & protect their water from potential contamination. Ask the people in Capetown, South Africa; They’d love to have our water.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

269 Ken Steil Citizen
To think that polluted water from this mine will be cleaned for the next five hundred or thousand years through this permit is ludicrous. That alone should stop this mine. Nor is enough money being set aside to do this and not enough administration is being identified for a thousand years ( or whatever number of years ).

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

270 Ken Steil Citizen
We cannot eat the fish from the St Louis River now. For all these years the DNR has failed to get the iron mines to not pollute or to meet water quality standards. Are we now supposed this Polymet thing will be different. All the water from Polymet cannot be treated because it cannot be contained. Inevitably polluted will get into other waters both above and below.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

271 Ken Steil Citizen
The DNR talks about shutting down the mine but there are no clear lines, that, if crossed, will automatically result in the shutdown of the mine.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

272 Ken Steil Citizen
The only safe way for this mine is that all the leftover rock and material, including the tailings basin be dumped back into the mine and covered to prevent the release of sulfide. Once the ground water is polluted nothing can be done. Sure you can pump out and treat the polluted water but for a thousand years? I certainly do not think that will happen which makes a farce of the current permitting process. Ken Steil

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

273 Adam Swanson Citizen
I am writing in opposition to the Polymet Mine in northern Minnesota.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

274 Adam Swanson Citizen
I was fortunate to attend a recent City Council meeting where a group from Canada was speaking to share their true story of a failed copper nickel mine in Canada, the Mount Polley Mine disaster in 2014. The exact reality and future concerns for us is why the businesses of the Downstream Business Coalition joined more than 2 years ago. The communities near Mount Polley bring a warning of the negative impacts the likely contamination will bring to the region. No Copper Nickel mine has ever been done without polluting! This is a fact.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Adam Swanson  Citizen  I am a member of the Downstream Business Coalition. We are a united group of 100 small businesses. We employ more than 1200 people who in one way or another rely on the environment which includes, most importantly, clean water. Combined statement at the DBC website and see the list of businesses here. Duluth and the region in the 1970’s and 80’s was in the bust cycle of a boom and bust economy typical of extraction industries. There was a famous billboard in the 1980’s in Duluth that said... "Will the last one leaving Duluth please turn out the light”. And as the Duluth News Tribune wrote, it spoke to “yet another notch in the deteriorating industrial Rust Belt in tough economic times.” Small Home Grown Independent Business is the engine of growth in this country. We continue to be incubators for innovation with both economic and employment growth. Even massive companies started small and in the so called “garage”……Microsoft, Apple, Amazon, Google to name a few. All the businesses I am speaking for today did that too. Some facts on Small Businesses in Minnesota can be seen here: MN.gov: https://mn.gov/deed/newscenter/infographics/smbiz-infographics/impactinfographic. 783,400 jobs are in small business. They create $28.7 Billion in wages According to a study by Key-Log Economics in a 2017 analysis, in the Northern Arrowhead region alone, there are 22,000 jobs related to the environment Annual visitors there for the wilderness of the place spend $288 million. This generated $31 million in state and local taxes annually. With $181 million in income and business to business transactions. It’s all growing but, it’s all in jeopardy of going away when Copper Nickel Mining pollutes our unique resource.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Adam Swanson  Citizen  This Polymet project is primarily touted as creating jobs. 650 temporary jobs with 300 FT jobs for 20 years. These estimated numbers have also been reduced over the past 10 years and with manufacturing automation will continue to be reduced. Many of the FT jobs will not be filled by folks already living on the range. So one can conclude that when these jobs end in 20 years they will be followed by unemployment and lost tax revenue. This will cause fiscal problems in state and local governments and the communities affected and most importantly, families and individuals. This is a cycle we all know very well in this region. So it’s really about a tradeoff. Are we willing to trade the existing long term employment, economy, our water and environment for a short term gain over 20 years? Is this our gift to the future generations? “Here, watch over this contaminated water and make sure it doesn’t spill….for 500 years!” How about giving the gift of long term jobs and clean water.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Adam Swanson  Citizen  This is a cycle we all know very well in this region. So it’s really about a tradeoff. Are we willing to trade the existing long term employment, economy, our water and environment for a short term gain over 20 years? Is this our gift to the future generations? “Here, watch over this contaminated water and make sure it doesn’t spill….for 500 years!” How about giving the gift of long term jobs and clean water. Water is a far greater resource for Minnesota and the world and its value is increasing every day. Its value will continue to create businesses and jobs as it already does. Invest instead in long term sustainable small businesses in Minnesota. The DBC businesses that I stand with today are proof that it works. We are not in a bust economy any longer. Sustainable business practices are the new norm. A clean environment creates jobs and a strong economy. If I erected a billboard today in Duluth, it would say: "Now that the new economy is going strong, Please don’t turn out the light.” Please follow the lead of the Carlton City Council and publicly take a stand to protect the St. Louis River and Duluth.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Mark Gustafson  Citizen  I am totally opposed to issuing a permit for this mine to go forward. I have heard there is a dam that would contain the polluted water. It is totally unrealistic to think that this dam will be sound and be able to contain the water for the up to 500 years that water would have to be treated. I have heard in the news that the sulfide contaminated water would need treatment for 500 years and perhaps more time.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Mark Gustafson  Citizen  The idea that any company will be around to continue treatment or even that any state agency will be around to continue this treatment and monitoring 500 years from now is pure fantasy at best. Even if some amount of money is set aside now to cover 500 years of treatment, again this is a fantasy that the money would still be available 500 years from now. The costs of treatment and remediating any number of major illegal releases of polluted water would likely deplete the funds in the first 50 years.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Mark Gustafson  Citizen  Anyone who thinks this is a sound idea should consider whether any business contracts or commitments that were made in the year 1500 are still being honored today. I live right next to the Arden Hills Army Ammunition Plant site, and I understand treatment of polluted aquifers underneath that site and Arden Hills and other communities has been going on for over 40 years with no end in sight.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
This is a disaster waiting to happen, and no way is it worth the risk to our environment and livelihood in Minnesota to take this risk for only 300 jobs. We have had "promises of jobs" from Delta Airlines and other mining companies in the iron range that have not panned out. The mining company is presenting the most optimistic picture possible, and the potential disasters far outweigh the benefits.

I strongly object to PolyMet Copper sulfide mining. It is very toxic to land, water and air. Minnesota is rich in our water resources which would make this pollution even more devastating to our state. Why would this type of mining even be considered when the negative effects would cause so much damage that will be with us forever? PolyMet will do the damage and leave Minnesota to deal with the consequences.

There is no way that Polymet can fulfill the requirement of maintaining the area long enough to make sure that there are no serious pollution incidents. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

For many very valid reasons the water quality surrounding this proposed mine cannot be guaranteed, and indeed the plan for holding waste and tailings is especially troubling in it's a lack of comprehensive protection. With the future in mind and protection of all the extremely valuable surface waters in the boundary waters area, this mine should not be permitted. Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I urge you to deny Polymet a permit to mine. Mining companies have been exploring for copper-nickel in sulfide matrix across Northeastern Minnesota for years. This includes on federal lands adjacent to and draining into the Boundary Waters and Lake Superior. Sulfide ore mining has never been done in our state. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Citizen

Citizen

This seems like money is in control, I understand this company has said they will not ruin anything but time and time again where ever they have done this everything is ruined but it is not going to happen this time. How many times does somebody do something they say they will not before it becomes apparent that there is no way to do it without ruining the land and water. Do not let the almighty dollar win with our land.

The recently released draft permits would allow PolyMet to cause centuries of toxic pollution from mine pits, tailings piles and waste rock. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The DNR would allow PolyMet to use the cheapest and riskiest method of tailings disposal, with a threat of catastrophic dam failure as well as continuous pollution. The DNR's Draft Permit to Mine fails to hold PolyMet accountable for any of its promises to control toxic seepage. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.

This is a disaster waiting to happen, and no way is it worth the risk to our environment and livelihood in Minnesota to take this risk for only 300 jobs. We have had "promises of jobs" from Delta Airlines and other mining companies in the iron range that have not panned out. The mining company is presenting the most optimistic picture possible, and the potential disasters far outweigh the benefits.

I strongly object to PolyMet Copper sulfide mining. It is very toxic to land, water and air. Minnesota is rich in our water resources which would make this pollution even more devastating to our state. Why would this type of mining even be considered when the negative effects would cause so much damage that will be with us forever? PolyMet will do the damage and leave Minnesota to deal with the consequences.

There is no way that Polymet can fulfill the requirement of maintaining the area long enough to make sure that there are no serious pollution incidents. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

For many very valid reasons the water quality surrounding this proposed mine cannot be guaranteed, and indeed the plan for holding waste and tailings is especially troubling in it's a lack of comprehensive protection. With the future in mind and protection of all the extremely valuable surface waters in the boundary waters area, this mine should not be permitted. Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I urge you to deny Polymet a permit to mine. Mining companies have been exploring for copper-nickel in sulfide matrix across Northeastern Minnesota for years. This includes on federal lands adjacent to and draining into the Boundary Waters and Lake Superior. Sulfide ore mining has never been done in our state. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Acid mine drainage has polluted water in every water-rich location across the world where it has been allowed. Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Citizen

Citizen

I urge you to deny Polymet a permit to mine. Mining companies have been exploring for copper-nickel in sulfide matrix across Northeastern Minnesota for years. This includes on federal lands adjacent to and draining into the Boundary Waters and Lake Superior. Sulfide ore mining has never been done in our state. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Citizen

Citizen

This seems like money is in control, I understand this company has said they will not ruin anything but time and time again where ever they have done this everything is ruined but it is not going to happen this time. How many times does somebody do something they say they will not before it becomes apparent that there is no way to do it without ruining the land and water. Do not let the almighty dollar win with our land.

The recently released draft permits would allow PolyMet to cause centuries of toxic pollution from mine pits, tailings piles and waste rock. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The DNR would allow PolyMet to use the cheapest and riskiest method of tailings disposal, with a threat of catastrophic dam failure as well as continuous pollution. The DNR's Draft Permit to Mine fails to hold PolyMet accountable for any of its promises to control toxic seepage. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

This seems like money is in control, I understand this company has said they will not ruin anything but time and time again where ever they have done this everything is ruined but it is not going to happen this time. How many times does somebody do something they say they will not before it becomes apparent that there is no way to do it without ruining the land and water. Do not let the almighty dollar win with our land.
I also want to acknowledge that I have not read the draft permit. I looked for it briefly but it was not readily available on your website. Regardless, I hope and trust that the conditions in the permit sufficiently protect the public assets of our land, air, water and the Boundary Waters.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I want to suggest that the best way to ensure protection is with thoughtful conditions in the permits and strict, long-lasting financial liability for the breach of any condition. To me thoughtful conditions do not mean a compromise or negotiation that gets the best result possible while still making the mine financially feasible. Thoughtful conditions means identifying what is best for the people of the state, country and world.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I liken the boundary waters to central park in New York City. Nobody believes that a garbage dump or mine should be put next to central park regardless of the amount of jobs and money provided. The quality of life provided to the citizens of New York because of that park is worth more than a few more jobs and a little more money. If you put the wrong conditions in the permits, it will be like building a nuclear power plant next to Central Park.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

When it comes to real estate development, the value of land surrounding great public assets has the highest value. Please recognize the value of this land in the big picture.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

It only now occurred to me that the name of your agency is "Pollution Control." I can only hope that you view yourself as the "Pollution Prevention Agency." When you analyze the conditions of the permits, ask yourself if you want to control pollution or prevent it. Thank you for your service to the state and your consideration to this difficult task.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Water is important to all living things. Please make sure that we have clean water for our future. Once the water and area has been damaged it will take billions of dollars to fix. The persons who damaged it will not take the responsibility to fix the area or the surrounding areas that are effected to it's original state. Water is far more important to every living thing than money. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

At some point in the future humans will have mined the final speck of precious metals from the Earth and none will be left to extract. Then what? The short-term mining and supplemental jobs will be permanently gone and PolyMet profits will be nowhere in sight. By comparison, these few benefits are minuscule to the long-term jobs, prosperity and welfare of the region. Then what?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

If a toxic disaster should occur from failure of the protections assumed to ensure safety, as it did in British Columbia on August 4, 2014, not only will mining be gone, but so will the precious environment it permanently destroyed. Industries like tourism will be gone forever. Then what? Are you good with leaving that to future generations?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Title</th>
<th>Text</th>
<th>See response to Comment 248.</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>Scott Stowell</td>
<td>Citizen</td>
<td>The final environmental impact statement for the NorthMet Project in northeastern Minnesota offers indications of inadequacy and that PolyMet Mining, Inc. is attempting to circumvent environmental regulations and water quality standards in order to legalize their pollution. An example, PolyMet’s proposed land swap with the U.S. Forest Service would transfer federal land that is currently part of the Superior National Forest to the private ownership of PolyMet. The Minnesota Pollution Control Agency cannot enforce groundwater quality standards until contaminated water departs from private land and flows into public property.</td>
<td></td>
</tr>
<tr>
<td>301</td>
<td>Scott Stowell</td>
<td>Citizen</td>
<td>Unfortunately, water doesn’t know where to stop; it doesn’t recognize boundaries. PolyMet’s computer modeling shows that the levels of pollutants in their water will be many times greater than Minnesota’s water-quality standards. Therefore, according to the law, PolyMet is free to pollute within their boundaries. But that same water will flow into the Embarrass, Partridge and Dunka rivers, and eventually the Boundary Waters and Rainy River watersheds, and the St. Louis River which drains into Lake Superior. As a result, Minnesota’s highly touted water-quality regulations are actually a sham. Individual people will determine the issuance of mining permits to PolyMet. People, not agencies, are in a position to prevent such a legal loophole from being egregiously misused. Those people must scrutinize PolyMet’s FEIS in minute detail. Otherwise, they’ll go to their graves knowing they could have made responsible decisions, but chose to ignore them. That’s what. Scott Stowell</td>
<td></td>
</tr>
<tr>
<td>302</td>
<td>DyAnne Korda</td>
<td>Citizen</td>
<td>The final environmental impact statement for the NorthMet Project in northeastern Minnesota indicates inadequacy. PolyMet Mining Inc. is attempting to circumvent environmental regulations and water quality standards in order to legalize their pollution. Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>DyAnne Korda</td>
<td>Citizen</td>
<td>The Minnesota Pollution Control Agency cannot enforce groundwater quality standards until contaminated water departs from private land and flows into public property. Unfortunately, water doesn’t recognize boundaries. PolyMet’s computer modeling shows that levels of pollutants in their water will be many times greater than Minnesota’s water-quality standards. Therefore, according to the law, PolyMet can freely pollute within their boundaries. But that same water will flow eventually into the Boundary Waters and Rainy River watersheds, and the St. Louis River, which drains into Lake Superior.</td>
<td></td>
</tr>
<tr>
<td>304</td>
<td>DyAnne Korda</td>
<td>Citizen</td>
<td>I am employed at a basecamp school that has been a leading provider of wilderness expeditions in the US for over 50 years. It is located at the edge of the Boundary Waters, the largest wilderness east of the Rockies and north of Florida's Everglades. Students range from middle school to adults, and include specialized groups for struggling teenagers and veterans. While immersed in the wilderness, they learn technical skills, develop greater self-confidence and accomplish more than they ever thought possible. The school could not function if the outdoors, its main &quot;classroom,&quot; was tainted. This is one small example of probable loss due to the mining. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
<tr>
<td>305</td>
<td>DyAnne Korda</td>
<td>Citizen</td>
<td>People, not agencies, are in a position to prevent legal loopholes by scrutinizing PolyMet’s FEIS further to the most minute detail. Otherwise those individuals will carry the memory of dismissing one of the most responsible decisions of their lifetimes. DyAnne Korda Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
<tr>
<td>306</td>
<td>Donald Daher</td>
<td>Citizen</td>
<td>Why we would even consider another boom and bust mine is hard to understand given the dangers to water and the amount of time our kids and grandkids will have to live with this toxic waste and poison. In the land of sky blue waters why even consider this plan. When our wells are poisoned where do we go? What if a tornado gets into this pond of poison or if we get 10 inches of rain? When these companies can take their garbage to their home let them come. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
<tr>
<td>307</td>
<td>Donald Daher</td>
<td>Citizen</td>
<td>We humans are mostly water and current science suggests that water has memory and will reflect back on us what we do with it. Northern Minnesota has some of the purest water in the world. We have been blessed with a resource so profound it is worshipped in other areas of the world. In parts of our country it is being fought over. With the new technology being used by Scientist Masaru Emoto, described in his books, The Secret Messages in Water and The Secret Life of Water, we are now coming to understand aspects of water that reveal its sacredness. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
</tbody>
</table>
Donald Daher
Citizen

His research and books have become a global sensation. He reveals how human thought and emotion can affect the formation of crystals when water is frozen. This becomes important because we, as human beings, are on average 70% water. He has shown that negative thought and emotions dramatically affects water and the crystals that it forms. What his work reveals is that water has memory and can reflect how people feel and think about it. Water has a form of consciousness we are only now coming into contact with on a scientific basis. For those who might think this is pie in the sky or mumbo jumbo I suggest you read the books and then decide. His evidence indicates that polluted water forms little or no crystals and that water prayed over or thought positively about generates beautiful crystal shapes, none of which are the same.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Donald Daher
Citizen

It is hard to imagine giving up clean and healthy water for an eternal polluted garbage pit just so some minerals can be taken out over a twenty year period and then leave the waste for future generations to deal with. It is unconscionable.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Donald Daher
Citizen

This boom and bust philosophy has to go. Yes we need the jobs, but if that’s the case let’s think long term and permanent jobs.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Donald Daher
Citizen

The gold mine of Minnesota is its beauty and water, not nickel and copper. Anyone who has a well knows without doubt how important clean and healthy water is. Recent articles in the StarTribune reveal that two thirds of the state’s water is questionable and the clean water is in the northern third.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Donald Daher
Citizen

How about the 3,000 geese who landed in the copper waste pit in Montana and died? How about the 10 inches of rain that fell this past summer in Minnesota? Will that garbage pit survive? No one really knows. Even the mighty Mississippi is only clean in Northern Minnesota. Is it worth it? We are water and what we do to water we do to ourselves. Another important scientific book on water worth reading is Water Pure and Simple by Paolo Consigli, M.D.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Tom Wojahn
Citizen

To whom it may concern: It concerns me that we would even contemplate taking a chance of any kind of risk close to the boundaries water’s. Once it is contaminated polluted or destroyed we will be left to try to re-create a pristine wilderness. A priceless area that can’t be re-created once destroyed. Tom Wojahn

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jon Clark
Citizen

I understand that the proposed PolyMet mine can potentially provide several hundred jobs for residents of the Iron Range over the next several decades. This area certainly needs more permanent jobs. But there are simply too many significant, long range environmental risks associated with PolyMet’s current mining proposal for this plan to go ahead.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jon Clark
Citizen

And these risks could very potentially downgrade the quality of life in this area, and other areas in Minnesota. Here are some of these risks: 1. Mining copper and nickel in a wetland and watershed area is an extremely poor choice of location. And that’s especially the case with the current PolyMet proposal, since the long range potential for the highly acidic mining tailings to pollute groundwater and nearby water sources, such as Lake Superior, which is the largest freshwater resource in the world, is very high. Recent studies have also shown that water quality in the BWCA watershed area could also be severely compromised.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jon Clark
Citizen

2. The earthen dike tailings basin that has been proposed by PolyMet is nearly identical to the design that was used in the Mount Polley dam in British Columbia, a dam that catastrophically collapsed. Safer basin designs are out there, and they need to be pursued.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
3. The potential for water pollution from the acidic tailings is also going to be greatly accelerated by climate change, especially over the next decades and beyond. Climate change predicts that the incidence of severe rain storms is only going to increase, which means that the risk of PolyMet's proposed weak tailings basin collapsing and failing will also increase significantly.

4. Rare metals such as copper and nickel will certainly continue to be necessary commodities. But in the future, clean water will, by far, be one of the most rare, precious, and sought after resources on the globe. Minnesota is already being asked to supply water to other areas in need of clean water. The bottom line here is, there should be no compromises when it comes to protecting our water resources.

5. And, as a check on the safety of the mine itself, we ask that the permit require all employees who mine, transport, and monitor their health would be the best way to determine if standards are being enforced and are actually protecting the workers and our environment. In addition, a Health Impact Assessment should be required.

7. The NPDES permit's purposes are to restrict discharges to the waters of the State of Minnesota so that water quality standards and other state and federal clean water requirements will be met.

23. This comment requests monitoring of employee health, which is beyond the jurisdiction of the MPCA commissioner. The need for a health impact assessment was addressed as part of the environmental review process.
6. Finally, we are especially concerned about the way industry and our state legislature has been able to thwart the enforcement of existing water quality regulations. What good are these permits if they will not be enforced?

7. We recommend that before mining, Minnesota should consider requiring the recycling of copper as a better way to meet our needs for this metal. There is no shortage of copper today. So, we believe it would be prudent to not issue a mine permit at this time. Let’s leave these minerals in the ground and await until mining technology has advanced so that we can mine them safely. It is time for somebody to stand up and just say no! It would be impossible to leave this legacy of pollution of future generations to clean up. Thank you! Sincerely, Rich and Carol Staffon

To its credit MNDNR is requiring a substantial bond - ~$1 Billion at the height of mining, backed by cash and other securities, and ~$½ Billion, all cash, at the completion of mining. The toxics formation processes are biogeochemical in nature and likely will come to their ugly fruition many years down the road. Leachate production from waste rock will be delayed until plastic covers deteriorate. The west pit is projected to take ~35 years to fill. Who knows what the character of that water will be when the permit deadline is met? There is no shortage of copper today. There will be no need for the bond money. PolyMet to argue for early return of bond money. Subaqueous isolation of tailings must be maintained in perpetuity to adequately protect local water resources. Subaqueous disposal of category 2-4 waste rock is a small step in the correct direction. Unfortunately, few details are provided regarding the precise methods to be implemented to really isolate this reactive waste rock to control formation of toxic acidic discharges. Great dependence on future active water treatment and allusions to future development of “passive” treatment for collected toxic drainage are cornerstones of the reclamation plan. No changes were made to the draft permit in response to these comments.

Henry Mott, PhD, Citizen PE

PolyMet’s closure plan goes little beyond standard historical practice – waste rock is to be left on the Earth’s surface, tailings and hydrometallurgical wastes are to be left in open dammed ponds and a pit is to be left open to fill with toxic water. Plastic covers over waste rock piles will retard leachate formation for perhaps 30 years – just long enough for PolyMet to argue for early return of bond money. Subaqueous isolation of tailings must be maintained in perpetuity to adequately protect local water resources. Subaqueous disposal of category 2-4 waste rock is a small step in the correct direction. Unfortunately, few details are provided regarding the precise methods to be implemented to really isolate this reactive waste rock to control formation of toxic acidic discharges. Great dependence on future active water treatment and allusions to future development of “passive” treatment for collected toxic drainage are cornerstones of the reclamation plan. No changes were made to the draft permit in response to these comments.

Henry Mott, PhD, Citizen PE

There’s not much published documenting successful passive treatment of toxic mine drainage – I believe the plan for passive treatment amounts to wishful thinking at best – active treatment will be necessary in perpetuity. The proposed closure plan will leave a nasty scar that will be an environmental ill in perpetuity. NPDES permits have a five-year term, but the issue the comment raises might occur at some time after facility closure. The MPCA has added language to the permit to require construction of the WWTS component as proposed in the application. The permit does not authorize a discharge from a passive treatment system.

Henry Mott, PhD, Citizen PE

To its credit MNDNR is requiring a substantial bond – ~$1 Billion at the height of mining, backed by cash and other securities, and ~$½ Billion, all cash, at the completion of mining. The toxics formation processes are biogeochemical in nature and likely will come to their ugly fruition many years down the road. Leachate production from waste rock will be delayed until plastic covers deteriorate. The west pit is projected to take ~35 years to fill. Who knows what the character of that water will be? I’m betting heavily on a toxic result. Based on its humidity cell tests, PolyMet claims west pit water will not be acidic. However, typical humidity cell tests are not representative of the long-term leaching/equilibration process that will be active in the pit, if left to fill. West pit overflow, leachate from the waste rock pile and leachate from the tailings impoundment will need to be collected and actively treated in perpetuity. NorthMet tailings placed with those from historical taconite operations and the hydrometallurgical wastes placed in a separate pond will be there, on the Earth’s surface, awaiting whatever extreme weather/hydrologic event might occur. Toxics can take many, many years to show up in wells downgradient from the plant and mine sites or in springs feeding the local rivers.

Henry Mott, PhD, Citizen PE

Minnesota should plan on holding PolyMet’s half-billion-dollar bond in near perpetuity and will need to resist all requests for its release for generations to come.
336 Henry Mott, PhD, Citizen PE

A large divide exists among Minnesota’s population. Iron Range residents want revitalizing economic development now and are drawn to the immediacy of the good jobs promised by the NorthMet project. Organized groups concerned for Minnesota’s environment and for wellbeing of several generations of posterity are adamantly opposed to the PolyMet project as planned. I, also, am adamantly opposed to the project as planned.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

337 Henry Mott, PhD, Citizen PE

However, as an environmental engineer, working at the interface between society and the environment, I see an option that satisfies both sides of the issue. Let’s require that all potentially harmful wastes be securely isolated in a subsurface repository.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

338 Henry Mott, PhD, Citizen PE

A conceptual design for such a repository is attached to these comments. I see this approach as a six-win scenario:

1) Minnesota wins: new iron-range jobs are created, both for mining and reclamation
2) Minnesota wins: economic development is spurred from products and related jobs
3) Minnesota wins: environmental security is assured at the culmination of mining
4) Minnesota wins: recreational resources are enhanced, a prime fishery is created
5) Minnesota wins: future mining efforts can be collaborative among diverse interests
6) PolyMet wins: a sizable portion of its environmental bond is recovered promptly, more than offsetting repository costs and greatly lessening investor uncertainty.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

339 Henry Mott, PhD, Citizen PE

What should PolyMet’s NorthMet mine legacy be:

A scar on the land with toxic discharges demanding societal resources in perpetuity? A new lake that, in the end, enhances Minnesota’s recreational resources?

I’m for the second result and would be interested in discussing these comments or any other aspects of the NorthMet mine proposal with the MNDNR, MPCA and any other organizations responsible for action regarding the issuance or enforcement of this controversial permit.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

340 Dan Nelson Citizen

Regarding the Water Quality at the Polymet mine, since this is the first mine of its kind in Minnesota we have to have the most stringent standards we can have. Especially as water pollution is the main problem with this kind of mining.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

341 Dan Nelson Citizen

I have several concerns besides the financial assurances which I feel are not adequate.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

342 Dan Nelson Citizen

The reliance of using water pressure to keep the water contained and routing out the bottom of the containment structure for treatment should not rely on rain and melt. What I mean is the mechanical means should never be allowed to be turned off when conditions are wet. It is not controlled enough.

The MPCA has removed the “temporary conditions” language and has revised the language of the permit in light of the comment to state that if an inward gradient is not reestablished within 14 days of detection, it is a violation of the permit. The permit also requires monitoring of the Category 1 stockpile paired wells/piezometers weekly following a 100-year storm event to ensure that monitoring and any necessary preventative maintenance occur promptly.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

343 Dan Nelson Citizen

Also, dry stacking should be studied further as it is easier to not pollute the water in the first place, rather than trying to treat it for 500 years. I am not a scientist and I do not know the minute details of the plant but I do not see a state-of-the-art mine when I am shown the plan.

See response to Comment 720-E, which addresses consideration of alternatives.

344 Dan Nelson Citizen

Let’s get it right or, even better, deny what is sure to be a polluting mind like all the others before this. I also worry as this is the first mine the company has operated and since they have just done the minimum needed through this process, they have not impressed. Please deny the permit.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
345 Tonia Kittelson  Friends of the Boundary Waters Wilderness
Dear MPCA, Please deny the PolyMet I strongly urge you to reject the PolyMet NorthMet water quality permit application. It is immoral for us as a society to create a contaminated site that will last for centuries when we cannot know that our current economic and regulatory systems will be there as long as needed to take care of it. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

346 Tonia Kittelson  Friends of the Boundary Waters Wilderness
New content or unresolved issues that still need to be addressed include but are not limited to the following: "Given that acid mine drainage from the Mt. Polley dam collapse traveled 400 miles downstream, please determine how far contaminated waters will be carrying 6 of the top 10 worst pollutants for humans, according to the World Health Organization. Surely, people living downstream and near Lake Superior deserve to know what health risks will be placed upon them."

347 Tonia Kittelson  Friends of the Boundary Waters Wilderness
If PolyMet’s pollution could travel 400 miles in Northern Minnesota when the tailings basin dam fails, that means that contamination will travel almost 200 miles from PolyMet site down the St. Louis River to the Lift Bridge between Duluth, MN, and Superior, WI. Pollution will continue to flow another 200+ miles out into Lake Superior - beyond the Lift Bridge. That is unacceptable. Citizens deserve to know the reach of contamination before a decision is made; "Decades of work has been done in the St. Louis River Estuary to clean up Legacy pollution from past industries. Pollution will continue to flow another 200+ miles from PolyMet's site."

348 Tonia Kittelson  Friends of the Boundary Waters Wilderness
Do not allow PolyMet to add new toxic pollution to this Federally designated Area of Concern; "Require PM to prove it can capture and collect 90% of its wastewater before you make a decision. No other metal mine has ever collected 90%, let alone suggested that they could. Mines usually promise high, and perform low. Meaning, they promise 60-80% collection rates, but fall short of their promises by 25-30%. PolyMet plans to use the same technology that other mines have used, nothing new, nothing better, yet claims it will achieve what has never been achieved before. Reject the permit application and require proven technology be used to capture and collect 90% of wastewater.

349 Tonia Kittelson  Friends of the Boundary Waters Wilderness
10% of billions of gallons of waste is bad enough - it is too much pollution to allow into our public waterways. Please do not allow more than that; "Conduct a Health Impact Assessment - even Alaska does these for proposed sulfide-ore mines. Human health is at great risk with this proposal. PolyMet’s contaminated waters will be carrying 6 of the top 10 worst pollutants for humans, according to the World Health Organization. Surely, people living downstream and near Lake Superior deserve to know what health risks will be placed upon them."

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Hello, My name is Gary LaFave and I am a journeyman pipefitter. My wife Cathy and I are life-long residents of northern Minnesota and we are both in favor of the Polymet NorthMet Project. Polymet has proven its’ commitment to northern Minnesota by complying with every one of Minnesota’s strict environmental standards and are doing more than what is expected by addressing the current water quality issues created by legacy mining.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Citizen

D. Gary LaFave

Their water quality will generate a net decrease in mercury and sulfate that may reach the St. Louis River and Lake Superior. All water on the NorthMet Project site will have low concentrations of mercury. All water discharges will comply with the Great Lakes Initiative standard of 1.3 nanograms per liter of mercury. Because of this treatment process, all discharged water will be about 8-9 times cleaner than the rainwater that falls on the site and will also be 2-3 times cleaner than the natural runoff within the watershed.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Citizen

D. Gary LaFave

Polymet is also protecting the environment by using an existing basin that has been stable for over 40 years. They will also replace every acre of wetlands distributed by the project at a greater than one-to-one ratio. No other country in the world has stricter environmental standards than those here in the United States, and if we cannot produce the raw materials needed manufacturing electronics, etc. in this country we’ll be forced to get them from countries who could care less about the environment or the air we breathe.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Citizen

D. Gary LaFave

Polymet’s NorthMet Project will create up to 1,000 very much needed jobs in this region of our state. These jobs will play an important role in sustaining the viability of the Iron Range, not to mention the $515 million boost to St. Louis county annually.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Citizen

D. Gary LaFave

Polymet is a solid company that is wholly committed to doing the right thing for our environment and the people of Minnesota. That is why I am in favor of Polymet's NorthMet Project. D. Gary

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
537 Suzanne Sorkin Citizen

Please deny all PolyMet pollution permits. I am very concerned about contamination of the Lake Superior watershed. Sulfide mining has a 100% track record of polluting and in this case the pollution of Lake Superior watershed and Boundary Waters pristine wilderness can never be recovered from. Boundary Waters Canoe Area is the most-visited wilderness area in the country! Please, urge you to deny all pollution permits for PolyMet.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

538 Kathryn Sitter Citizen

I attended the public hearing in Duluth on February 8 and viewed the information boards that were displayed by the DNR and the PCA regarding the PolyMet mining permit process. I am no expert in this type of information, so the research you presented seemed thorough, BASED ON WHAT IS KNOWN BY TODAY'S STANDARDS. Therefore, I cannot address the science of your research, but I would like to comment on my concerns for our shortsighted “long range vision” of this project.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

539 Kathryn Sitter Citizen

Research has been presented for the storage of wastes using best practices and current knowledge for tanks and liners, but we don’t know how our planet will change and perhaps alter the effectiveness of storage procedure. The project includes engineering controls such as stockpile liner systems, seepage capture systems and wastewater storage and conveyance systems that are designed to limit and manage impacted water from the facility so that it does not impact groundwater or surface water. The effectiveness of these controls was evaluated in the EIS and the water quality permit requires their installation/operation. The permit has been revised to be more prescriptive on the design components of the engineering controls (i.e., seepage capture systems, liner systems, WWTS, etc.). It also includes required monitoring and provisions that are intended to assess the monitoring and performance data in a proactive manner so as to identify the potential for impact to occur such that adaptive management or mitigation can be applied to prevent the impact from occurring.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

540 Kathryn Sitter Citizen

4) I am not convinced that the promised money for long range protection will be enough if a catastrophe occurs or if PolyMet leaves; it seems that Minnesota taxpayers and those downstream of the mining site would be left to deal with a literal toxic situation.

Comment noted. Comments related to this theme generally concern the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

541 Kathryn Sitter Citizen

May Minnesotaans live in the state to enjoy an environment that is light, noise, water, and air pollution free (or relatively low). A large operation of this type goes against that desired habitat.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

542 Kathryn Sitter Citizen

6) Obviously, the promise of jobs is a personal and political incentive. As I look at the big picture, 650 construction jobs vs. robotic jobs? I have seen local projects claim to bring in jobs and yet the trucks bringing in workers are from out of state, or even out of county. So, unfortunately the “job card” is an emotional political motivator to gain project acceptance, in my opinion.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

543 Kathryn Sitter Citizen

After hearing and reading information presented about this critical decision, my opinion is that this project is too high of a risk to allow the permit process to proceed. As I said, I don't have the science background to refute your research, but I do know why I value living in this state. This is not the right project at this time and I hope you will consider the "right" feeling of mine and other residents holding similar perspectives. This project is too high of a risk for the future welfare of our state.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

544 Anna Weyers Citizen

For as long as I can remember my family has taken yearly trips up to the boundary waters. Growing up in central Illinois it was about a 13 hour drive to get to the public boat ramp. The long car ride was worth it when you got to the lake. To me it is about spending time with family. Not just my immediate family, but days spent with my grandma, cousins, aunts and uncles making memories. It’s a chance to unplug for a week. To listen to the loons, catch some small mouth bass, make s'mores sitting around a campfire, and watch the sunset while trying to take in all of the beauty. I hope to someday bring my future children canoeing up in the boundary waters. I hope they will get a chance to see a family of common mergers and watch bald eagles fly over. It truly is a unremarkable place. Tourism, especially fishing is HUGE for Minnesota. I know I have purchased out of state fishing licenses many many years.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Anna Weyers, Citizen: I read the yearly rule and regulations publication and I pay attention to the fish consumption advisories. Pollution and public health is important to me. Please think about recreational use and how important the boundary waters and the other public land in Minnesota are important to not just Minnesotans, but to the rest of the American people. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Mark Moehlenbrock, Citizen: A quote from Minnesota Administrative Rules: “6132.3200 CLOSURE AND POSTCLOSURE MAINTENANCE. Subpart 1. Goal. The mining area shall be closed so that it is stable, free of hazards, minimizes hydrologic impacts, minimizes the release of substances that adversely impact other natural resources, and is maintenance free.” The mining plan calls for continued water treatment for an unspecified period of years after mine closure in order to meet water quality standards. Since this is not maintenance free, it is in violation of the law. For this reason, the mine should not be granted a water quality permit. Thank you. -Mark Moehlenbrock. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Glenn Merrick, Citizen: I am submitting comments in opposition to PolyMet's development of a copper-nickel mine in northeastern Minnesota. The immediate and long terms risks associated with this project are unacceptable to me as a lifelong resident of northeastern Minnesota. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Glenn Merrick, Citizen: Excellent water quality forms the foundation for the high quality of life that my family has enjoyed as residents of this unique area. We are not willing to risk endeavors under the leadership of a company without a mining resume and a parent company that has a track record notably marked by serious environmental and economic problems it has left behind. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Glenn Merrick, Citizen: Specific reasons for my opposition include: 1. the recently developed and continuing to unfold understanding that sulfide generated by sulfate reduction is central in controlling the occurrence of wild rice (Zizania palustris) in shallow aquatic ecosystems. My family consumes naturally occurring wild rice regularly every year and hunts ducks nearly exclusively on bodies of water what support wild rice. See response to Comments 81 and 718 through 718-B.

Glenn Merrick, Citizen: 2. the direct causation of elevated methylmercury in aquatic systems as a consequence of elevated sulfate reduction to sulfide. Contributing to increases, rather than reductions, in bioavailable mercury contamination is morally unacceptable in a region where fetal development is already being impacted by it. See response to Comment 81. The control of sulfate in the discharge to less than 10 mg/L will minimize the potential for increased methylation of mercury.

Glenn Merrick, Citizen: 3. the reality that methods for affordable and scalable treatment of sulfate are in their infancy, but do show some progress. Development of advanced sulfate removal processes in Minnesota should be a goal that will not only protect Minnesota's water quality, but also diversify our economy with a technology needed worldwide. Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Glenn Merrick, Citizen: 4. the enormous risk of mining and postmining maintenance in a such a complex environment. Enormous pits will slowly fill with contaminated water which will travel toward the Partridge River after mining ceases with the quality of the water and the rate of flow marked by uncertainty. Underground barriers and water collection systems will need to be maintained and continually operated for centuries as will the storage of tailings behind a dam. Structural failure, poor management, and accidents all pose realistic threats to water quality that are unacceptable under current and currently foreseeable conditions. Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Glenn Merrick, Citizen: It is an observable truth that the value of ecosystems and their services, as well as the value of minerals, grow with time. Investing in ecological understanding of sulfate, sulfate removal technologies, and how to create diversified, sustainable economies in northeastern Minnesota should be the current focus of our efforts. In the short and long term the present risks to water quality associated with this mining exceed the value they promise to all residents of northeastern Minnesota. There may be a time in the future if we apply ourselves to solving these risks when this type of mining will become safe enough that it can proceed, but it is most clearly not now. Sincerely, Glenn Merrick Glenn Merrick 1219 105th Ave. W. Duluth, MN 55808

Cynthia Ellingson, Citizen: We need clean air to breathe. We need clean water to drink. You know that PolyMet will poison our water and air, and our children and grandchildren. Do NOT give our children's future to this filthy corporate monster. Our health should not be for sale. I will not vote for the people who support PolyMet. I will not accept a global corporation's greedy destruction. Sulfide mining equals death for the land and people of Minnesota. NO! NO! NO! Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Doretta Reisenweber, Citizen: See "Multiple Comments" 434 through 461 [commenter ID Multiple-170] and for full delineated comments. See responses to comments Multiple-434 through Multiple-461.
Doretta Reisenweber  
Citizen  
Doretta Citizen  
Dear MPCA,

Is all that "worth" the possibility of perhaps 300 Jobs? Our environment needs strong protection. Polymet can make no guarantees that this project will do no harm. And past mining of this type has always been great environmental disaster and destruction of the environment, which damages are not possible to fix or reverse. If Jobs are the goal, imagine all that will be lost. No fishing, reduced hunting, tourism decline. Toxic environmental dangers due to sulfides. This risk of damage is too high! Please consider my commands and stop this polymet permit process. Save our water, ecosystems, plant and animal life and quality of human life. Thank you!

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Carly Anderson  
Citizen  
Dear MPCA,

Here is a photo taken by jim Brandenberg of the BWCA and goons, own totally cool state bird... None will be the same after sulfuric acid and mercury contamination from copper mines. Please do not allow the permit for PolyMet. Listen to the pleas and warnings of those whose waters have been ruined. Thank you, Carly Anderson.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Nancy Haarmeyer  
Citizen  
Hello: Polluted watershed including the BWCAW, Lake Superior and Beyond, Loss of drinkable water, death of aquatic life, death of forest and other ecosystems, pollution of air (smelter operation), cancer, loss of tourism based industry jobs, plummeting property values due to unhealthy water, and more. The damage this will cause can not be reversed.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

David F. Reisenweber  
Citizen  
I urge you to deny the PolyMet draft permits.I've worked with dirt and water all my life and have learned some undisputable facts. Water always seeks the lowest level and turns dirt into mud, which then slips out of the way. Subsurface water also moves to the lowest level. It just takes longer. It is laughable for PolyMet to say they will plug cracks in the bedrock with cement.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

About the only manmade things that last "forever" are nuclear waste, some types of garbage and acid mine drainage. As Richard Feynman is credited with saying: "For a successful technology, reality must take precedence over public relations, for Nature cannot be fooled." Copper-nickel mining in water-rich northeast Minnesota would end up the biggest ever disaster in Minnesota.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

See "Multiple Comments" 434 through 461 (commenter ID Multiple-169) for full delineated comments.

See responses to comments Multiple-434 through Multiple-461.
Commandments are an index to 613 Statutes found in Genesis to Deuteronomy. Rest is required in God's Government … Not only in the daily cycle, weekly cycle and holidays … But in freedom from worry/stress … This type of mining causes worry … It causes stress … It causes pollution … I am concerned … Minnesota is the epitome of outdoor rest and relaxation … We all need places go to get away from stress and to hear God's quiet voice … And that in these outdoor areas the WATER AND AIR MUST STAY PURE AND LAND UNTOUCHED. These things represent what God is doing in our lives, making us pure and holy and we need untouched outdoor areas to communicate with God and to hear His quiet voice. You did not consult God, our Creator about whether it is good to pollute the earth. You do not have a right to give away what is not yours to give. The various agencies involved in this process are only stewards of God's resources. God is the owner. When God created the earth He did it in 6 days and it only takes two chapters to tell about it. (Genesis 1-2). This has taken thousands of pages and wasted our public servant's time and the time of hard working people. TRUTH is for the purpose of freeing us from sin. God's word is truth (John 17:17). Jesus is the word (John 1:1). He created and redeemed us from sin. He is coming soon to take us to His Father's house, heaven (John 14:1-3). Because of Jesus blood I am free to choose God with all my heart, mind, soul, body, spirit, and strength. God's law shows love. God's 10 Commandments (Exodus 20) are an index to 613 Statutes. These are the law of heaven (Revelation 11:19) God instituted rest in the daily cycle as well as in the weekly cycle and in holidays that He set up. The sign of God's dominion is the Sabbath-Friday sundown to Saturday sundown (Genesis 1:2; Revelation 11:19) He commands us to spend time with Him to enjoy relationship … THE CONSEQUENCES of ADDING to the truth, plagues … of TAKING AWAY from the truth, your name will be removed from the Book of Life (Revelation 22:17-18). God communicatess in a still small voice (1 Kings 19:11-12) … I need rest and quiet to hear God myself, and also for my family and for my community to hear God. Please deny the requests for DNR/MPCA permits. Linda M Goude

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I feel that this mine and a proposed Twin Metals mine near Ely would cause long term (as in forever) devastating consequences. Edward Lotterman wrote in his column Jan. 21, 2018 in the Pioneer Press that "Nearly all mining pollutes ground and surface water while it is going on, particularly in relatively high rainfall areas like Minnesota. But in some cases damages end when extraction ends. Sulfide ores for copper and other non-ferrous metals are an exception. When these are exposed to oxygen and then water, sulfuric acid is formed. This itself contaminates water. More importantly, the acidic water can leach other harmful substances out of whatever material through which it flows. This is not rare. It is in fact nearly the rule." Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

We need minerals, why not from PolyMet? Because Minnesota is not just any state. The Weatherguide facts in the Pioneer Press provided by the Freshwater Society on Jan. 26, 2018 state that Lake Superior holds half of the freshwater in the Great Lake and 1/5 of the world 'fresh water supply! We cannot risk losing the purity of that precious water in exchange for a temporary (the mine would close in 20 years) mining operation in which the benefits would end and the consequences would be forever. In light of the current anti-regulation and anti-environmental views held by many of our politicians, we need to be even more vigilant in our protection of our natural resources. For these reasons I strongly oppose the PolyMet mine and the proposed Twin Metals mine near Ely, Minnesota. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I am writing to comment on the possibility of giving a permit to PolyMet. I want to clearly state my opposition to this permit being granted. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
As the Pollution Control Agency, I hope you take the science into account on the potential risks involved in permitting on the scale being requested. The potential for our water and soil disruption to the point of public health safety and environmental damage is too great and unknown and very possible.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

If you must give a permit I suggest giving it on a much smaller scale, such as a test plot for 20 years on 100 acres, to see how safely done it really is and to do adequate monitoring so there is more facts behind the decision. Thank you for your time, Sharon Zoff

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

As the Pollution Control Agency, I hope you take the science into account on the potential risks involved in permitting on the scale being requested. The potential for our water and soil disruption to the point of public health safety and environmental damage is too great and unknown and very possible.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

We trust the science and the findings of the state’s experts, which show the Poly Met NorthMet Project will protect human health and the environment and that taxpayers will be protected under the financial assurance provisions. Mines across the country post bonds and letters of credit as the primary means of meeting their financial obligations. That is the same high standard the state of Minnesota requires. Furthermore, Minnesota has some of the strictest environmental standards of any state, and PolyMet has demonstrated through the environmental review and permitting process that it can meet those standards.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Poly Met has committed to full compliance with the conditions of the state’s air, water, and mining permits, and we are also confident the state can adequately enforce compliance with the conditions it is imposing on the company. Poly Met is setting the standard for how responsible copper-nickel mining can and should be done in the state.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

The project should be allowed to move forward with its promise of jobs and significant economic benefits for the region, including the opportunity to diversify the Iron Range’s economy and create hundreds of middle-class jobs in an area of the state that really needs them. A study by the Laboratory School of Business and Economics at the University of Minnesota Duluth estimates the Poly Met project will generate $515 million in economic benefits annually for St. Louis County alone. This adds up to $1.4 million per day or $10.3 billion over the 20-year permit. It is time to move past the debate about jobs and the environment and focus on the positive effect the project will have on local infrastructure, schools, commerce and other areas. Tox economic benefits the project will generate will have a profound positive effect on the daily life of local communities - even for people who may never work at or be associated directly or indirectly with the mine.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

There is no better time or place to build a mine. The NorthMet ore body is part of a world-class resource located in the middle of a mining zone with a knowledgeable, skilled and trained workforce that has more than 135 years of responsible mining experience. This region has existing roads, rail, piping, power, tailings dam and other mining infrastructures already in place and, by using existing infrastructure on the former I 1V site, the NorthMet project would be one of the largest recycling projects in the state. We urge the state’s timely consideration of public comments and finalization and issuance of the Permit to Mine and other permits. It’s time for the state to allow this project to move forward. To people, businesses and communities of Northeastern Minnesota can't wait any longer; they're ready to get to work.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
396 Joan Nichols Citizen

I urge you to deny the "Permit to Mine" for the proposed PolyMet sulfide mine, which would pollute Minnesota waters for hundreds of years, endanger the health and well-being of Minnesota residents, and directly threaten the watershed of Lake Superior.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

397 Joan Nichols Citizen

At present, I am in training as a Master Water Steward and have become increasingly aware of the challenges that we face to maintain water quality through the various activities of individuals, communities, and corporations. No matter the efforts that individuals and groups make to protect the integrity of our water resources, government entities have a greater capacity to more broadly and significantly impact the quality of those resources into the future. As a consequence, denial of the "Permit to Mine" will go much further than any action a citizen or group of citizens can take to protect our natural environment and water resources. Please accept this responsibility.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

398 Joan Nichols Citizen

The risk of the proposed PolyMet sulfide mine to Minnesota’s communities is too great to permit. Short-term economic gains do not justify the long-term consequences to the environment for which future generations will have to pay. This type of mining has a 100% track record of pollution, and a tailings dam breach could be catastrophic for downstream communities. The mine’s toxic wastewater would have to be treated for five hundred years. This is an unacceptable legacy to leave for current and future generations of Minnesotans.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

399 Joan Nichols Citizen

The PolyMet mine would set a dangerous precedent for Northeast Minnesota, opening the door to an industrial acid mining corridor that threatens the Arrowhead region and Boundary Waters Wilderness. Having kayaked, canoed, and hiked in this area, I value the recreational and spiritual benefits that this part of the state provides for individuals and families all over the state and region. Please protect it.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

400 Joan Nichols Citizen

Minnesota’s legacy hangs in the balance. If you allow the permit, you will be remembered as instrumental in the degradation of water resources and animal habitat, the long-term denouement of Minnesota’s north-eastern towns, and the destruction of that environment which serves us through carbon sequestration and aquifer recharging. I urge you to deny the “Permit to Mine” for PolyMet.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

401 Elizabeth Kieckhafer Citizen

Please decline this permit. It is too risky the sulfuric acid from this mine will be there on the site & watersheds (3), for 500 years. No one will want to live here. We must think of our future generations & our clean water resources.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Dear Commissioner Stine,

I’m writing to you concerning the proposed PolyMet mine near Hoyt Lakes. For all the research I’ve done and the people I’ve talked with about the PolyMet mine proposal, I’m uncertain where the proposal is at in the review process, or who is responsible for the next decision. But, I understand that the Minnesota Pollution Control Agency is part of the decision-making process, so I’m writing to you to express my sincere and profound dismay at the possibility of this mine coming to fruition.

The thought of the Partridge and the St. Louis rivers, and Lake Superior, becoming polluted with sulfuric acid is heart-rending. Minnesota’s incredible natural resources, including its rivers and lakes, are precious. This mine would push Minnesota backwards for hundreds of years.

I have a background in biology and have just a smattering of understanding about how sulfuric acid affects the organisms of a river’s ecosystem. I think it would be a travesty to see such damage occur from leakage from tailing basins from the proposed mine. I know I don’t need to tell you this, you know much more than I do about this issue. But I sincerely hope this mine proposal is denied, for the better of all Minnesotans. I so believe in the quality of this state, and don’t want to see us go backwards. Thank you, Commissioner Stine.

I’m writing to you concerning the Polymet mine proposal near Hoyt Lakes. The thought of a sulfide mine operating in Minnesota in heart-rending. The pristine natural resources of our state are precious, and sulfuric acid leakage from mine tailing basins likely. Our state would be home to a long-term natural travesty, like so many mines in western states. Once sulfuric acid pollutes our rivers and lakes, no amount of money or apologies or drained can remediate the damage; our whole state will be changed for the worse. I sincerely hope this mine is not allowed to proceed. Thank you, Deputy Commissioner Boeman.

Researching and studying the Polymet proposal to open a copper sulfide mine in northern Minnesota and attending the Polymet hearing in Duluth necessitates me to contact the Minnesota DNR and PCA. These are the reasons I oppose the Polymet project:

- The International Copper Study Group projects an abundant copper surplus and even Glencore, the largest shareholder in Polymet, has idled copper mines because of low prices of copper. Reserves of copper are greater than demand. Instead of mining copper we should be recycling copper which is cheaper and more sustainable. The Ely Timberjay August 23, 2017 editorial stated “…the way to advance a truly green economy – not consuming huge amounts of carbon-based energy to extract and process low-grade ore from a highly sensitive environment that will require pollution mitigation for centuries.”

- Copper mining is too dangerous in our water-rich Minnesota. Polymet proposes an above ground, open pit of wet tailings with a dam wall that requires water treatment for centuries. Because this type of dam fails at alarming rates and ALL US sulfide dams have had spills, experts recommend that copper sulfide mining in areas with abundant water-rich environments have dry closures with dry covers for mining waste. The Mount Polley dam failure in 2014 was caused by the dam being altered beyond original engineering. That’s reason enough not to allow Polymet to use the LTV tailings basin.

I sincerely hope this mine is not allowed to proceed. For the better of all Minnesotans. I so believe in the quality of this state, and don’t want to see us go backwards. Thank you, Commissioner Stine.

But I sincerely hope this mine proposal is denied, for the better of all Minnesotans. I so believe in the quality of this state, and don’t want to see us go backwards. Thank you, Commissioner Stine.

No changes were made to the draft permit in response to these comments.

No changes were made to the draft permit in response to these comments.

No changes were made to the draft permit in response to these comments.

No changes were made to the draft permit in response to these comments.

No changes were made to the draft permit in response to these comments.
408 Linda Vukson Citizen

The Duluth News Tribune on February 13, 2018 states that Polymet’s “…earthen dam will reach 252 feet high when finished, holding back millions of gallons of water mixed within a slurry with finely ground rock left over after crushing and processing…the basin will cover 21/2 square miles with 10 million cubic yards of mine waste pumped in each year for 20 years.” Certainly that is a recipe for disaster and an unacceptable risk to Minnesota.

Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.

409 Linda Vukson Citizen

A catastrophic spill would harm not only northern Minnesota but the St. Louis watershed and Lake Superior. No one can guarantee that won’t happen. Senator Tom Bakke suggested at the February 8 meeting that we should all accept risk. But he doesn’t live downstream of Polymet so that is an easy thing for him to say! The acceptability of risk should be with the public whose health, lives and livelihoods would be at risk if the wet tailings dam is breached. Not to do so is a complete failure in the entire permit process.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

410 Linda Vukson Citizen

The draft dam permit for perpetual water treatment violates MN Administrative Rule 6132.3200, Subpart 1 in which abandoned mines must be maintenance free upon closure. Also the MPCA has failed to reprimand all six Minnesota taconite mines that are operating now with expired permits or variances and not meeting environmental standards. Why should we now trust the MPCA to enforce all Polymet permits?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

411 Linda Vukson Citizen

Polymet proposes to have a meager $544 million to cover catastrophes while the mine is in operation. The Minneapolis Star-Tribune reports that experts say that it should be $1 billion during peak mining years to cover potential cleanup that could last for centuries.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

412 Linda Vukson Citizen

Polymet proposes to have a meager $544 million to cover catastrophes while the mine is in operation. The Minneapolis Star-Tribune reports that experts say that it should be $1 billion during peak mining years to cover potential cleanup that could last for centuries.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

413 Linda Vukson Citizen

I would also like to make a comment about the public hearing held in Duluth on February 8. This meeting was for the public to express their views on the proposed mine. I object to any elected official speaking at these public hearings. Elected leaders have plenty of venues at which to speak and express their views. This hearing was not intended for them.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

414 Linda Vukson Citizen

This proposed tailings basin of Polyment reminds me of the 1970s when I had to haul water from the firehall in Lakeside because of asbestos from taconite tailings being dumped into Lake Superior by North Shore Mining at Silver Bay. Only a lengthy court case and Judge Miles Lord put an end to that. I do not trust that any mining company’s top priority is the stewardship of our environment.

And now Lake Superior and its watershed is under threat again. Corporation profits and temporary jobs are not worth ruining Lake Superior forever.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

415 Lea Foushee Environmental Justice Director, North American Water Office

It is with greatest concern that I write this letter. All Minnesotans depend on clean air and clean water, the Water Cycle. We need Water for Life...without clean water we die. Many Minnesotans rely on our game, fish, wild rice, and other plants that comprise a diet, which enables their social structure and culture to flourish in Minnesota and surrounding Great Lakes States. Indigenous Peoples have a right to a modest living (Attachment A).

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Environmental
I'm sending my public comments regarding the PolyMet Draft permits to you, because I know you cannot have analyzed
I feel that if PolyMet has met all the state of MN requirements then the company should be allowed to move forward
Citizen
Karin Krueger
Environmental
Reisenweber
Doretta (Dorie) Reisenweber
Justice Director,
Water Office
North American
Justice Director,
Water Office
North American
Justice Director,
Water Office
North American
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
Water Office
Justice Director,
Water Office
North American
Justice Director,
I urge the DNR to deny PolyMet's NorthMet Dam Safety Permit for the numerous reasons provided below. The comments focus on dam failure and catastrophic collapse. Despite PolyMet having absolutely NO experience mining— not so much as a gravel pit, the DNR and MPCA contemplate granting PolyMet permits to permanently store on-site hydrometallurgical residue from metals processing. Can the DNR and MPCA claim that this highly toxic waste is not hazardous? Neither agency has even required PolyMet to disclose the level of pollutants in these concentrated wastes. That is irresponsible. “Who is in charge? PolyMet or the DNR and MPCA? Who is writing these permits? PolyMet, the permittee? Or the grantors, the DNR and MPCA? I remind you that the landowner writes the contracts, not the renters. The same should apply here. The people of Minnesota are actually the landowners—and the owners of the water—not the foreign mining companies, PolyMet and by extension Glencore with its own sordid record of mining abuses throughout the world. The DNR has failed to require studies of the effects of a PolyMet dam failure on downstream property owners, the rivers and streams, and yes, northeastern Minnesota's drinking water. The DNR and the MPCA should place the people’s interest—life-giving water above any company’s bottom-line. Deny the permits.

For the record, an environmental review of documents indicates that the hydrometallurgical waste facility's sulfate concentrations would be higher than 7,300 mg/L. That is 700 times more than Minnesota's wild rice standard. Factoring in twenty years of mining, that would be 3,280 pounds of toxic mercury which is usually controlled in billions of a gram. If the DNR and MPCA allow such concentrations, a Pandora's box of methyl-mercury related ailments would be expected, not to mention the health horrors unleashed by the heavy metals released into the waters. Already, the sulfate concentrations in northeastern MN waters has led to 1 in 10 babies having higher than normal levels of mercury. How do sulfides and sulfates relate to methyl-mercury? Ask Fond du Lac's water quality director. She can clarify that for even lay people to understand. Although our governor has not asked for one, please require a health impact study as 30,000 medical professionals have requested. First do no harm is their adage. Water is life-----healthy life, IF it is not contaminated. Deny the dam permits.

Contrary to DNR and MPCA conclusions, the Mt. Polley dam which suffered a catastrophic collapse in 2014 and the PolyMet dam do indeed have dangerous similarities, which should be considered before rubberstamping copper-nickel sulfide mining permits. On August 4, 2014, the tailings dam at Mt. Polley copper mine failed in the wee hours of the morning. It released around 6.3 billion gallons of contaminated slurry and polluted water downstream into Hazeltine Creek and on into Lake Quesnel, a once pristine and clear lake prior to the 2014 disaster. On February 12 and 13, I heard former miner & Luck, BC, resident Doug Watts speak in Duluth about the disaster from his own experience living downstream from the Mt. Polley mine. He had actually worked in that mine for 5 years and previously at other mines. Mr. Watts reported that government agencies were negligent in developing protections and stringent standards and in monitoring. Despite early promises to help the citizens, Canadian agencies and leaders were generally unresponsive to people's concerns following the disaster. Contrary to the help the people had been told to expect, the Mt. Polley mine was granted all kinds of permission to forge ahead purportedly to make money for clean-up costs. The DNR and MPCA must look at reality and consider, if sulfide mines can even be cleaned up. Please bear in mind that closed sulfide mines top the EPA's SuperFund list. With EPA funds and staffing slashed the current EPA won't come to Minnesota's rescue. The DNR and MPCA must stand up for and must protect northeastern Minnesota's water. Consider who would pay for the clean-up were it even possible? The taxpayers of Minnesota would pay, while the downstream citizens would also suffer the aftermath. Deny the permits. Leave the ore in the ground until and IF it can ever be done without polluting the water throughout twenty years of mining and another twenty years of closure. These ores are found throughout the earth. There is no need to pollute Minnesota's richest resource water. The world is running short of drinkable water. The Pentagon predicts water wars by 2025. That is seven short years from now. Deny the dam permits.
Doretta Reisenweber  Citizen  Consider that the DNR draft permits as written would grant PolyMet the same choices which lead to Mt. Polley’s catastrophic tailings dam failure. Just like Mt. Polley, PolyMet’s cheap and risky plans include an upstream style dam against which internal and outside engineers have warned repeatedly. Tailings dams failure rate is almost ten times higher than that of a water supply dam, and when they break, they leave more than a path of destruction, they leave toxic devastation. While the PolyMet tailings waste storage is called a “tailings basin.” It is not really a “basin.” According to the PolyMet FES and the PolyMet permit the plan is to pile wet tailings waste up to 252 feet (over two hundred fifty feet) on top of the existing, LEAKING 40-year-old LTV taconite tailings piles, tailings slimes and wetlands. I remember a song from childhood about “The wise man built his house upon the rock .... ” House, dam, sawmill, tailings waste basin—a firm foundation should be part of permit requirements. Deny the dam permits. Furthermore, upstream-type dam construction, as proposed by PolyMet is the type at the highest risk for static, as well as seismic failure. On top of that, the hydrometallurgical waste facility would be built on wetlands and slimes—an unstable foundation. Also not a good idea. However, the agency draft permits do not even insist on excavating the unstable foundation, nor do they require concentrated wastes to be shipped to a safer, dedicated waste storage facility. Who is in charge? It does not sound like the agencies are taking responsibility. It is the agencies whose responsibility is not only to develop natural resources, but also to protect them and the people. Furthermore, like Mt. Polley, tailings would be kept in a wet slurry—again contrary to the advice of engineers who advise dry stacking of tailings. Deny the dam permits. The UNEP further reports that “The inclusion of number and size of tailings dams around the world magnifies the risks present a challenge for this generation, and if not addressed now, a debt we will leave to future generations.” Part of that debt would include not only the money expended to try to clean up the toxic water, but significant health problems, and, gosh, yes, jobs—What would industry look like up here? Employment at some sort of giant SuperFund sites, and top-level mining executives trying to figure out from afar just where and how to transport whatever toxic soup they can scrounge up? Oh, yes, and lots of medical personnel to care for the mounting health problems. On second thought, patients would be sent away for care in a cleaner environment.That is not the dystopian future I want for future generations—your children and grandchildren on down. Deny the dam permits.

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen

Citizen
Among the recommended best practices from the UNEP report are: 1. “Avoid dam construction methods known to be high risk” (such as Mt Polley’s disastrously failed and Polymet’s own planned upstream dam) and 2. “require detailed and ongoing evaluations of potential failure models, residual risks and perpetual management costs of tailings storage facilities.” Make the monitoring realtime and send it not only to PolyMet employees in charge, but also to knowledgeable DNR and MPCA staff people tasked with the same. Why wait for a monthly or yearly report? Demand an on-going, up-to-the-minute reporting system—real-time is the modern term. Insist on more monitors being placed in areas where seepage and leaks can be expected.

The permit includes monitoring and reporting requirements with monthly reporting of the monitoring data to the MPCA. This is standard practice for NPDES/SDS permits nationwide, takes into account the time required for sample collection and analysis, and provides a sufficient timeframe of notice to the MPCA. Although reporting to the MPCA is monthly or annually, the actual operation of the facilities will utilize daily or continuous monitoring systems. For example, internal flow streams and/or the discharge from the WWTS will be continuously monitored for specific conductance to provide real-time feedback on treatment performance. Furthermore, the permit has been revised to specifically require the completion of an operation and maintenance manual for each of the key engineering controls (WWTS, liner systems, seepage capture systems) which will describe day to day operations. Monitoring data considered in the development of the draft permit and required by the draft permit documents are publically available. No changes were made to the draft permit in response to these comments.

Better yet, deny the permits to mine until such mining is ever proven to operate safely for twenty years and also be shown not to pollute for another twenty years after closure. Perpetual pollution is a long time compared to forty years. Again, please, deny the permits. Yours in the interest of clean water for future generations, Doretta (Dorie) Reisenweber

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Dear folks at the Minnesota Pollution Control Agency:

I have concluded that it is overall best to deny the permit for the PolyMet sulfide mine project that would be located near Hoyt Lakes. Yes, our state needs jobs, but not at the potential risk of polluting the water supply. I am specifically concerned about this project accidentally contaminating the St. Louis River, which is said to be the largest tributary to Lake Superior.

The permit does not authorize a discharge from an unproven or innovative technology known to be high risk” (such as Mt Polley’s disastrously failed and Polymet’s own planned upstream dam) and other naturally occurring substances. But such approaches are based on recent, very limited studies, and have not been fully tested in large scale production mining environments. A potential breakthrough scientific study of a promising new abatement techniques.

The permit does not authorize a discharge from an unproven or innovative treatment system. MPCA has reviewed the proposed WWTS technology and determined that it is capable of achieving the required effluent quality. The MPCA has added language to the permit to require construction of the WWTS component as proposed in the application.

Even a cursory reading of a variety of peer-reviewed scholarly scientific journal articles from academic databases clearly shows that scientists agree that sulfide mining poses grave threats to the environment. A few articles show that the possibly the effects of acid mine drainage (AMD) can be mitigated using economically feasible eggshell powder, algae, or other naturally occurring substances. But such approaches are based on recent, very limited studies, and have not been fully tested in large scale production mining environments. A potential breakthrough scientific study of a promising new abatement techniques.

As the Corp of Engineers vastly underestimated the water flow from the Hurricane Katrina that caused devastating flooding in New Orleans a decade ago, I question whether the Corp is really looking out for the best interests of most of the citizens of Minnesota. As even the right-leaning Cato Institute think tank asserts: “...many of projects [of the Army Corp of Engineers] have been economically or environmentally dubious ... [and they have] ... often subsidized private interests at the expense of federal taxpayers.”

I therefore question whether the risks are worth the possibility of centuries of AMD pollution and therefore I respectfully request that you deny the 401 permit and halt the PolyMet mine project. A handful of jobs is not worth destroying the Minnesota environment that will provide more tourism dollars and jobs in the long run for the greater good.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

431 Doretta Reisenweber Citizen

432 Doretta Reisenweber Citizen

433 William Straub Citizen

434 William Straub Citizen

435 William Straub Citizen

436 William Straub Citizen
David Gilsvik, Citizen

Hello MPCA,

My name is David Gilsvik and I am an ordinary citizen and lifelong resident of Minnesota. At sixty years old I feel I have some perspective on the past and future, but what I have in abundance is a love and concern for the BWCAW, northern Minnesota, and most of all my grandson and his generations future. I hear that proposed permits will not have limits on contaminants leaking into ground water or water sheds. This is unacceptable. Any commercial venture in Minnesota should be held to the strictest environmental standards. Good science needs to lead these proceedings. My understanding is that Minnesota and its citizens have little to gain and much to lose from sulfide and other heavy metal mining. Over 18 million people around the nation have joined in "save the boundary waters" efforts. Our clean water is a resource that someday may be priceless to the world as a whole. Nothing is worth risking this legacy.

The permit restricts leakage to groundwater through engineered controls. Engineering controls include stockpile liner systems, seepage capture systems and wastewater storage and conveyance systems that are designed to minimize leakage and minimize impact to groundwater and surface waters. The effectiveness of these controls were evaluated in the EIS and the water quality permit requires their installation/operation.

The Annual Comprehensive Performance Evaluation Report required by the permit will provide an assessment of the performance of the engineering controls, including liner systems, using permit-required monitoring results and internal operational data to ensure that management of wastewaters generated at the facility is adequate.

Doretta Reisenweber, Citizen

Commissioner Stine: Water is the great commons of the earth. Clean water is in diminishing supply. You can make a difference in Minnesota. Please.

Many claims about rights and needs have been made during this polymet process. In reality much of what has been said about employment and garnering important natural resources has been about wants. But truly key rights in this situation include: First, the upholding of the human dignity of every person involved in some way with the mining is nonnegotiable. Second, human beings are stewards of the environment, not dominators and exploiters. We have an obligation to pay to our home planet, God’s creation. Third, the principle of solidarity requires the interconnection of people locally, globally, and inter-generationally. Fourth, the common good requires an outcome that promotes the human flourishing of all. These are the key rights that override this whole process. I am not a scientist or engineer. I am a very concerned citizen living downstream in Duluth.

Roslyn B. Hjermstad, Citizen

I am writing in opposition to the copper-nickel mining proposals to mine in the BWCAW and St. Louis/Lake Superior watersheds by PolyMet and Twin Metals companies.

Contamination to water is of paramount concern. My concern is that we have a basic right to clean water. PolyMet and Twin Metals are aware that water quality is a key concern, yet have not pursued methods to protect water resources. Trove of copper and other mineral resources exist elsewhere. Please read this and go to our website to understand the proposed mining sites.

Roslyn B. Hjermstad, Citizen

Earthworks studied the issue and found that all modern U.S. copper mines that had operated for five years or more polluted water. The World Health Organization said that copper mining releases at least six toxins that cause numerous harmful health effects including cancer. Why are we even considering this type of mining in Minnesota?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

James Reinke, Citizen

Many claims about rights and needs have been made during this polymet process. In reality much of what has been said about employment and garnering important natural resources has been about wants. But truly key rights in this situation include: First, the upholding of the human dignity of every person involved in some way with the mining is nonnegotiable. Second, human beings are stewards of the environment, not dominators and exploiters. We have an obligation to pay to our home planet, God’s creation. Third, the principle of solidarity requires the interconnection of people locally, globally, and inter-generationally. Fourth, the common good requires an outcome that promotes the human flourishing of all. These are the key rights that override this whole process. I am not a scientist or engineer. I am a very concerned citizen living downstream in Duluth.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
James Reinke
Citizen
My comments apply specifically to the role that your agency has been commissioned to play. In this regard your agency plays a key custodial role. You have an obligation to humanity, future generations, our home planet, and the common good of all — environment, ecosystem, and waterways included. You have been set up as the guardians of the common good and official assessors of the polymet mining plan. Essentially, you are in the position of either guaranteeing the plan and accompanying science or of identifying where obstacles to success still remain. Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

James Reinke
Citizen
This mining will expose sulfates to air and water leading to toxic acidification. This is an uncontested point. The proposed mine site is an incredibly water rich ecosystem. There can be no doubts left as to the plan and the accompanying science if it is okay-d. Assessing the environmental impact of this Polymet venture demands transparent political processes, characterized by a farsighted statecraft that prioritizes the long-term common good, and a decision-making process that is interdisciplinary, transparent, and free of all economic and political pressure. This process should be geared to facilitating consensus among all stakeholders. The potential negative outcomes require that decisions be made based on a comparison of the risks and benefits foreseen for the various possible alternatives.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

James Reinke
Citizen
Also, some considerations such as water must have a higher priority since it is an indispensable resource and a fundamental right. Pope Francis writes: “This indisputable fact overrides any other assessment of environmental impact on a region.” Additionally, when comparing the risks and benefits of the venture remains inconclusive, the Precautionary Principle defined in the Rio Declaration of 1992 demands that those supporting the mine prove it will not cause uncontrolled environmental damage, versus the typical expectation required to prove or demonstrate that it will.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

James Reinke
Citizen
Your final choice must show itself as stemming from a balanced, transparent process that is manifestly free from every dominating special interest, ideology, power, and financial consideration. You have been assigned the task of assessing whether the many obvious difficulties can be managed with the proposed remedies. You have the major voice in determining whether this project goes forward. For the sake of the common good, this process has to be determined by current science and engineering, and not by loudness, money, numbers, or power. This is not a team sport. Either we, all the generations after us, and the earth are winners, or we are all losers. Our fate is in your hands. The question you are guaranteeing with your acceptance of this plan is that polymet will manage the toxic acidity both in the short run and, potentially, the next 500 years. If any doubts remain, the precautionary principle must come into play.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

James Reinke
Citizen
Science and engineering must have the last word as to the likelihood/necessity of this plan working for all. Water is a nonnegotiable right and priority. Exposing sulfates to water and air will lead to acidification. You have been given the job of accurately assessing and guaranteeing that this plan submitted by polymet will work— that is, that they will be able to manage both in the short run and the long this toxic pollution. They propose to mine in a water rich environment.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

James Reinke
Citizen
Are you sure that this plan will work? The Precautionary Principle says that when doubts remain about both the plan and the available technical ability to accomplish it, that the proposal should not go forward. Therefore, the question you are guaranteeing with your acceptance of this plan is that polymet will manage the toxic acidity both in the short run and, potentially, the next 500 years. Are you ready to give such a guarantee to this plan? Do you stand behind this plan 100%? Or, do you still have some doubts? If you still have doubts, you can only serve the common good by rejecting the plan.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Blane Tetreault
Citizen
To Whom It May Concern, When analysing projects which have potential environmental impacts, we must prioritize the risks to the environment over the potential economic benefits. If risks exist that could alter and/or damage the environment, then those projects should not be pursued. No amount of money could return an altered/damaged watershed to its native state.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Blane Tetreault
Citizen
The proposed copper nickel mine should NOT be allowed because it is too risky. Not only does it have the potential to pollute the area near the proposed site, but also an entire watershed, including Lake Superior. Thousands of people get their water from these sources.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
I sympathize with the economic issues of those people who would like to build this mine. However, this mine is not for the common good. We must pursue other, less environmentally risky, economic investments in that area. Let's reinvest those local economies through cottage industries and other sustainable locally-owned businesses. That is how you build communities that are more resilient and self-sustaining. The bottom line is we need to do what is right and best for the common good. The right and best thing to do is not build this mine.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I am 100% opposed to the Polymet mine. To allow a company to pollute for perpetuity for a few years of employment for a few people is plain wrong. No company will ever set aside enough money to manage the area for polluted runoff and any unforeseen issue that was supposedly thought of and addressed.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

We have been following and closely watching and researching the entire Polymet project almost from day 1 and have been very impressed with the care and diligence the company has shown throughout the entire process including "over the top" scientific data showing how the company intends to protect the natural resources of Minnesota. We feel they have achieved all the necessary requirements to be granted ALL the proper permits to begin this project and also believe the MNSNR and MNPCA have done their due diligence necessary to not only protect the environment of Minnesota but also the citizens of Minnesota. We firmly support the Polymet project for Minnesota and feel all permit requests should be granted. Chris and Debbie Engel

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

This permit is stands against everything the state of Minnesota says it is. It is no clean air, no clean water, no legacy for our children and grandchildren. Please stop this madness while you still can.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The number of promised jobs will be lost to robotics and automation. This permit goes against the will of the people of Minnesota. John Dorival

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

PolyMet Water Quality Permit Feedback March 14, 2018 Dear MN PCA: I quote from your own website: "Water is one of Minnesota's most abundant and precious resources. The Minnesota Pollution Control Agency helps protect our water by monitoring its quality, setting standards and controlling what may go into it." Indeed, Protecting our water quality is how we are kind to the earth and to the generations of humans, plants, and animals to follow us here. Given that, I can only presume that the PCA has been influenced and bought on this Polymet project issue.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

There was never a question as to whether there would be a spill affecting our water. That is a given. It will happen, sooner or later. The only question you asked and demanded answer from Polymet was "How will you clean up spills when they happen?" Prove to us that you have the funds in reserve to do this. There are no sufficient funds to clean up after such a spill. For how many years would that money provide reverse osmosis treatment to all drinking water for Minnesotaans drinking the contaminated water? For how many generations?

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

HAS IT OCCURRED TO ANY OF YOU that MN is a co-guardian, with Canada and Wisconsin, of the largest freshwater sink in North America? That Polymet's proposed aquifer would drain into that precious water? That WATER will be here, and already is in many parts of the world, THE SINGLE MOST ESSENTIAL AND THREATENED HUMAN RESOURCE ON THE PLANET? Given these facts, and placing them next to MN MPCA's avowed mission is water protection, I must conclude that there has been collusion and Illegal influence on MN MPCA in this matter. It is not too late to avoid investigation. Listen to the comments of your constituents who understand water and its current overriding value today. Deny the water quality permit draft to Polymet. Rachel Nelson Two Harbors, MN

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 3). No changes were made to the draft permit in response to these comments.
As a taxpayer and a concerned citizen, parent, and grandparent, I object strongly to the Polymer Mine project. The company has a poor record for using best practices, and they are not planning to do so. The storage of the tailings from the mine are not going to be stored properly which is what caused the catastrophic Canadian spill. We do not want the same experience.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

So far, there is no way to guarantee that the Boundary Waters won’t suffer from this poorly planned excavation, and the jobs that will result will be for a brief duration while any damage will affect our precious waters for centuries. The descendants of the miners who chose a 20 year job over their water supply will not thank them. This mining project should be stopped.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Failing that, the most stringent regulations for following best practices and for putting money up front for covering the future damage that will ensue must be part of the permitting process.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

I believe we are facing grave damage to our water quality in northern Minnesota if the proposed mining plan goes through. A recent letter from Senator John Marty in the Minneapolis Star Tribune stated that a consultant for the DNR, Don Sutton of Spectrum Engineering, raised concerns about the long-term instability of the waste rock “tailings” pond banks from erosion, and calls the risk of long-term failure of the dam an “almost certainty”. Really? We are risking our lakes, streams and wetlands to an “almost certainty” of dam failure and subsequent release of toxic waste into our environment? This is a shortsighted and irresponsible plan and should be rejected. Let us learn from other mine failures. If PolyMet refuses to fund “best practices” such as dry storage and independent monitoring that lower the risk of failure, they should be sent packing. The risk is too great because the risk is forever.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

How can you allow - why do you have - such high limits for mercury on the SD001 discharge (1000 ng/L monthly average and 2000 ng/L daily max)? The EPA limits for NPDES wastewater dischargers are 1.3 ng/L for Great Lakes watershed and 6.9 ng/L for non-Great Lakes watershed. And what about the other metals limits listed for that point discharge - are they “relaxed” as well?

Comment noted. Comment related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

See response to Comment 604 and Comment 503.

Comment to the MPGA on NorthMet Water Quality Permit - comments due March 16, 2018 PolyMet draft water quality permit comment Minnesota Pollution Control Agency 520 Lafayette Road St. Paul, MN 55155 Creative expression is an essential ingredient in all of our lives and it stems from a love of beauty in all its forms. Without this where are we? Is artistic expression something we do when other “more important” things are accomplished? Or is it, like the song of a sparrow, the rush of a spring, essential to our survival?Sigurd Olson remarked that everyone needs to find their “spot of blue”. Over the years, his reference developed from a “spot of blue” in his search for water on a portage in northeastern Minnesota in the BWCAW and in the Quetico of Ontario, the sense of adventure and discovery on that quest, to a metaphor encompassing a search for knowledge and spiritual meaning. Humans have evolved into super predators through the use of tools and weapons. Once our dominance over the animal and plant kingdoms was assured we turned these weapons on ourselves. As a consequence, it becomes even more essential that we find our “spot of blue” and a place where we can meditate on our existence and the paths each one of us needs to take for the sake of our species and life on earth. When there is no wilderness, places where we can find solitude, no respite from the drum of so-called progress, nothing but the steady beat of production at all costs and money our god, what then? Where will we find the space and the time to appreciate the beauty and find our spot of blue? Our survival as a human species may depend upon it.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

This permit proposes to monitor discharges in the Laurentian area from this project’s copper-sulfide mining of low grade ore in an extremely water dependent area of the world at the headwaters of the Great Lakes and the St Lawrence Seaway.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
473 Adam Sealock  Citizen

Look no further than the western United States to find many examples of former copper mines which are now super fund sites. Another good example comes from the Tualatinia nickel mine in Finland, which has experience several pond leaks in the last eight years resulting in great environmental damage. After the jobs are gone the long and costly process of environmental remediation and long term monitoring begins. Cleaning up the site will certainly create jobs but the cost to taxpayers and the environment will be enormous! Given the unknown clean up and long term site monitoring costs, it appears cheaper to pay the wages on this project and never build NorthMet. In current terms: 360 jobs (PolyMet website) x an average wage of $60,000 x 20 years of employment (PolyMet website) = $432 million dollars $432 million in current terms appears to be a bargain compared to the unknown costs to remediate and monitor long term the NorthMet site which is approximately 30 contiguous square miles.

474 Adam Sealock  Citizen

Citizen Suggested Changes to the Permit Requirements Section:
Page 41, 6.10.28 PolyMet should provide documentation of their ability to maintain an inward hydraulic gradient across the FTB Seepage Containment System and other parts of the FTB Seepage Capture Systems, where appropriate, during extreme rain, snowmelt, and equipment failure events. Documentation should address system redundancies and/or mine operational changes required to maintain the desired gradient. This change in the permit will help ensure nondegradation of groundwater.

The MPCA has removed the temporary exception language from the permit. The permit requires monitoring of groundwater levels on either side of the barrier wall to ensure that an inward gradient is maintained. The permit also requires redundant pumping capabilities be available to prevent an unauthorized discharge.

Page 46, 6.10.69 subpart e

MPCA or a reputable expert should evaluate the potential for a north flow path in the bedrock or surficial aquifer north of PolyMet's property at the mine site before mining begins and/or a water quality permit is issued. This change in the permit is necessary to provide information from an expert second party concerning the potential for groundwater contamination via a north flow path. The MPCA can use this evaluation to ensure that the potential for groundwater contamination via a north flow path.

The potential for a north flow path in the groundwater from the mine site was evaluated in the EIS. The EIS stated that such flow was not likely but could not be conclusively ruled out and recommended that the issue of north flow be further addressed during permitting. The NPDES/SDS permit requires the monitoring of water levels from 11 bedrock wells and 8 surficial aquifer wells. These water level data, plus information collected during installation of the monitoring wells, will be used to assess the future potential of north flow. It should be noted that north flow were it to occur, would not take place until many years after mine closure when NorthMet mine pits refill with water, so sufficient time is available to assess the potential and implement mitigation, if needed, to prevent the north flow from occurring.

In light of the comment, the permit has been revised to require a professional engineer, licensed in the State of Minnesota, to conduct the annual assessment required for the HRF.

476 Adam Sealock  Citizen

The annual inspections and/or assessments of HRF engineering controls, operational data, and water quality data at the HRF to evaluate the effectiveness of the liner and Leakage Collection System shall be conducted by a licensed professional engineer with the appropriate expertise. The engineer shall certify to MPCA that the HRF pond, HRF liner system, and HRF Leakage Collection System maintain structural integrity, complete containment, and compliance with performance standards. This change to the permit should be made to ensure a qualified engineer can certify to MPCA on an annual basis that the HRF and its associated components can be expected to continue to perform as designed to protect groundwater resources at the site. This change is similar to the requirements in parts 6.12.24 to 6.12.26.

In light of the comment, the permit has been revised to require a professional engineer, licensed in the State of Minnesota, to conduct the monthly assessment of the HRF pond and HRF Leakage Collection System.

477 Adam Sealock  Citizen

The monthly inspections of the HRF system, including: Pond, Leakage Collection System, Dam, and Liner System to ensure the HRF and all engineering controls are operating effectively shall be conducted by a licensed professional engineer with the appropriate expertise. The engineer shall certify to MPCA that the Pond, Leakage Collection System, Dam, and Liner System maintain structural integrity, complete containment, and compliance with performance standards. This change to the permit should be made to ensure a qualified engineer can certify to MPCA on a monthly basis that the HRF and its associated components can be expected to continue to perform as designed to protect groundwater resources at the site. This change is similar to the requirements in parts 6.12.24 to 6.12.26.

In light of the comment, the permit has been revised to require a professional engineer, licensed in the State of Minnesota, to conduct the monthly assessment of the HRF pond and HRF Leakage Collection System.
I urge MPCA to consider the following questions concerning the proposed design and/or operation of the HRF before issuing a water quality permit. If the design and/or operation of the HRF can not sufficiently address the questions below a water quality permit should not be issued because the state's nondegradation policy for groundwater and surfacewater can not be reasonably guaranteed.

Is the HRF liner system the best available technology for preventing groundwater contamination from stored HRF wastes?

In case of a major failure in the HRF liner system can the damaged area be isolated and repaired in a reasonable amount of time?

If the HRF liner system can be repaired, would the repaired area of the HRF liner be expected to perform equally to non-repaired areas?

What is the life expectancy of the proposed HRF liner system?

Is the life expectancy of the proposed HRF liner system compatible with the expected clean up time required after the mine is not operating? Does PolyMet have contingency plans for dealing with a HRF Dam, HRF Liner System, or Leakage Collection System failure for both the liquid and solid materials stored in the HRF?

How will PolyMet's contingency plans for HRF Dam, HRF Liner System, or Leakage Collection System failure change over time given the anticipated increase in HRF solid and liquid volumes?

For required maintenance, monitoring and repair of the critically important HRF Leakage Collection System will the sump, pumps, and associated piping be accessible after construction?

If critical parts of the HRF Leakage Collection System will not be accessible for maintenance, monitoring, and repair after construction, then, what redundancies in equipment should PolyMet be required to implement in the HRF Leakage Collection System design?

The MPCA evaluated the monitoring required at the HRF during permit development and determined that the currently proposed monitoring for the proposed HRF is sufficient until further information on the proposal is available. In light of the comment, a provision has been added to the permit that requires the HRF Liner Plan to include a specific analysis of the suitability of the proposed monitoring to detect leakage from the HRF.

The HRF Liner Plan required by the permit includes a provision that the liner system design must include strain gauge(s) to provide assurance that the liner system is not subject to excessive strain. The details of the strain monitoring system will be subject to MPCA review and approval.

In light of the comment, the permit has been revised to specify the required parameters to be monitored in the EQ basin underdrains; these now include total chloride, total sulfate, total dissolved solids and specific conductance.

MPCA considered the comment, but determined that the identified permit requirement should not be removed from the permit. The language for domestic wastewater operator certification, including references to land application of biosolids, is standard permit language for operators with a Type IV certification. (Type IV certification specifically addresses land application of Biosolids). In addition, biosolids removal is not expected to occur at this site during this permit term.

MPCA considered the comment, but determined that the existing language in the permit is appropriate. This language is standard permit language for domestic sewage ponds statewide and nothing about this proposed system warrants the additional monitoring. In addition, the removal of biosolids is not expected to occur at this site during this permit term. Oversight of biosolids removal will be regulated as described in Minnesota Rules 7041.
484 Adam Sealock Citizen Page 57, 6.14.13 If unauthorized releases occur from the sewage stabilization ponds the additional parameters of interest, (eg. metals and other parameters of interest) that should be tested for should be listed in the permit. This change to the permit will make the monitoring requirements for PolyMet and MPCA unambiguous and will allow for a more accurate estimate of loading to the environment if an unauthorized release occurs.

MPCA considered the comment but determined that the existing language in the permit is appropriate. This language specifies that any unauthorized release be monitored for permitted effluent parameters, which include CBOD5, TSS, pH and fecal coliform. This language is standard permit language for domestic sewage ponds statewide and nothing about this proposed system warrants the additional monitoring parameters.

485 Adam Sealock Citizen Page 64, 6.16.45 PolyMet should be required to report to MPCA the concentrations of metals, pH, and other parameters of interest in solid wastes disposed of at on-site and off-site locations. Information that will be helpful in estimating the yearly loadings of NorthMet waste to on-site and off-site locations should also be reported to MPCA. PolyMet should be required to sample their solid wastes at frequencies that are appropriate to provide the MPCA with a good characterization of the solid wastes and their variability over time. This change to the permit should be made to ensure solid wastes are disposed of in accordance with local, state, and federal requirements. This change will allow MPCA and others to more accurately estimate solid waste loading to on-site and off-site locations to inform clean up, waste inventory, and mass balance efforts.

MPCA considered the comment, but determined that the existing language in the permit is appropriate. This language is standard permit language for all NPDES/SDS permits statewide and is appropriate for this facility.

486 Adam Sealock Citizen Page 70, 8.1.1 The following parameters in surface water discharge from the WWTS should be monitored daily using a 24-hour composite sample: arsenic, cadmium, calcium, copper, hardness, lead, magnesium, mercury, nickel, pH, specific conductance, total suspended solids, zinc, and flow. This change to the permit should be made to ensure a statistically valid characterization of the effluent discharged from the WWTS on a daily basis given the random variables that can potentially impact WWTS effluent quality from day to day (eg. mine production, weather, equipment performance etc.). Daily monitoring of effluent from the WWTS will be similar to the requirements of the many publicly owned treatment works throughout the state.

Sulfate should be added to the list of parameters in 8.1.1 surface water discharge monitoring. Sulfate should be monitored daily using a 24-hour composite sample. This change in the permit will help MPCA and others accurately estimate the sulfate loading from the WWTS into receiving waters.

MPCA considered the comment but determined that the existing monitoring requirements, including monitoring parameters and type and frequency of monitoring is sufficient. Given that the direct source of wastewater to the WWTS has been "equalized" in the FTB seepage containment system and the nature of the treatment technology provided (membrane treatment), the variability of the effluent is expected to be small and weekly 24-hour composite sampling is appropriate.

487 Adam Sealock Citizen Table 8.1.1 should communicate, where appropriate, if the surface water discharge monitoring parameters listed are to be analysed on a total and/or soluble basis. This change in the permit will ensure proper analysis of the parameters of interest for MPCA and PolyMet.

In light of the comment, the monitoring requirements of the permit have been revised to specify "total" or "dissolved" as appropriate.

488 Adam Sealock Citizen Page 84 B.2.5 PolyMet should be required to monitor pH in addition to the parameters listed in the Category 1 stockpile groundwater containment system. This change to the permit will enhance the ability to detect groundwater contamination and help protect groundwater resources. Monitoring pH is a proposed requirement for other groundwater monitoring locations, see 8.2.6 and 8.2.7.

Water levels at the paired wells and piezometers at both the FTB Seepage Containment System and the Category 1 Stockpile Groundwater Containment system are monitored monthly and chemistry at the paired wells is monitored quarterly. The required parameters for this monitoring (chloride, sulfate, total dissolved solids and specific conductance) were selected based on their ability to provide the earliest detection of potential pass-through of impacted water. The addition of pH to the parameter list will not provide additional useful information beyond what is provided by the other required parameters.

489 Jaci Christenson Citizen POLYMET MPCA WATER QUALITY PERMIT Jaci Christenson 2/8/2018 In Minnesota, water is what defines us. No other resource should take precedence over water. Around the world that value is realized as far away as Cape Town South Africa, with just a few months supply of water remaining, to water wars and degradation in our own backyard of Lake Superior/Great Lakes. Clean drinking water must be a birthright for all and PolyMet takes us down a dangerous path in Africa, with just a few months supply of water remaining, to water wars and degradation in our own backyard of Lake Superior/Great Lakes. Clean drinking water must be a birthright for all and PolyMet takes us down a dangerous path.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

490 Jaci Christenson Citizen Last we be ignorant, in Minnesota we have already impaired 40% of our water. Decision makers, the PolyMet Permit to Mine is an absurd risk to the watersheds of the remaining 60%! I strongly oppose the PolyMet Permit for Water Appropriations, as it fails to include the economic impacts of pollution to the St Louis River Watershed. PolyMet is getting a ridiculous deal on our most pristine water, there is no assurance for when the mine fails and there are better ways to provide jobs and precious metals to Minnesotans.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Jaci Christenson Citizen 

ST LOUIS RIVER WATERSHED St Louis River Watershed is the largest U.S. tributary to Lake Superior. PolyMet Permit to Mine fails to comply with Great Lakes Agreements “to restore and protect the waters of the Great Lakes.” With 100% failure rate of sulfide ore copper mining in water rich environments, where is your commitment to the St Louis River Restoration Project, headed by our own Minnesota Department of Natural resources (DNR)?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jaci Christenson Citizen 

There are more than 10,000 jobs in St Louis County that rely on clean water in areas of entertainment, recreation, accommodations and food service (US Census Bureau 2013). PolyMet risks 15,000 long term jobs for 300 potential mining jobs, few of which are local and remain only as long as the mine is active. This makes no sense!

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jaci Christenson Citizen 

We must uphold the inherent rights of the first people to hunt, fish and gather in the St Louis River Watershed, as promised in the 1854 Treaty. The PolyMet permit fails to address environmental injustice to our Native communities! Why aren’t we relying on Native wisdom and fact in this incredible area that has been deemed of High Biological Diversity by Minnesota DNR? Additionally, the study by Earth Economics commissioned by Fond du Lac 2015 found that a clean St Louis River Watershed is at least a $54 billion benefit, providing ecosystem services of flood reduction, recreation, food, carbon sequestration, habitat spawning and nursery, and water quality. The Value must be included in the permit!

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jaci Christenson Citizen 

WATER APPROPRIATIONS OF PERMIT TO MINE PolyMet is requesting 6,175 million gallons of our clean water per year. By comparison, that is 85% of entire water use of Duluth Water Utility per year. PolyMet is paying $8 per million gallons water, while Duluth area residents are paying 612 times more than PolyMet for water (http://www.comfortsystemsduluth.com/about‐my‐bill/rate‐sheet/). Why does PolyMet get a super deal on our pristine, most valuable water?

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Water Appropriation Permit and Permit to Mine. No changes were made to the draft permit in response to these comments.

Jaci Christenson Citizen 

And when PolyMet, a foreign corporation, is done with our water it will be returned to us polluted. PolyMet admits that more than 5 million gallons of contaminated waste water from the mine site and over 10 million gallons from tailings site would be released untreated into Minnesota’s groundwater (see In the Matter of the Final Environmental Impact Statement for the PolyMet Mining, Inc., NorthMet Mining Project and Land Exchange, MN DNR Record of Decision (“DNR FIS ROD”), March 3, 2016). This just from everyday operations, before considering the mine failure. MINE FAILURE, REAL COSTS, JOBS AND RECYCLING With 100% failure rate, follow taxpayers, this will be ours to deal with for more than 500 years.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jaci Christenson Citizen 

PolyMet has not proven that it can meet the financial assurances to reclaim the site and pay for long term water treatment. The DNR estimates costs greater than $1 billion to close the mine and treat the water for centuries. Why, then, is PolyMet able to obtain a permit to mine by providing less than 10% of that up front with little insurance for spills and dam collapse? This permit must include REAL costs of this mine, rather than the externalized costs that PolyMet are off loading onto Minnesotans. An example is carbon dioxide costs, as PolyMet would generate more than the equivalent of it all of Duluth’s total carbon footprint (Duluth Greenhouse Gas Emissions Inventory and Forecast, March 2011). We can do better!

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Jaci Christenson Citizen 

Copper recycling (currently far too much copper ends up in landfills) uses 85-90% less energy than mining, would create far more jobs and minimize environmental impacts.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jaci Christenson Citizen 

IN CLOSING, THIS PERMIT TO MINE IS REPREHENSIBLE FOR ANYONE WHO DRINKS WATER! THAT MEANS ALL OF US! There were 58,000 public comments submitted on second draft of PolyMet environmental review. The largest number of public comments on DNR project in MN history, with 98% opposed to the mine proposal, yet here we are today commenting on PolyMet Permit to Mine. If this process is truly fair and just, you must take into account the voice of Minnesota, present and future and deny the PolyMet Permit to Mine!

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Lori Olinger Citizen 

The mission of the Minnesota Department of Natural Resources (DNR) is to work with citizens to conserve and manage the state’s natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life. The DNR is going against its mission by moving forward with PolyMet permits.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
The DNR should not assume that Glencore will do any more than is required by law under the permits and, given its history, probably will not comply with the permits. That is why it is critical for the DNR to set exact requirements and to have actions that will occur if/when there are permit violations. The DNR should do the following to protect the State of Minnesota from the inevitable problems that will occur: 1) The DNR should require that mining operation stop if there are any permit violations and not begin again until the problem is resolved. Polymet must have some immediate financial repercussions that are strong enough to result in a change in operating processes. Polymet will see fines as just another cost of doing business. 2) Polymet should not be solely responsible for monitoring. The DNR should appoint an independent group to do additional spot check monitoring on a regular basis to ensure the accuracy of what is submitted by Polymet.

Secondly, the financial safeguards for cleanup should an event take place, are inadequate, leaving future taxpayer responsibility the default. The permit includes a provision that states the MPCA may revoke without reissuance the permit pursuant to Minn. R. 7001.0180 under certain situations of noncompliance.

The monitoring results should be public. Many Minnesotans are very concerned about environmental problems and this information should be available within a reasonable period of time and on a regular basis (ex. Within 30 days of the DNR confirming results) 3) The monitoring results should be public. Many Minnesotans are very concerned about environmental problems and this information should be available within a reasonable period of time and on a regular basis (ex. Within 30 days of the DNR confirming results) 4) Sections 8.1.4 through 8.3.8. Of the 24 tables listing monitoring requirements, one refers to flow, two show actual limits and twenty-one show the limits as “monitor only”. This seems totally inadequate. If there are no limits set, Polymet can monitor and have no consequences. These sections should be changed to set exact limits.

The permit focuses on preventing the impacts from occurring in the first place. The permit has been revised to be more prescriptive on the design components of the engineering controls (i.e., seepage capture systems, liner systems, VWTS, etc.). It also includes provisions that are intended to assess monitoring and performance data in a proactive manner so as to identify the potential for impact to occur such that adaptive management or mitigation can be applied to prevent the impact from occurring.
509 Jami Burbidge Minnesota Academy of Family Physicians
Dear Commissioner Linc Stine,
The Minnesota Academy of Family Physicians (MAFP), representing 3100 family physicians from throughout the state, would like to express concern regarding the lack of health impact assessment included in the final environmental impact statement (FEIS) for the PolyMet project. While the FEIS was deemed “adequate” by the Minnesota Department of Natural Resources (DNR) there was minimal information provided regarding the effects on human health from the impacts of the copper-nickel sulfide mine project.

510 Jami Burbidge Minnesota Academy of Family Physicians
Furthermore, the MPCA draft water pollution permit provides no control over contaminated wastewater that is collected in the tailings basin or waste rock pile, then seeps from ground water into wetland and streams. This leads to concerns regarding the potential seepage of sulfates and toxic metals into both ground water and connected surface water.

511 Jami Burbidge Minnesota Academy of Family Physicians
Since the PolyMet FEIS, the DNR has allowed changes which would eliminate the wastewater treatment facility at the mine site, seemingly making the project more of a risk to water quality and human health.

512 Jami Burbidge Minnesota Academy of Family Physicians
As physicians, we play a vital role in the health of our patients and communities. Because of this responsibility, we would like to share our concerns regarding the unknown health impact of the PolyMet project and oppose the draft permit and certifications currently proposed by the Minnesota Department of Natural Resources and Minnesota Pollution Control Agency for the PolyMet copper-nickel mine project. Thank you for your consideration.

513 Richard Staffon Citizen
I am asking the MPCA to deny the water pollution permits for the PolyMet copper-nickel mine project because the PolyMet plan will fail to control polluted seepage into the groundwater and surface water from the tailings basin, waste rock piles and mine pits. The permits do not set limits for this polluted seepage and rely on assumptions, exclusions and poor information to claim that the mine will not pollute our waters.

514 Richard Staffon Citizen
Also, the state should require that a health impact assessment be completed before this project is permitted to evaluate the human health impacts of the project.

515 Bruce Anderson Citizen
Dear MPCA Permit Administrators. I am requesting that MPCA deny water pollution permits as currently proposed for the PolyMet copper-nickel mine project because of the probable significant environmental impacts.

516 Bruce Anderson Citizen
The PolyMet plan fails to control polluted seepage into the groundwater and surface water from the tailings basin, waste rock piles and mine pits. The permits do not set limits for this polluted seepage and rely on assumptions, exclusions and poor information to claim that the mine will not pollute our waters.

The comment related to a health impact assessment was addressed as part of the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

The project includes engineering controls such as stockpile liner systems, seepage capture systems and wastewater storage and conveyance systems that are designed to limit and manage impacted water from the facility so that it does not impact groundwater or surface water. The effectiveness of these controls were evaluated in the EIS and the water quality permit requires their installation/operation.

The Annual Comprehensive Performance Evaluation Report required by the permit will provide an assessment of the performance of the engineering controls, including liner systems, using permit required monitoring results and internal operational data to ensure that pollution of groundwater and surface water does not occur.

See also response to Comment 22.

The proposed treatment components of the reconfigured WWTS are the same as originally proposed. Anticipated flow volumes from the Mine Site to the reconfigured WWTS will remain the same as originally proposed. The location of the proposed mine site treatment system is the only thing that has changed.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). A health impact assessment was addressed as part of the environmental review process. No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

See response to Comment 510.
517 Bruce Anderson Citizen

Gov. Mark Dayton has stated that we can have mining and protect the environment, as long as we use best practices for mining and provide “safeguards” to prevent damage. Jon Cherry, the CEO of PolyMet, has committed to “meet or exceed regulatory standards and industry best practices.” However the draft DNR permit as written does not meet best management practices. DNR mining consultant, Don Sutton of Spectrum Engineering, said: “I am surprised that the Minnesota Statutes allow a temporary [tailings] impoundment structure to be permitted permanently. This wouldn’t be allowed in other jurisdictions.” Sutton also brought up concerns about the long-term instability of the waste rock “tailings” pond banks from erosion, and calls the risk of long-term failure of the dam an “almost certainty.” He explained that because of this erosion, “at some point the entire mass will unravel.”

Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.

518 Bruce Anderson Citizen

This is important considering a similar mining operation in British Columbia (Mount Polley) had a devastating dam failure in 2014 that released a toxic slurry of waste rock in one of the worst environmental disasters in Canadian history. After that Mount Polley incident, a comprehensive review called for dry storage of mine tailings as a best practice, along with a requirement for an independent review to monitor the projects.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

519 Bruce Anderson Citizen

Using these best practices would prevent the catastrophic harm caused by a dam collapse. The DNR mining consultant wrote that “if the tailings were placed in a dry, compacted state, I wouldn’t be so concerned.” When a good solution like this exists, why doesn’t the PolyMet plan look at dry storage of the waste? Sutton added that “PolyMet is proposing to build the tailings disposal system that has the lowest initial cost, but has more long-term risks than other tailings disposal methods.” He says that the state should “consider the consequences of a failure and estimate the cost of cleaning up the failure, and then add the cost of operating the repaired facility forever.”

Comment noted. General comments related to alternatives and impact minimization were considered during the environmental review process and the cross-media analysis. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

520 Bruce Anderson Citizen

PolyMet acknowledges that once it begins mining, the state will have no leverage to force it to pay for the mine cleanup. In years to come, taxpayers more than likely will have to finance any cleanup. The state must address the concerns raised by the mine engineers and financial consultants the DNR hired. Subsequently I recommend that MPCA deny a permit until effective best management practices including dry storage of mine tailings are outlined in the permit. Sincerely, Bruce D. Anderson Chisago City, MN 55013 Bdandersons1953@outlook.com

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

521 David Reisenweber Citizen

No health study has been done and permits to add more toxins to our air and water should be denied. The water treatment system is based on estimates from models. So how does that work in the real world? Saying something does not make it happen, so how is MPCA going to make safeguards work?

Membrane treatment, including reverse osmosis, is a well understood technology that has been utilized for many years in a number situations, including for mining projects. The ability for the technology to work for the PolyMet project was demonstrated in the 6 month pilot test conducted during the EIS process. The design modeling referenced in the comment was used to further the detailed design of the full-scale treatment to meet the needs of the project. The MPCA has reviewed the design and has concluded it is capable of providing the required level of treatment. The issue related to a health study was addressed as part of the EIS process.

Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.

522 David Reisenweber Citizen

Can you rely on slow self reporting to be accurate? I have found yearly and monthly reporting requirements to the state, but have not found continuous site monitoring by MPCA or DNR. Most commodity businesses have monitoring equipment in place to forewarn of problems. This is true on most farms today. At the very least the state should have personal on site to ensure compliance and honesty.

The permit includes monitoring and reporting requirements with monthly reporting of the monitoring data to the MPCA. This is standard practice for NPDES/SDS permits nationwide, takes into account the time required for sample collection and analysis, and provides a sufficient timeframe of notice to the MPCA. Although reporting to the MPCA is monthly or annually, the actual operation of the facilities will utilize daily or continuous monitoring systems. For example, internal flow streams and/or the discharge from the WWTS will be continuously monitored for specific conductance to provide real-time feedback on treatment performance. Furthermore, the permit has been revised to specifically require the completion of an operation and maintenance manual for each of the key engineering controls (WWTS, liner systems, sewage capture systems) which will describe day to day operations. Monitoring data considered in the development of the draft permit and required by the draft permit documents are publically available.

See also response to comment 144.
Page 87 of the Permit Program Fact Sheet says that water quality degradation cannot be avoided but will be minimized. That's 6.2 billion gallons per year to keep from polluting surrounding waters all the way thru Duluth-Superior and all the Great Lakes. A lot of adaptive management is mentioned, whatever that might be. The latest best dam and management practices are not in the proposed permit. 

I believe you should have a plan to mandate surface water quality testing to be done on an ongoing basis by an objective

David Gangeness
Duluth, MN

I am pro-science, but what you are asked to permit is a pile of assumptions, guesses, theories, possibly some fraud, and mostly wishful thinking. The earth and too many people stand to lose too much for this project to be permitted. I urge you to reject the permit application and do a lot air and water toxicity studies before considering another permit. David Reisenweber

Dear Commissioner Stine, As a Minnesota citizen who believes that our 10,000 lakes, along with rivers, streams, and

Tracy Kugler
Duluth, MN

Another concern is the treatment of the waste water that I understand could last for centuries. Much has been done to replenish fish stocks and I fear this type of mining could put that in jeopardy.

Eric Sve
Duluth, MN

I'm opposed to the PolyMet mine. My businesses (a resort and Commercial fisherman) are dependent on Lake Superior. I'm concerned about down stream and ground water contamination and possible depletion of aquifers that I depend on for well water to supply my home and businesses.

William Durbin
Duluth, MN

I believe you should have a plan to mandate surface water quality testing to be done on an ongoing basis by an objective party.

I'm opposed to the Poly Met mine. My businesses (a resort and Commercial fisherman) are dependent on Lake Superior. I'm concerned about down stream and ground water contamination and possible depletion of aquifers that I depend on for well water to supply my home and businesses.

Tracy Kugler
Duluth, MN

The proposed 401 certification asserts that the project satisfies antidegradation standards, and the NPDES/SDS permit states that the project,"does not have reasonable potential to cause or contribute to any violations of any applicable water quality standards in waters of the state." Given the hydrogeologic nature of the project site and the extensive disturbance the project will entail, I find these assertions hard to believe, particularly in the long term.

The permits do not set limits for this polluted seepage and rely on assumptions, exclusions and poor information to claim that the mine will not pollute our waters.

Whereas the MPCA states that water is a public trust resource, it is the responsibility of elected officials to prevent harm to our most precious resource.

Deny the water pollution permits for the PolyMet copper-nickel mine project because the PolyMet plan will fail to control polluted seepage into the groundwater and surface water from the tailings basin, waste rock piles and mine pits. The permits do not set limits for this polluted seepage and rely on assumptions, exclusions and poor information to claim that the mine will not pollute our waters.

And there should be limits on ground water seepage. Copper-Nickel mining is far too risky a proposition, considering the short life-cycle of mines and the potential for long-term pollution.

And there should be limits on ground water seepage. Copper-Nickel mining is far too risky a proposition, considering the short life-cycle of mines and the potential for long-term pollution.

Another concern is the treatment of the waste water that I understand could last for centuries. Much has been done to replenish fish stocks and I fear this type of mining could put that in jeopardy.

The permits do not set limits for this polluted seepage and rely on assumptions, exclusions and poor information to claim that the mine will not pollute our waters.

The permits do not set limits for this polluted seepage and rely on assumptions, exclusions and poor information to claim that the mine will not pollute our waters.

See response to Comment 510.

See response to Comment 510.

See response to Comment 144.

See response to Comment 510.

See response to Comment 510.

See response to Comment 510.

See response to Comment 510.
The location of the proposed PolyMet mine is entirely unsuitable for a project of this nature. The extensive, complex, and fragile waters of this region are highly susceptible to contamination, and they are far too valuable in their own right to allow such contamination to occur. * The project site is located near the headlands of the Partridge and Embarrass Rivers, which are, in turn, in the upper reaches of the St. Louis River watershed. Any contamination flowing from the project site therefore has the potential to affect waterways downstream throughout all of these watersheds.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The hydrogeologic setting of the project is highly susceptible to contamination. The thin layer of glacial till lying atop fractured bedrock provides numerous flow pathways. Saturated conditions and a shallow depth to groundwater indicate that water permeates this area. These conditions make it virtually impossible to hydrologically isolate any part of the area and mean that contaminants that may be released would spread easily throughout a large region. *

See response to Comment Multiple-543-E. The EIS included an assessment on fractured bedrock. While bedrock fractures are known to exist at the project site, existing information suggests that they are predominately relatively shallow and discontinuous in nature. Project engineering controls such as liner systems and seepage containment systems have been designed to minimize the potential for impact to groundwater including the shallow surficial aquifer and within the fractured bedrock.

Many waterways and water bodies in the region are already listed as impaired due to mercury in fish tissue and/or mercury in the water column. Contamination with methylmercury is a key concern for this type of mining, as sulfide ore is exposed to air and water, generating sulfuric acid, which leads to heavy metal leaching, the release of sulfate, and mercury methylation. The Partridge River, which winds directly around the proposed mine site was proposed for listing as an impaired water in 2016 as a result of mercury in both fish tissue and in the water column. In addition, Colby and Whitewater Lakes, downstream of the mine site are already listed as impaired due to mercury in fish tissue. In the Embarrass River watershed, downstream of the tailings basins, Sabin, Wynne, Embarrass, and Esquagama Lakes and the Embarrass River downstream of Embarrass Lake are already listed with mercury-related impairments. Given these existing impairments, it is paramount that no additional potential for mercury contamination be allowed in these watersheds. *

See response to Comments 198 and 722.

The wetlands, lakes, rivers, and streams in the region are valuable for far more than the low-quality ore that may be beneath them - as habitat, for the livelihood of Native Americans, as headlands for drinking water sources, and simply as natural areas with their own intrinsic value. These values have been recognized in the classification of all waters in the area as Outstanding International Resource Waters. Furthermore, the project lies within the St. Louis River Area of Concern, which has been the focus of at least $30 million of Great Lakes Restoration Initiative funding to remediate and restore the watershed from previous damages. Significant progress has been made over the past 25 years as a result of these efforts, including restoration of recreational access at Grassy Point, resumed natural reproduction of Lake Sturgeon, and the removal of a beneficial use impairment for aesthetics. Allowing the Poly Met project to go forward would seriously undermine all of these efforts.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The PolyMet project will involve extensive disturbance to the environment of the region. The project proposes to remove ore from open pit mines over 500 acres in area and hundreds of feet deep, more than 90% of which will be considered waste rock and simply dumped into massive waste piles. It will process the sulfide- and heavy metal-laden ore, and store millions of gallons of contaminated water in a tailings basin, contained simply by an earthen dam. Within this complex, messy, and toxic process, the massive scale of the operation, and the long time frame over which the waste rock piles and tailings basin would persist, there are simply too many opportunities for failure. Such failures may be catastrophic, such as occurred at Mount Polley when the tailings basins dam, similar to the one proposed by PolyMet, failed. Or they may occur more gradually as containment systems break down over the life of the project and after the mining operation has ceased, as has occurred in every other instance in which sulfide mining has occurred in a water-rich environment.

Comment noted. This comment pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to this comment.

Having worked in the Permits Division of the Office of Water for the U.S. EPA, I realize that the narrow regulatory definition of point sources can cause challenges for regulating projects such as this that do not fit the standard model of a contained facility with defined outfall locations under the NPDES/SDS program. Given the engineering design specified and the five-year timeframe of the permit, it may be true that the possibility of contamination from the defined outflow locations is quite low. However, I urge you to at least thoroughly examine all of the assumptions used by PolyMet in justifying this claim, and be creative in applying any and all available regulatory mechanisms. (After all, PolyMet would hardly submit an application that concluded otherwise.) Most effective, of course, would be to deny the permit entirely. It seems clear that adequate justification of such a denial could be made.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Tracy Kugler  Citizen  The nature of the natural and human communities at stake and the evidence of the value placed on them by existing classifications and restoration efforts justify the need to protect them. The nature and extent of the disturbance justify the need to prevent it from starting. Unlike a factory, which could be shut down if excessive contamination were discovered and emissions would stop, once a mine is dug, waste rock piles are accumulated, and a tailings basin is filled, there is no going back. Contamination resulting from these disturbances would continue indefinitely, and no amount of money would ever be able to restore the damaged communities. I therefore strongly urge you to deny the NPDES/SDS water pollution permit for the PolyMet copper-nickel mine project. Sincerely, Dr. Tracy Kugler

Karen Hulstrand  Citizen  The proposed mining plan for PolyMet gives me great concern about public health issues and water quality. Currently, the MN Department of Health already notes that one out of ten infants in the Lake Superior region have unsafe levels of mercury in their blood. 30,000 health professionals have requested a health impact statement and it is unconscionable that this has not been done. I am a family practice physician and am very concerned about the potential heavy metal exposure that this mine will expose the downstream population to.

Karen Hulstrand  Citizen  The nature of the natural and human communities at stake and the evidence of the value placed on them by existing classifications and restoration efforts justify the need to protect them. The nature and extent of the disturbance justify the need to prevent it from starting. Unlike a factory, which could be shut down if excessive contamination were discovered and emissions would stop, once a mine is dug, waste rock piles are accumulated, and a tailings basin is filled, there is no going back. Contamination resulting from these disturbances would continue indefinitely, and no amount of money would ever be able to restore the damaged communities. I therefore strongly urge you to deny the NPDES/SDS water pollution permit for the PolyMet copper-nickel mine project. Sincerely, Dr. Tracy Kugler

Karen Hulstrand  Citizen  To get at the copper, which is only 0.28% of the rock, the exposure of sulfide to oxygen and water will release heavy metals such as arsenic, cadmium, lead mercury, manganese etc. There are many very serious health consequences to exposure to these heavy metals. Arsenic – increases cancers including bladder, lung and hematologic cancers. Increased risk of goit and diabetes. Cadmium - osteoporosis, spinal fractures and renal failure. Half-life in the bones 16 years. Will take five half-lives to clear from the bones – 80 years. Lead – Neurotoxin. Lowers IQ in children, ADHD, ALS and kidney issues. There is no safe level of lead. Mercury – Neurotoxin, brain damage, psychiatric issues. Teratogen, causing birth defects. Manganese - Neurotoxin. Causes Parkinson like neurological disease. Has half-life in bone of 8-9 years. These effects are noted in exposure to each compound in isolation. There is insufficient knowledge of the interaction of these heavy metals in conjunction with each other.

Karen Hulstrand  Citizen  I understand that copper and other minerals are of great value. However, there is no greater value than our public health and clean water. Clean water is becoming scarcer. We need to protect the water, not foreign companies profits. Please deny this permit.

Mike Wenholz  Citizen  Thank you for the opportunity to comment on the draft MPCA NPDES/SDS water quality permit for the proposed PolyMet NorthMet Mining Project (proposed project). As a trained and formerly practiced aquatic toxicologist I have several concerns and recommendations regarding the draft permit. First, I want to thank you for the public meeting you co-hosted with Minnesota DNR on February 8, 2018, regarding this and other permits related to the proposed project. It was well laid out, and the inclusion of the staff who drafted the permits was excellent. I had many questions answered through them, and found them to be informative and easy to talk to. I would, however, ask and suggest that you make a significant change to future public meetings, in regards to the Public Comment Forum. Strongly suggest it is stated clearly from the beginning that the meeting and the Public Comment Forum is for statements directly relevant to the purpose of the meeting, and other types of comments will be cut-off. Further, if anyone starts down a path of comments not related to the purpose, they be cut-off and their comment period be ended. In the case of the PolyMet Forum, there should have been comments only directly related to the draft permits. As it was, over the first hour of comments my best guess is that 85-90% of the comments had nothing to do with the draft permits, and thus were irrelevant, and thus a waste of people's time that understood what the meeting was for. Most appallingly is that all 5 of the elected officials that spoke barely had a thing to say about the draft permits – as in maybe 2-3 sentences among all of them combined. Again, please change this in future public meetings. As one who has worked in rule-making in the past, I know this can be done.
Mike Wenholz

In regards to the draft NPDES/SDS water quality permit, I have the following questions, comments, and/or recommendations: Section 6.2.1 and 6.4.1 and 6.5.1 Why is the permittee allowed 21 days to submit a DMR? It seems in today’s world submitting a DMR should not take 21 days. It is my understanding from talking to staff at the public meeting that the 21 days is not a requirement in law, and was chosen by the permit drafters. If there are any exceedances or low flow rates, you may not know about them for up to 21 days. This seems antiquated, and inappropriate given the scope of this project and location adjacent to sensitive natural resources. I recommend a time no longer than 7 days to submit the monthly DMR.

Mike Wenholz

Section 6.3.2 – 6.3.7 Why are toxicity tests only required quarterly for one year, and then annually after that (for presumably 20 years given the stated projected project length)? It is my understanding from talking to staff at the public meeting that 1) this is standard for MPCA NPDES/SDS permits and 2) that there is not an absolute stated in rule. This is not simply a standard project, and should get more than a standard toxicity testing protocol, again especially given the nature of copper-sulfide mining and the location adjacent to sensitive natural resources. Toxicity testing is the one level of testing and monitoring that directly ties the discharge to biological effects, and is certainly warranted more often that annually for 19 years. I strongly recommend a toxicity testing timeline of quarterly for the entire time of mining and processing. Given the scope and the general profitability mentioned related to this proposed project, it would not be an unreasonable or unnecessary burden to do so.

Mike Wenholz

Section 6.3.11 Only two species are being required for toxicity testing: Pimephales promelas and Ceriodaphnia dubia. Given that copper is highly toxic to plants, and that a good amount of the discharge is to wetlands, why is a wetland and/or freshwater plant species not being included as a requirement for toxicity testing? It is my understanding from talking to staff at the public meeting that it is not standard for MPCA NPDES/SDS permits to include a plant species for toxicity testing. This is not simply a standard project, and should get more than a standard toxicity testing protocol, again especially given the nature of copper-sulfide mining and the location adjacent to sensitive natural resources. I strongly recommend including a wetland and/or freshwater plant species in addition to Pimephales promelas and Ceriodaphnia dubia as a requirement for toxicity testing. Additionally, I strongly recommend the plant species meet a toxicity testing timeline of quarterly for the entire time of mining and processing. Given the scope and the general profitability mentioned related to this proposed project, it would not be an unreasonable or unnecessary burden to do so.

Mike Wenholz

Section 6.3.18 Why is the permittee allowed 45 days to reconduct toxicity testing following a positive (failed) test? It should not take 45 days to retest. It is my understanding from talking to staff at the public meeting that the 45 days is not a requirement in law, and was chosen by the permit drafters. We should not need to wait up to 45 days to learn if discharges are continuing to be toxic, following a positive (failed) test. This is especially problematic if the testing frequency is not increased from quarterly for one year and annually afterward. This seems antiquated, and inappropriate given the scope of this project and location adjacent to sensitive natural resources. I recommend a time no longer than 14 days to commence reconducting toxicity testing or 21 days to complete reconducted toxicity testing.

Mike Wenholz

Section 6.10.48 Why does the permittee have up to 14 days to notify the MPCA of the cessation of operation of the pump-back system? This seems antiquated, and inappropriate given the scope of this project and location adjacent to sensitive natural resources. I recommend a time no longer than 3 days to notify the MPCA. Section 6.10.49 Why does the permittee not have to begin sampling/monitoring waters downstream of the plant site until 18 months after the initiation of the wastewater treatment system? This seems very inappropriate given the scope of this project and location adjacent to sensitive natural resources. I recommend beginning sampling/monitoring waters downstream of the plant site within 1 month after the initiation of the wastewater treatment system.
Why is “dry stacking” not required, while a wet slurry process is allowed? Dry stacking is noted to be a more protective approach. I recommend “dry stacking” be required rather than using a wet slurry process. Why is a liner system not required under the holding pits? I strongly recommend requiring liners to be installed under the holding pits. Additionally, I strongly recommend a treatment capture system be installed below the holding pits, if this feature is not already required. It was unclear if this is currently required. Thank you for the opportunity to provide comments regarding the draft MPCA NPDES/SDS water quality permit for the proposed PolyMet NorthMet Mining Project. Please contact me if you have any questions regarding these comments. Please also provide me with responses to my questions and recommendations. Mike Wenholz 5324 Tioga Street, Duluth, MN 55804 wenholzstuff@yahoo.com

Alternatives for tailings basin design were addressed in the EIS, and the EIS was deemed adequate. Because the FTB seepage containment system is designed and will be operated to maintain an inward hydraulic gradient which will prevent the outward migration of pollutants, a liner under the containment system is not warranted. (The NPDES/SDS permit has been revised to include a specific requirement that the FTB seepage containment system shall be constructed and operated to maintain an inward hydraulic gradient across its cutoff wall.

Margaret Watkins
Grand Portage Band of Chippewa

Dear MPCA: Please find attached Grand Portage comments regarding the PolyMet draft NPDES SDS permit MK0071013. Sincerely, Margaret Watkins Grand Portage Water Quality Specialist

Background statement for comments to follow. No response needed.

Margaret Watkins
Grand Portage Band of Chippewa

Comments related to operation of NPDES permit are attached. The comments from the Grand Portage Water Quality Specialist, Margaret Watkins, requests MPCA requires strict effluent limitations and carefully regulate PolyMet. See Responses to Comments 799 through 829.

Frederick Campbell
Citizen

These comments pertain to the MPCA’s proposed PolyMet water quality permit. Figure 4 - Mine Site Layout. The figure shows that there is an insufficient number of compliance and indicator monitoring wells in bedrock and surgical aquifers in the area downgradient (south) of the equalization basin area. The MPCA assessed the location of each individual well as dictated by the purpose of each well and how each well fit into the overall monitoring well network. This approach was coupled with the incorporation of existing monitoring wells (with a record of baseline water quality) and practical considerations such as access and potential disturbance to wetlands. The monitoring well network in the permit was developed to meet multiple goals, which includes monitoring the performance of engineering infrastructure; serving as indicators for the early detection of potential project impacts; and determining compliance at downgradient locations closer to the property boundary.

The monitoring well network required by the draft permit is robust and includes 178 wells/parameters at the mine site and 40 monitoring wells/parameters at the plant site. The wells monitoring the mine site near the OSLA and EQ Basin are adequate for determining potential project impacts and determining compliance at downgradient locations. The MPCA has considered this comment and in addition to the wells identified in the draft permit, the MPCA will be requiring an additional bedrock well to be located downgradient of the tailings basin.

In addition, the draft permit requires an annual assessment of the suitability of the monitoring network, and requires the proposal of additional/alternative monitoring locations in the event the original network is not sufficient, based on the ongoing collection of data (including flow direction and groundwater quality). If the MPCA determines in the future that the monitoring well network is insufficient, the agency has authority under Minnesota Rule part 7001.0170 to modify the permit, and authority under part 7001.0150 to require sufficient monitoring to determine compliance.

In addition, the proposed groundwater containment system does not adequately cover the southern portion of the mine site area, especially the east pit and category 2 and 3 stockpile areas. Figure 6 - Plant Site Layout (including Tailings Basin Layout). The Category 1 stockpile Containment System is not intended to cover the area of the Category 2/3 stockpiles or the East Pit. The temporary Category 2/3 stockpile (as well as the temporary Category 4 stockpile and Ore Surge Pile will be constructed with robust liner systems and leachate/runoff collection systems negating the need for a separate groundwater containment system at that location.

Frederick Campbell
Citizen

In addition, the proposed groundwater containment system does not adequately cover the southern portion of the mine site area, especially the east pit and category 2 and 3 stockpile areas. Figure 6 - Plant Site Layout (including Tailings Basin Layout). The temporary Category 2/3 stockpile Containment System is not intended to cover the area of the Category 2/3 stockpiles or the East Pit. The temporary Category 2/3 stockpile (as well as the temporary Category 4 stockpile and Ore Surge Pile will be constructed with robust liner systems and leachate/runoff collection systems negating the need for a separate groundwater containment system at that location.
556 Frederick Campbell Citizen The Final EIS and the proposed permit should include a contingency design and plan for a groundwater containment system at the Plant Site, with an emphasis and focus on the Tailings Basin area. Reasonable Potential Analysis (pages 31 -) The Final EIS and this analysis did not consider any contingency plans for catastrophic events such as flooding, dike failure and collapses of various types. This analysis also failed to consider the possibility that the proposed wastewater treatment system (WWTTS) may not adequately control or capture discharges or releases from source areas (mine pits, tailings basin, waste rock stockpiles , etc.). The permit has been revised to include specific requirements for “system redundancy” at the FTB seepage containment system in the form of redundant, or quickly accessible (within 48 hours), pumping capacity, spare piping and other spare parts necessary to prevent an overflow/unauthorized discharge. See Permit at 5.175.73 and 5.178.143. The project includes engineering controls such as stockpile liner systems, seepage capture systems and wastewater storage and conveyance systems that are designed to control wastewater and runoff from the mine site so that it can be conveyed to the WWTTS for treatment. The effectiveness of these controls were evaluated in the EIS and the water quality permit requires their installation/operation. The Annual Comprehensive Performance Evaluation Report required by the permit will provide an assessment of the performance of the engineering controls, including liner systems, using permit-required monitoring results and internal operational data to ensure that management of wastewaters generated at the mine site is adequate.

557 Frederick Campbell Citizen As a result the proposed groundwater and surface water monitoring systems designs are inadequate to protect the environment from potential releases. In addition, the pilot test results are biased because of the failure to consider these other factors. The proposal for only one internal performance monitoring point (WS074) is insufficient to adequately ensure that the WWTTS is operating as designed. See response to Comment 554. The MPCA considered the comment but disagrees with its conclusion. The MPCA considers the 6 month pilot test as reasonable evidence that the treatment technology can work for the volume and composition of the wastewater expected. Although the pilot test focused primarily on sulfate removal from wastewater with expected sulfate concentrations, for a portion of the test the influent to the pilot system was seeded with metals to more closely approximate expected metal concentrations. The internal monitoring station WS074 is the primary point for monitoring the final effluent from the WWTTS. Contrary to what is implied by the comment, the permit also requires monitoring of the intermediate effluents from the mine water chemical precipitation (WS072) and mine water membrane treatment (WS073) components of the WWTTS.

558 Frederick Campbell Citizen Metals and other parameters of concern. The lists of parameters in Groups A, B, and C are inadequate to protect the environment from potential releases at the Mine Site and the Plant Site areas. The parameters listed in Groups A, B, and C are limited to the most obvious metals and related ions, such as sulfate. The lists of potential parameters of concern should include a number of organic compounds, such as petroleum (DRO, GRO), total organic carbon (TOC), and other organic s and inorganic that are related to blasting agents and other process-related chemicals (Plant Site). As a result, Tables 11 and 12 should include plans and schedules for regular monitoring of groundwater and surface water for these other potential parameters of concern. I hereby submit these comments as a citizen of Minnesota. However, because of my previous work experience at the Minnamax Babbitt copper- nickel deposit and my previous work experience at the MPCA (1988‐2017), I feel these comments have technical validity. Thank you for considering these comments. The MPCA has considered this comment and determined that monitoring for organic compounds in the various wastewaters and in groundwater is not warranted. Monitoring of other indicator parameters (such as chloride, sulfate and/or specific conductance) will sufficiently identify the potential presence of impacted water at these locations. Although not directly related to the comment (which primarily addressed groundwater and surface water monitoring), the permit does require nitrogen/phosphorus monitoring of the WWTTS effluent, and the monitoring required for permit reissuance does include DRO and GRO.

559 Mae Gackstetter Citizen My name is Mae Gackstetter and I am a concerned citizen living and using water in the downstream community of Duluth, MN. The MPCA does not exist simply to enforce minimum standards, but to be a steward of our lands, environment, natural resources and to act in the best interest of all Minnesotans. The MPCA is not here simply to ensure that Polymet and other mining groups fill out the paperwork, check the boxes and dot ever i or cross every t, but to determine if the projects they propose are really good for the state of Minnesota and its people. It is with this in mind that I encourage the MPCA to deny the Polymet water quality permit as it currently stands. Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
The EPA records a 100% failure rate of this type of mining to control pollution. This type of copper sulfide nickel mining is especially dangerous in a water-rich environment where no successful mine of this type has ever been operated. The EPA further estimates a 93% probability of failure with regard to water collection and treatment during operation of the Polymet mine and a certainty of failure if the mine is abandoned. Polymet promises that less than 1% of contaminated waste water from the tailings basin and less than 5% of contaminated water from the mine site would escape untreated into the ground water. However, the MPCA permit imposes no conditions that Polymet demonstrate it has upheld this promise and proposes no way of monitoring for waste water contamination.

The comment is correct that the permit does not specify a required seepage capture efficiency. Instead, it relies on the maintenance, and verification, of an inward hydraulic gradient across the barrier component of the system. The containment systems function on the principle of maintaining an inward hydraulic gradient across the barrier wall that is part of the system design. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape — instead, water will tend to flow into the capture system.

The permit has been revised to specify the required design components of the seepage containment systems and stipulates that the containment systems must be constructed and operated to maintain an inward hydraulic gradient across the cutoff wall.

The permit requires monitoring of water levels on both sides of the cutoff wall to verify the presence of an inward gradient. If an inward gradient is not maintained, the Permittee is required to take corrective actions immediately to restore the inward gradient. The MPCA has removed the "temporary conditions" language from the draft permit and has revised the language to state that if an inward gradient is not reestablished within 14 days of detection, it is a violation of the permit.

A dam breach could result in significant flooding, along with both surface and ground water contamination from the water-rich environment, is to dry mine waste and store it in dry form. But this more expensive and Polymet shows no interest in doing this, even though it is the best available technology. The proposed tailings basin and earthen dam are very similar to the set-up that failed catastrophically at Mt. Poly in Canada in 2014. The dam breach there caused massive flooding and water contamination, turning nearby Lake Quinault into a permanently contaminated body of water that has effectively become the tailings basin for the mine site and severely impacting local businesses. Residents and mine workers affected by the Mt. Poly disaster describe a harrowing situation with no emergency response plan for local or downstream communities. Emergency responders heard about the disaster via Facebook and phone calls from family and friends working at the mine. There is no reason to believe that a dam failure at the proposed Polymet site would be any different, with no emergency response plan stipulated in the permit.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The draft MPCA wastewater permit fails to control or even monitor the effects of potential polluted seepage on adjacent wetlands and stream, in clear violation of the Clean Water Act requiring the protection of surface water from pollution released through connected groundwater.

See response to Comment 510.

In addition, Minnesota rules state that copper-nickel mine tailings basins must be drained within 3 years of the start of mine closure and reintegrated into the natural watershed. So why does the MPCA permit allow Polymet to maintain a perpetual tailing pond and very long term isolation of the mine's toxic hydrometallurgical waste? Why is it acceptable for Polymet to permit and Glencore to operate a mine that will require perpetual water treatment, in clear violation of MN laws stating that these facilities should be maintenance-free after closure.

Comment noted. This comment pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to this comment.
Not only do the MPCA permits bend the rules for Polymet when it comes to mine waste management, but it also gives Polymet special permissions with regard to water usage. Even though the Polymet mine would use more than 5 million gallons of water per day, the MPCA has not allowed other Great Lakes States or Canada to review the Polymet plan under the Great Lakes Compact, a flagrant violation of this agreement.

In addition, the DNR draft appropriations permit would allow 10x as much water to be removed from the Partridge River as claimed by Polymet’s final environmental impact statement. The impact of removing this much water from the local environment on streams, lakes and groundwater reserves has not been adequately studied and is likely to significantly impact the local watershed. Additionally, the draft water appropriations permit would allow Polymet 6.175 billion gallons of water per year, 85% of the public water usage of Duluth, Proctor and Hermantown combined. It is naïve to think that this level of water usage will not have a significant impact on water stores.

None of the MPCA or Polymet permit documents or EIS documents calculate the value of Lake Superior Basin ground water that could be affected through appropriation or pollution. Instead, Polymet would pay only $8 million for the water used.

Furthermore, the Polymet mine project is located in and impacts resources in the 1854 Treaty Ceded Territories and upstream of Fond du Lac reservation, which would negatively impact aquatic habitats for wild rice and fishing that are already under threat from previous pollution. Polymet’s own EIS concedes that it cannot maintain water sutfle level acceptable for the cultivation of wild rice, another flagrant violation of the treaty.

Also, there is a high risk of methyl mercury contamination in fish that are an important source of food and culture for tribal and low income communities, not to mention a beloved treat for local anglers and tourist, who come to enjoy the area and support local businesses. But the Polymet project stand to have a disproportionate burden on tribal and low income communities that rely on local rice, plant, water, and fish resources, especially infants and children in these communities who are more susceptible to toxic pollutants, like mercury in fish and arsenic or manganese in drinking water. Yet, in review and drafting permits, the DNr has failed to heed the recommendations of tribal governments nor the scientific evidence produced on their behalf.

Consultation has meant agency staff receive information from the tribes, but seem to disregard it in decision making. Why are the conclusions of scientists working for Polymet held above those of scientists working on behalf of affected communities or as independent agents? Tribes with treaty reserved rights to hunt, fish and gather near the Polymet mine site have not consented to destruction and pollution or resources needed to exercise these rights. This does not seem in the best interest of All Minnesotans.

Additionally, the MPCA refuses to independently evaluate the potential impacts of the project on human health using an open and public health assessment process (HIA) despite the fact that 30,000 MN healthcare professionals requested an HIA to assess risks of pollution on workers, infants, children and everyone living around and downstream from the project. Several area physicians and healthcare professionals continue to passionately voice their concerns. Instead, the MPCA has allowed Polymet to control all studies and choose certain assumptions to deny health risks. Polymet claims that pollution will meet “evaluation criteria,” but its criteria won’t protect human health. For example, Polymet has set a criterion of 150micrograms per liter for manganese at the tailings pile. This is 15 times higher than the health risk limit set by the Minnesota Department of Health to prevent brain damage in infants, children, and adults. Even with all of its optimistic predictions, the Polymet project would increase arsenic near the tailings pile by up to 417% - and increase arsenic in Colby Lake drinking water by 38.5%. This would increase the risk of cancer for Hoyt Lake residents above the level of concern in Minnesota’s cancer risk rule. The Polymet project would degrade Minnesota surface water quality, violating Minnesota water quality standards for toxic pollution in the wetlands near both the mine and the tailings pile.

The issue related to a health impact assessment was addressed as part of the EIS process. The derivation of the evaluation criteria for manganese in groundwater was described in the EIS. It was based on existing background conditions. As concluded in the EIS, the project is not predicted to increase existing manganese levels in the groundwater. Likewise, the EIS concluded that the engineering controls to be used at the Mine Site (and required by the NPDES/SDS permit) will not cause an exceedance of the water quality standard for arsenic in Colby Lake.
572 Mae Gackstetter
Citizen

This extreme use of water resources, destruction of wetlands, violation of treaty rights and huge risk to downstream communities with inadequate fail-safes, has all been touted as 'safe' and 'worth the risk' for a project that will be 99% waste and increase global copper by only 0.2%. The rock mined by PolyMet is a limited low-grade ore body, which carries a huge climate change and environmental impact that would result in a few 100 jobs for 20 years at best. Despite this huge carbon footprint of the PolyMet project, along with the fact that copper recycling uses 85-90% less energy, while providing long-term sustainable jobs, the MPCA's permitting and environmental review process fails to consider this potential to meet employment and market needs for non-ferrous metals, instead of allowing for a risky open-pit mine with minimal impact on the global copper market or even domestic copper resources. We have other options than just pulling metals out of the ground and, for a sustainable future, we need to start utilizing them. Let's start using alternatives before it is too late and we have destroyed the beautiful environment that we are lucky enough to call home. Don't continue the cycle of environmental destruction and unsustainable, short-term economic opportunities. Deny the PolyMet Water Quality Permit and do better.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

573 Jacob Crawford
Water Legacy

March 16, 2018 Minnesota Pollution Control Agency PolyMet Draft Permit Comments — 4th Floor 520 Lafayette Road North St. Paul MN 55115-4194 RE: Draft PolyMet NPDES/SDS Permit and Section 401 Certification Citizen Comments

Dear Commissioner Stine,

Attached and delivered to you today please find 584 comments submitted to us online by citizens asking the Minnesota Pollution Control Agency to deny the PolyMet NorthMet Project a water pollution (NPDES/SDS) permit and Clean Water Act section 401 certification. These comments have been collected via our website since early March. The names and identifying information for each commenter follows each comment's text. Of the 584 comments submitted, 563 contain the following language verbatim:

"Deny the Polymet Water Quality Permit and do better."

See response to Comments 510 and M-475-A.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

574 Jacob Crawford
Water Legacy

Dear Commissioner Stine,

I strongly urge the MPCA to deny water pollution (NPDES/SDS) permit and deny the Section 401 certification for the PolyMet copper-nickel mine project.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

575 Jacob Crawford
Water Legacy

The proposed NPDES/SDS permit is weak and fails to control the biggest threat from sulfide mining – the seepage of contaminated wastes to groundwater and then to drinking water and surface water from mine pits, waste rock stockpiles, tailings basins and other sulfide mine waste storage facilities.

See response to Comment 510.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

576 Jacob Crawford
Water Legacy

The Section 401 certification relies on PolyMet's assumptions, exclusions and misleading information to claim that the PolyMet sulfide mine would not violate water quality standards, degrade water quality, and endanger the environment and human health.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

577 Jacob Crawford
Water Legacy

The PolyMet draft NPDES/SDS permit and draft 401 certification would conflict with federal and state laws and would jeopardize Minnesota water quality, natural resources, health and finances.

See response to Comments 510 and M-475-A.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

578 Jacob Crawford
Water Legacy

The MPCA draft water pollution permit for the PolyMet sulfide mine wouldn't set limits on polluted seepage through groundwater to drinking water or surface water. *The MPCA draft water pollution permit for the PolyMet wouldn't even provide appropriate monitoring; PolyMet's pollution seeping from groundwater and welling up in wetlands and streams in violation of the Clean Water Act could go completely undetected.

See response to Comments 510 and M-475-A.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

579 Jacob Crawford
Water Legacy

The MPCA draft section 401 certification would ignore the deficiencies in the water pollution permit and erroneously claims that the PolyMet sulfide mine project would not violate water quality standards or degrade Minnesota water quality.

See response to Comments 510 and M-475-A.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

580 Jacob Crawford
Water Legacy

The MPCA, along with other State agencies refused to evaluate impacts on human health from the PolyMet mine project through an open and public health impact assessment (HIA) process, even though groups representing 30,000 Minnesota medical and health professionals asked for an HIA to assess threats including brain damage to fetuses, infants and children from mercury contamination of fish.

The issue related to a health impact assessment was addressed as part of the EIS process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

581 Jacob Crawford
Water Legacy

Now, the MPCA draft section 401 certification would accept PolyMet's exclusions, assumptions and junk science to erroneously claim that the PolyMet sulfide mine project would not endanger the environment and human health.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Jacob Crawford  
**Water Legacy**

Please accept your Agency’s mission as a protector of Minnesota waters, fish, wild rice, wildlife, wetlands and human health not the protector of foreign mining companies seeking profit at our expense. I ask you to reject and deny the draft water pollution (NPDES/SDS) permit and the draft 401 certification for the PolyMet copper-nickel sulfide mine project.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Gary Boelhower

Amended Water Legacy form letter. The continuing filtration system must be a triple fail-safe system; nothing less is to be tolerated. A filter that is not capable of providing the required level of treatment will put our environment and the health of our citizens at risk. The system should be an independent and closed system, using solar, wind or geo-thermal energy so as to reduce carbon emissions.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Andrea Sande

Amended Water Legacy form letter (without substantive new/different information).

See responses to comments 573 through 582.

Dale Stewart

I'm out in Nevada and Arizona on vacation, but I am a lifelong MN resident. This area I'm visiting is everything that Polymet's project in Minnesota is not. They also have precious metal mining here and because there is little water it does not pose the problem that it does to Minnesota. Let them do those kinds of mines in this area, and please realize the precious commodity water is and will become in the future. PolyMet is not right for Minnesota.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Debra Johnson

Amended Water Legacy form letter (without substantive new/different information).

See responses to comments 573 through 582.

John Sundstrom

Amended Water Legacy form letter (without substantive new/different information).

See responses to comments 573 through 582.

Heather Nord

Amended Water Legacy form letter (without substantive new/different information).

See responses to comments 573 through 582.

Gary Boelhower

Amended Water Legacy form letter. I live in Duluth, downstream from the proposed Polymet mine. It is clear that possible negative health impacts and negative economic impacts from the degradation of our waters have NOT been adequately studied. The MPCA has a responsibility to protect the citizens of Minnesota and to demand further study of the health impacts of the Polymet project.

See responses to comments 573 through 582.

Gary Boelhower

Amended Water Legacy form letter. A clear plan for regular and comprehensive monitoring of seepage and ground water and well water must be in place.

See responses to comments 573 through 582. The permit includes detailed monitoring requirements for the discharge, internal waste streams, the groundwater and surface water.

Gary Boelhower

Amended Water Legacy form letter. The continuing filtration system must be a triple fail-safe system; nothing less is to be tolerated. A filter that is not capable of providing the required level of treatment will put our environment and the health of our citizens at risk. The system should be an independent and closed system, using solar, wind or geo-thermal energy so as to reduce carbon emissions.

See responses to comments 573 through 582. Membrane treatment, including reverse osmosis, is a well understood technology that has been utilized for many years in a number situations, including for mining projects. The ability for the technology to work for the PolyMet project was demonstrated in the 6 month pilot test conducted during the EIS process. The MPCA has reviewed the design and has concluded it is capable of providing the required level of treatment. The source of energy to power the WWTPS is not within the jurisdiction of the MPCA or NPDES/SDS permit.
Amended Water Legacy form letter: A quick review of similar mining projects shows how disastrous similar copper/precious metals mining projects have been across the USA and the world. What I keep hearing is that we can do it better in Minnesota. Perhaps we can, but it will require that we demand that actual systems be built and actual plans are in place to ensure that environmental degradation does not occur or is checked immediately and effectively in the event of failure. PolyMet in too many aspects of their proposal simply promises to figure things out as they go along (see the number of reference to adaptive water management process, and adaptive engineering controls). That's not good enough in Minnesota, that's not good enough in the Lake Superior watershed.

Amended Water Legacy form letter. As with so much wrong with the PolyMet project, the MPCA has allowed PolyMet to skew forms allowing them to deny any threats to water quality including wetlands, wild rice, mercury in fish, and threats to the health of people. There is something dreadfully wrong when a company can be allowed, gratis, to contaminate our water. The MPCA needs to protect our water quality including wetlands, wild rice, mercury in fish, and threats to the health of people. There is something dreadfully wrong when a company can be allowed, gratis, to contaminate our water. The MPCA needs to protect our water quality including wetlands, wild rice, mercury in fish, and threats to the health of people. Polymet should be required to provide a financial assurance fund specifically to pay employees when and if the mine is closed due to environmental contamination that would seep from PolyMet waste facilities to wetlands and streams; the MPCA wouldn't even require monitoring of surface water quality in the places closest to the PolyMet tailings basin or concentrated waste storage facilities. Without surface water monitoring, even if PolyMet pollution violates the Clean Water Act, it could be decades before the contamination of our waters is detected.

The permit does include monitoring of surface water at 15 locations. See also response to comment 510. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Amended Water Legacy form letter. The permit does include monitoring of surface water at 15 locations. See also response to comment 510. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Amended Water Legacy form letter. The permit does include monitoring of surface water at 15 locations. See also response to comment 510. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Amended Water Legacy form letter. The permit does include monitoring of surface water at 15 locations. See also response to comment 510. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
The MPCA must not grant the permits to allow the construction of PolyMet's proposed Amended Water Legacy form letter (without substantive new/different information). See responses to comments 573 through 582.

Our water is more important than profits for some corporation and a few jobs! The comment submission included four attachments.

585 - Mark Vesley, Citizen
The MPCA must not grant the permits to allow the construction of PolyMet's proposed "hydrometallurgical residue facility". The company's plan to contain liquid mine waste behind a collapse-prone dam indefinitely is absurd. Duluth recently witnessed a "thousand-year" flood event. When the next catastrophic rainfall comes to northern Minnesota, as it surely will, and the PolyMet dam fails and releases acidic heavy-metal slurry into the St. Louis River watershed and then Lake Superior, what will the MPCA say? "We're sorry?" "We didn't think this would happen?" "Oh, well?" Sulfide-ore mining is simply unacceptable in a water-rich environment.

586 - Darren Vogt, 1854 Treaty Authority
Dear Minnesota Pollution Control Agency,
The purpose of this letter is to provide comments on the Draft National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Permit-MN0071013 and 401 Certification.

587 - Darren Vogt, 1854 Treaty Authority
NPDES/SDS Permit
Responsibility to Legacy Water Quality Issues
We have concern over language in the Permit to Mine (PTM) Appendix 15: Financial Assurance, Attachment O: Memorandum from MPCA to DNR on Legacy (Memo) and how it pertains to the NPDES/SDS permit. On page 2 of the Memo, it states "It is important to note that operation of the proposed NorthMet project resolves any legacy water quality issues at the former LTVSMC tailings basin" in both the Question and MPCA Response sections. This statement appears to absolve PolyMet of its obligation to mitigate water quality issues at the former LTVSMC tailings basin once operation commences. This assumes operation of the Flotation Tailings Basin (FTB) seepage capture and collection system and wastewater treatment system (WWTS) will effectively capture and treat the contaminated discharge that is already occurring and all the proposed discharge. This is a substantial assumption and we want to ensure that operation of the proposed NorthMet project does properly address PolyMet's obligation to legacy water quality issues at the LTVSMC tailings basin. Resolution should be based on actual results for as long as operation of the FTB seepage capture and collection system and WWTS is necessary (perhaps perpetually). We are also concerned over language in the Memo that suggests PolyMet will not be required to treat or mitigate legacy pollution at the LTVSMC tailings basin if they are permitted but do not become operational. The Memo concludes that if the NorthMet project never becomes operational after PTM approval and the state becomes responsible for closure of the tailings basin (scenario II), "No treatment/mitigation for alkalinity, hardness, total dissolved solids (TDS), specific conductance, sulfate, and mercury should be required." This cannot be allowed as it would violate the Clean Water Act. This issue needs to be clarified and addressed before final permit decisions are made.
Effectiveness of the proposed water treatment and seepage collection methods are vital to the project meeting water quality standards. Analysis and design detail are lacking in the NPDES/SDS permit. There still seems to be uncertainty in the method of water treatment and we are concerned that proper testing of treatment technologies is lacking for the project at full scale. Adding to this uncertainty is the additional mine site process water being treated at the WWTS due to the elimination of the wastewater treatment facility (WWTF) at the mine site, which was not evaluated in the Final Environmental Impact Statement (FEIS).

Achieving 99% capture efficiency is not stated anywhere in the NPDES/SDS permit if/how a capture efficiency would be estimated. Achieving 99% capture efficiency (as proposed) should be a permit requirement since it is what the FEIS, NPDES/SDS permit and other permits are based on and vital for the project meeting environmental requirements.

The permit has been revised to include greater detail regarding required facility design of the FTB Seepage Containment Systems, Category 1 Waste Rock Stockpile Groundwater Containment System, and the Wastewater Treatment System. As described in response to Comment 707-C, The MPCA has revised the permit to require construction of the seepage collection to meet the standards in the application.

We also question whether PolyMet will be required to achieve 99% capture efficiency in this or any other permit.

To demonstrate that membrane treatment technologies were capable of meeting treatment targets, the company conducted a 4-month pilot testing program using seepage water from the existing tailings basin. For a portion of the test, additional metals were added to the test influent to more closely simulate projected effluent quality. Results of the pilot testing were used in the MPCA's reasonable potential analysis, and MPCA again determined the proposed design is capable of meeting the Operating Limits in the draft permit. In addition, the modeling and pilot testing demonstrated that concentrations of other parameters in the effluent would be far below the water quality standards when the sulfate Operating Limit is met.

The proposed treatment components of the reconfigured WWTS are the same as originally proposed. Anticipated flow volumes from the Mine Site to the reconfigured WWTS will remain the same as originally proposed. The location of the proposed mine site treatment system is the only thing that has changed.

The seepage collection system around the tailings basin is modeled to have a capture efficiency of 99% (100% of shallow surface seepage and greater than 90 percent of groundwater seepage) along the northern, northwestern, and western portions and 100% along the eastern and southern portions. Description is needed on how this efficiency rate was determined. We question if such a high capture efficiency can be achieved, especially since the current seepage management system on the southern portion of the LTSMC tailings basin has been far less effective. We also question whether PolyMet will be required to achieve 99% capture efficiency in this or any other permit.

The Modflow modeling conducted for the EIS indicated that the capture efficiency for both systems would be in excess of 90% and the subsequent GoldSim modeling indicated that degree of capture would be sufficient to protect downstream surface and groundwater quality. See FEIS at 5-7.

The draft permit requires that 13 pairs of groundwater monitoring devices (wells and piezometers) at each of the systems be monitored on a monthly basis to ensure that the necessary inward gradient is being maintained. The system consists of one of the pair located just inward of the hydraulic barrier and one just outward of the barrier. The primary purpose of the paired devices is to monitor for the presence and maintenance of an inward hydraulic gradient across the barrier which is accomplished by simultaneous measuring of the water table elevation of the two devices. If there is an inward hydraulic gradient, flow will not move out through the barrier. The draft permit further requires that the performance of the capture/containment systems and the adequacy of the monitoring network be assessed on an annual basis. If an inward gradient is not maintained, the Permittee is required to take corrective actions immediately to restore the inward gradient. If the inward gradient is not restored within 14 days, it is considered a violation of the permit.
Unauthorized Discharges

On page 62 of the NPDES/SDS permit, it states "Unauthorized Releases of Wastewater Prohibited. Except for discharges from outfalls specifically authorized by this permit, overflows, discharges, spills, or other releases of wastewater or materials to the environment, whether intentional or not, are prohibited. However, the MPCA will consider the Permittee's compliance with permit requirements, frequency of release, quantity, type, location, and other relevant factors when determining appropriate action. [33 USC §1342 and Minn. R. 7001.0030.]." We are concerned about how unauthorized discharges from the NorthMet project will be handled.

Our understanding is that the purpose of the required monitoring sites in the NPDES/SDS permit are to detect the potential for an unauthorized discharge before it occurs so that it can be prevented. Detection of an unauthorized discharge after operation commences can either lead to PolyMet needing to eliminate the discharge or the location may become a permitted discharge. If it becomes a permitted discharge location, PolyMet must then comply with effluent limits for certain parameters that would be included/amended to the NPDES/SDS permit for that location. If/when this occurs, it is unclear in the NPDES/SDS permit what process would be used to bring PolyMet into compliance with the new permitted discharge effluent limits. A schedule of compliance seems likely and we are concerned how much contaminated discharge may occur before it is eliminated, mitigated and/or treated. In some instances, mining facilities have been allowed to be under a schedule of compliance for years, perhaps decades, while only being required to study the problem without actually complying with applicable water quality standards. Many locations of the proposed NorthMet project, especially at the Mine Site (e.g., mine pits, waste rock stockpiles, liners), along the Mine to Plant Pipeline and FTB seepage capture and collections system seem likely to have an unauthorized discharge(s) occur. We suggest including a more detailed process and required actions in the NPDES/SDS permit to address potential unauthorized discharges from the NorthMet project.

Regarding the adequacy of monitoring to predict a north flow path, see response to Comment Multiple-543-BN. The monitoring in the permit will allow evaluation of the potential for a north flow path now and in the future.

Unauthorized Discharges

Regarding the possibility of a north flow path, see response to Comment 589.

Similar to the approach around the tailings basin and Category 1 stockpile described in response to Comments 711 & 711-A, the purpose of the north flow path wells is to monitor the hydrogeologic conditions such that if it can be confidently predicted whether a north flow path may develop in the future. This can be accomplished by monitoring current and future groundwater elevations along the potential north flow paths; monitoring of groundwater quality is not needed to accomplish this purpose.

Unauthorized Discharges

See response to Comment 753. The MPCA has added the following language to the permit: "The discharge of treated wastewater from the WWTS must not violate state water quality standards." The requirements of the permit are sufficient to address the potential for unauthorized discharges from the facility. The Annual Comprehensive Performance Report required by the draft permit specifically requires that the effectiveness of each of the major engineering controls (i.e., seepage containment systems, stockpile liner systems, equalization basins) be evaluated based on all relevant monitoring and performance data.

Unauthorized Discharges

NPDES permits do not define the authorities or processes for taking enforcement action. The MPCA's authority to take enforcement is grounded in state statute. The process used to take enforcement is determined by agency judgment based on the facts of the particular case.
591-B Darren Vogt 1854 Treaty Authority

During consultation with the MPCA on 3/1/2018, it was unclear if the NPDES/SDS permit implies that any unauthorized discharges from the NorthMet project would have to comply with applicable water quality standards. Although it may be implied in the permit that an unauthorized discharge must comply with applicable water quality standards, it seems to leave the state vulnerable when it comes to enforcement. Currently, language in the NPDES/SDS permit (page 62) only specifies unauthorized discharges being prohibited with no mention of those discharges having to comply with applicable water quality standards. We have seen instances with other facilities where an unauthorized discharge(s) exceeding applicable water quality standards was not found to be a NPDES/SDS permit violation since there were not any effluent limits in the permit for the location(s). We suggest including additional language in the permit to address this issue. Please append this (or similar) language to the NPDES/SDS permit: "Any exceedance of Clean Water Act or Minnesota water quality standards is a violation of the NPDES/SDS permit." In addition to strengthening language in the NPDES/SDS permit, we suggest adding effluent limits to all authorized discharge locations (including SD002-SD011) and all monitoring locations to make it clear that PolyMet is required to comply with applicable water quality standards for any/all discharges and to ensure the state has the ability to take enforcement actions for non-compliance.

Station SD001 is where the final effluent leaves the WWTS and is the "splitter box" where the effluent is distributed to outfalls SD002-SD011. Water quality samples collected at SD001 are entirely representative of the quality of water discharged at SD001. Limits apply at SD001 as well as the internal monitoring station, WS074, where the operating limits apply. The MPCA has added language to the permit stating the discharge of treated wastewater from the WWTS must not violate state water quality standards. Other discharges are not authorized by the permit.

592 Darren Vogt 1854 Treaty Authority

Wild Rice

We are concerned about current and future impacts to wild rice in downstream waters. The MPCA needs to recognize Second Creek as a wild rice water in the NPDES/SDS permit and other relevant permits. There is currently a surface water discharge from the LVSMC tailings basin south seepage management system to Second Creek at SD026, linked to legacy water quality issues PolyMet is now responsible for, that would not be an authorized discharge location in the NPDES/SDS permit and far exceeds the 10 mg/L wild rice sulfate standard. There has been little detail provided on how the south seepage management system will be improved to reach 100% capture efficiency as proposed and eliminate this discharge, which is a concern since the current design has been far less effective. Design details to improve the south seepage management system have been deferred until after the PTM is issued, so we question if 100% capture efficiency is even possible. If this discharge continues under the proposed NorthMet project, it needs to be treated as an unauthorized discharge and appropriate actions need to be taken to eliminate/mitigate/treat the discharge and meet applicable water quality standards including the wild rice sulfate standard of 10 mg/L.

An NPDES permitting action is not the appropriate procedure to revoke water quality standards under the Clean Water Act. See 40 C.F.R. § 132.20. Regarding the south seepage capture, see response to comment Multiple-543-AO. All water from the SD026 location must be collected by the South Seepage Management System and pumped to the WWTS for treatment and discharge via SD002-SD011 or directed back to the FTB for reuse. The MPCA revised the language of the permit in light of the comment to state that a direct discharge from the south seepage management system to former SD026 is prohibited. See permit at 5.175.52. The permit contains an Operating Limit of 10 mg/L sulfate for the discharge from the WWTS to Second Creek. In addition, the MPCA has added the following requirements to the permit to address concerns regarding requirement for constructing/upgrading the South Seepage Management System:

- The Permittee shall construct the FTB South Seepage Management System as an upgrade or replacement of the existing temporary surface seepage pumpback system located upstream of former CHP Erin outfall SD026. The South Seepage Management System shall be designed and constructed to collect seepage from the FTB in this area such that there will be no direct discharge of seepage to surface waters.

Regarding the applicability to existing legacy discharges, see response to Comment Multiple-543-CI. Legacy discharges from the basin are authorized by a different NPDES permit. Regarding the enforceability of the operating limit, see response to comment Water-72A. Regarding efficiency of the south seepage capture system, see response to Comment 588-B.

592-A Darren Vogt 1854 Treaty Authority

Wild rice exists upstream in the Embarrass River from the draft MPCA staff recommended definitions of water used for production of wild rice (compliance points) that were provided in the FEIS to inform the NPDES/SDS permit and other relevant permits. In the Partridge River, the 2009 survey identified rice near SW-004b, also upstream of the proposed compliance point. Currently, the wild rice water quality standard is not being met in portions of the Embanass and Partridge river systems. The FEIS states that the wild rice sulfate standard would be met for the Embanass River, assuming the seepage capture and collection system would capture seepage presently going to the Embanass tributaries. However, the Partridge River will exceed the standard during low-flow conditions. We question how this will be handled in the NPDES/SDS permit when monitoring at/near these locations indicates exceedance of the wild rice sulfate standard.

Poly Met has incorporated into the Project a design of the WWTS that will meet a 10 mg/L concentration for sulfate at the point of discharge into the Project's receiving waters. The MPCA has included an operating limit of 10 mg/L for sulfate in the permit and thus will not cause or contribute to an exceedance of the wild rice sulfate standard in the Partridge River. The sulfate operating limit is an enforceable limit and an exceedance of this limit is a violation of the permit.

In addition, all water from the SD026 location will be collected by the South Seepage Management System and pumped to the WWTS for treatment and discharge via SD002-SD011 or directed back to the FTB for reuse. A direct discharge without treatment at SD026 is prohibited. The permit contains an Operating Limit of 10 mg/L sulfate for the discharge from the WWTS to Second Creek. To further address concerns raised in the comment, the MPCA added a requirement prohibiting direct discharge from the South Seepage Management System to SD026.
We also remain concerned about enforcement of the existing wild rice standard of 10 mg/L for this project. It is our understanding that PolyMet plans to meet this approved standard, and it is an enforceable limit in the permit. However, legislative pressures have limited the MPCA enforcement of this approved standard in the state (perhaps a violation of the Clean Water Act), and we question if this could impact permitting for this project. Any formal and approved changes to the wild rice standard may also impact future permitting.

The operating limit for sulfate applies to the rolling average annual sulfate concentration at WS074, calculated as the rolling average of the most recent 12 calendar monthly average sulfate values. The annual average was used because recent research showed wild rice did not respond to shorter-term fluctuations in sulfate concentrations. The operating target of 9.0 mg/L as a monthly average is intended to trigger adaptive management to prevent the discharge from exceeding 10 mg/L.

On page 10 of the NPDES/SDS permit, it states “The HRF is designed as a closed system: no water from the HRF will be released to the environment through overflow or outlet structures.” MPCA added language in part 5.181.234 of the draft permit in light of the comment to state that if the MPCA determines that site conditions at the proposed HRF location preclude the construction and operation of the HRF in compliance with applicable water quality standards, construction of the HRF at that location is prohibited.

The design components of the HRF were raised in the EIS and DNR, in consultation with MPCA, considered those issues. The issue of foundation stability was considered in the EIS and requirements for a detailed process of investigation, design and MPCA approvals are included in the permit to address that issue. The MPCA and DNR worked with a third-party consultant to evaluate the stability of the HRF foundation and construction methods. The MPCA added language in part 5.181.234 of the draft permit in light of the comment to state that if the MPCA determines that site conditions at the proposed HRF location preclude the construction and operation of the HRF in compliance with applicable water quality standards, construction of the HRF at that location is prohibited.

For additional rationale, see response to Comment Multiple-543-BX, describing why site conditions at the proposed HRF location preclude the construction and operation of the HRF in compliance with applicable water quality standards.

We also remain concerned about enforcement of the existing wild rice standard of 10 mg/L for this project. It is our understanding that PolyMet plans to meet this approved standard, and it is an enforceable limit in the permit. However, legislative pressures have limited the MPCA enforcement of this approved standard in the state (perhaps a violation of the Clean Water Act), and we question if this could impact permitting for this project. Any formal and approved changes to the wild rice standard may also impact future permitting.
597 Darren Vogt  1854 Treaty Authority  Conclusion

Finally, we would like to highlight a general but important concern over the permitting approach. The NPDES/SDS permit and 401 Certification suggest commitment to project components vital to environmental protection such as effective seep capture, waste water treatment, long-term or perpetual water treatment, adaptive management, etc. The facility must be held to these commitments and requirements once operational. A pattern exists at other facilities for regulation and enforcement to be lax, rules ignored, and political pressures. It is important that permitting and regulation be implemented effectively to ensure protection of the resources of northeastern Minnesota and guaranteed by treaty with the United States.

Thank you for the consideration of our comments.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

598 Allissa Stutte  Red Cliff Band of Lake Superior Chippewa Indians  Boozhoo (Greetings) from the Red Cliff Band of Lake Superior Chippewa (Red Cliff). Please accept the following comments in regards to the NorthMet draft air quality permit, draft water quality permit (NPDES/SDS), and draft 401 Certification. Although Red Cliff is not located in the state of Minnesota, we retain hunting, fishing, and gathering rights among other usufructuary rights in the Lake Superior basin. Red Cliff is located at the top of the Bayfield Peninsula in northern Wisconsin and is enclosed by 22 miles of Lake Superior shoreline. In the ceded territory, Red Cliff has a legal and cultural interest in protecting treaty resources for the next seven generations. We, as with other Tribes and Nations, have lived in the Lake Superior basin for hundreds of years, and have relied on Lake Superior, its tributaries, and ecosystems for subsistence and cultural uses. Red Cliff is submitting the following comments.

Background statement for comments to follow. No response needed.

599 Allissa Stutte  Red Cliff Band of Lake Superior Chippewa Indians  Draft Air Quality Permit

I. Fugitive emissions control plan

The fugitive emissions control plan as described in Appendix B of the draft air quality permit does not include the use of fence line or near roadside monitors to aid in determining fugitive emissions concentrations. Although the permit states that a trained observer will monitor site and road dust levels and take appropriate action, PM10 and PM2.5 levels can easily exceed National Ambient Air Quality Standards (NAAQS). This fact coupled with any potential high wind activity, can distribute these emissions over a wide range. Red Cliff requests that the permit includes use of mobile and personal monitors to correctly identify true sources of excess emissions and consequently determine appropriate action.

See air quality permit response to comment 180.

600 Allissa Stutte  Red Cliff Band of Lake Superior Chippewa Indians  2. Section F: Receptors (RE Pathway)

According to MPCA Modeling Practices, Table 11, there is a discrepancy in the meter spacing listed in the manual and the meter spacing described in the permit. We request that this discrepancy be remedied or an explanation provided as to why this is allowable for PolyMet.

See air quality permit response to comment 181.

601 Allissa Stutte  Red Cliff Band of Lake Superior Chippewa Indians  3. Section J: Nearby Sources

In this section, it is stated that some nearby sources were omitted from particulate modeling. We would like to know why these items were omitted and what protocols were used. Please provide information on the policy for removing nearby sources, which permitting actions support this decision.

See air quality permit response to comment 182.

602 Allissa Stutte  Red Cliff Band of Lake Superior Chippewa Indians  4. Plant Site Class I Modeling Protocol

There are several instances where spacing of receptors around property boundaries, within 1 km of the boundary, and from 1.5 km out differs widely from the MPCA’s Air Dispersion Modeling Practices Manual. There is no justification for these extreme exceptions to be made. Please explain this discrepancy.

See air quality permit response to comment 183.
The modeling in the EIS assumes that PolyMet will maintain an inward hydraulic gradient of contaminated groundwater at the flotation tailings basin and at the waste rock stockpiles. The effectiveness of this proposed containment system is defined by this assumption and also by the assumption that if a breach in a containment wall were to occur, the contaminated water would flow into the basin rather than the surrounding environment. Red Cliff is concerned that these claims of PolyMet to maintain a constant inward gradient are both unsupported and unenforceable. This unrealistic assumption does not model the consequences of scenarios in which the gradient may be reversed, such as severe rainfall or snowmelt events, nor does it provide detailed language regarding such scenarios. For example, page 43 of the NPDES/SDS draft permit states that this system (in regards to the Category 1 Waste Rock Stockpile) will take into account “temporary conditions that may result from short-term precipitation or snowmelt events.” However, this language is not specific enough to gain our confidence that a constant inward flow gradient will be maintained and that contaminated groundwater will not flow in the reverse direction into surficial aquifers and groundwater. Therefore, this permit cannot be based solely on the assumption of this system operating without failure, and these claims cannot be supported without more specific language to support the assumptions and enforce any violations of such claims.

The proposed PolyMet project area is located in the Lake Superior Basin, and therefore any water discharges from the project must meet the protective Great Lakes Initiative and Minnesota mercury standard of 1.3 nanograms per liter (ng/L). Attachment 1 under the Wastewater Treatment System (WWTS) section of the NPDES/SDS draft permit document states that the daily maximum limit will be 2,000 ng/L and calendar monthly average limit will be 1,000 ng/L. These limits are 1,000 times more than the Great Lakes Initiative and Minnesota mercury standard of 1.3 ng/L. Red Cliff must ensure protection of treaty resources and requests MPCA to review this monitoring requirement and rewrite to comply with Great Lakes Initiative and Minnesota mercury standards.

The modeling in the EIS assumes that PolyMet will maintain an inward hydraulic gradient of contaminated groundwater at the flotation tailings basin and at the waste rock stockpiles. The effectiveness of this proposed containment system is defined by this assumption and also by the assumption that if a breach in a containment wall were to occur, the contaminated water would flow into the basin rather than the surrounding environment. Red Cliff is concerned that these claims of PolyMet to maintain a constant inward gradient are both unsupported and unenforceable. This unrealistic assumption does not model the consequences of scenarios in which the gradient may be reversed, such as severe rainfall or snowmelt events. However, this language is not specific enough to gain our confidence that a constant inward flow gradient will be maintained and that contaminated groundwater will not flow in the reverse direction into surficial aquifers and groundwater. Therefore, this permit cannot be based solely on the assumption of this system operating without failure, and these claims cannot be supported without more specific language to support the assumptions and enforce any violations of such claims.

The Draft NPDES/SDS Fact Sheet outlines the summary of all Mine Site Groundwater Monitoring. In regards to the Bedrock Monitoring Wells, Red Cliff is concerned about the proposed frequency in which the samples would be taken. As listed in Table 11 on page 53, Group B wells are monitored quarterly and Group C wells are monitored annually. We are concerned that this frequency would not accurately capture potential contamination if the bedrock is breached or fissured due to seismic activity from blasting. Therefore we request that the frequency of this monitoring be increased during all blasting phases to adequately capture any seepages of contaminated waste that may infiltrate groundwater and drinking water.

A total of 10 bedrock water quality monitoring wells will be installed at the Mine Site. The bedrock monitoring wells will monitor groundwater downgradient of various Mine Site features and are located along similar flow paths as the surficial aquifer wells. The bedrock aquifer monitoring wells will be monitored quarterly for Group B parameters and annually for Group C parameters. The parameters and frequency of monitoring for each category of monitoring device depends on the location and specific purpose of the monitoring. In general, monitoring parameters and frequency utilize a tiered approach with more frequent monitoring of key indicator parameters in conjunction with less frequent monitoring of a wider range of parameters. Key indicator parameters with quarterly monitoring includes, at most locations, arsenic, bicarbonate, calcium, chloride, copper, hardness, magnesium, manganese, nickel, pH, nitrate, nitrite, phosphate, potassium, sulfate, total dissolved solids, and water levels. The wider list of parameters to be monitored annually at most locations includes relevant metals and inorganic constituents. The quarterly and annual monitoring frequencies for water quality sampling are sufficient due to the very slow flow velocities of groundwater at the site (on the order of a few to tens of feet per year) and will be sufficient to adequately monitor potential impacts from blasting and other site activities.
<table>
<thead>
<tr>
<th>ID</th>
<th>Author</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>606</td>
<td>Allissa Stutte</td>
<td>4. Annual Groundwater Evaluation Report and Annual Comprehensive Performance Monitoring Evaluation Report</td>
<td>Comment noted. This comment pertains to the 401 certification, not the NPDES permit. No changes were made to the draft NPDES permit in response to this comment.</td>
</tr>
<tr>
<td>607</td>
<td>Allissa Stutte</td>
<td>Draft 401 Certification</td>
<td>Comment noted. This comment pertains to the 401 certification, not the NPDES permit. No changes were made to the draft NPDES permit in response to this comment.</td>
</tr>
<tr>
<td>608</td>
<td>Allissa Stutte</td>
<td>2. Accuracy of wetland delineation</td>
<td>Comment noted. This comment pertains to the 401 certification, not the NPDES permit. No changes were made to the draft NPDES permit in response to this comment.</td>
</tr>
</tbody>
</table>
Allissa Stutte  
Red Cliff Band of Lake Superior Chippewa Indians  
We appreciate the opportunity to comment and thank you for reviewing and considering the above comments.  
Conclusion statement for previous comments. No response needed.

Lisa Fitzpatrick  
Citizen  
Dear MPCA folks, Please protect Minnesota from sulfide mine pollution! Protect our drinking water and beautiful St Louis River & L Superior from Polymet's toxic, long term pollution.  
Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Lisa Fitzpatrick  
Citizen  
The current MPCA draft water pollution permit does not set limits for Polymet's contaminated seepage from waste facilities to streams.  
See response to Comment 610.

Lisa Fitzpatrick  
Citizen  
Currently, the MPCA wouldn't require surface water quality monitoring by the proposed Polymet tailings mud basin. So, if Polymet pollution violates the Clean Water Act, it could be decades before our waters' contamination is detected. Additionally, the Clean Water Act and EPA and Seagrant agencies are all under attack, so it is important to make strong draft standards to protect our waters. Sincerely, Lisa Fitzpatrick  
The permit requires PolyMet to monitor the streams downstream of the tailings basin beginning 28 months after the WWTS begins operation. The 18 months accounts for the period of time that it will take the existing seepage water [that is not the result of the NorthMet project] to fully flow past the monitoring points and exit the watersheds. After 18 months, the stream monitoring required by the permit will monitor the impacts of the NorthMet project. It should be noted, that during this 18 month period, monitoring of the streams will still be required by the Consent Decree that is associated with the former Cliffs Erie tailings basin permit.

Mark Fitzpatrick  
Citizen  
Dear MPCA folks, I urge you to please protect Minnesota from sulfido mine pollution. The MPCA can be the Protector of our drinking water and beautiful St Louis River & L Superior from Polymet's toxic, long term pollution.  
The primary purpose of the surface water monitoring requirements in the draft permit is to assess the overall effect that the project may have on downstream water quality and to ensure that unacceptable impacts are not occurring or will be likely to occur. Surface water monitoring stations are generally located upstream and downstream of the two main project areas (i.e., Mine Site and Plant Site) and downstream of WWTS discharge points. The MPCA has determined during development of the draft permit that the proposed surface water monitoring locations are adequate to evaluate effects from the mine site and that monitoring of SW003 is not necessary.

Mark Fitzpatrick  
Citizen  
The current MPCA draft water pollution permit does not set limits for Polymet's contaminated seepage from waste facilities to streams.  
See response to Comment 610.

Mark Fitzpatrick  
Citizen  
Currently, the MPCA wouldn't require surface water quality monitoring by the proposed Polymet tailings mud basin. So, if Polymet pollution violates the Clean Water Act, it could be decades before our waters' contamination is detected. MPCA--be superheroes! Protect our waters! Sincerely, Mark Fitzpatrick  
Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Mark Fitzpatrick  
Citizen  
The current MPCA draft water pollution permit does not set limits for Polymet's contaminated seepage from waste facilities to streams.  
See response to Comment 610.

Marty Rye  
Superior National Forest  
Dear Mr. Stine  
I am writing to offer our comments on the Minnesota Pollution Control Agency (MPCA) Draft NPDES I SDS Permit and 401 Certification for the PolyMet NorthMet project.  
1. The installation of an additional surface water monitoring site should be strongly considered (retention of SW003) to assist in the evaluation of flow paths and impacts to the Partridge River at closure.  
In light of the comment, MPCA has added a specific “reopener clause” (in addition to the more general one already in the permit) that states that the MPCA may modify the permit, require corrective actions, or take other actions if it determines that the discharge is causing or contributing to a violation of water quality standards. See Permit at S 119.2.

Marty Rye  
Superior National Forest  
2. It appears the MPCA has determined that none of the monitoring points, except SW003 and WS074, have a reasonable potential because these are the only two points that include water-quality based effluent limits (WQBELs). The remainder of the monitoring locations require “monitor-only”. It is unclear how the State will manage the site if required monitoring reveals exceedance of State water quality standards. Historically, mining activity that results in the exceedance of State standards that are not tied to a WQBEL have not been addressed at the permit expiration date to eliminate the exceedance. In order to address measured exceedances in a timely manner the MPCA should include an explicit clause to re-open the permit if an exceedance is measured. Section 6.3.3 of the EPA NPDES Permit Writers' Manual (2010) states: “The permit writer might also include a clause in the permit that would allow the permitting authority to reopen the permit and impose an effluent limitation if the required monitoring establishes that there is reasonable potential that the discharge will cause or contribute to an excursion above a water quality criterion.”
618  Marty Rye  Superior
  National Forest  3. The MPCA NPDES/SDS Permit requires raw data, analyses, and multiple reports. This submitted information is directly tied to the assumed project effects estimated in the Final Environmental Impact Statement (FEIS). It is unclear how this information will be conveyed to the public beyond either (1) publication when the considered change is large enough to justify a modification to the permit or (2) by individual request through the Minnesota Government Data Practices Act. The MPCA provides the information or data when queried, but the public does not necessarily know when the information is submitted and how it is incorporated into the management of the project effects to protect the public interest. Based upon these considerations, the State of Minnesota, and specifically the MPCA should develop an explicit communication plan and portal for the public and other resource managers to access data, reports, and analysis results through the life of the PolyMet NorthMet project.

All monitoring data is reported to the MPCA on monthly Discharge Monitoring Reports (DMRs) which are posted online on the MPCA website (available at https://www.pca.state.mn.us/quick-links/eda-surface-water-data). Annual report submittals are also available by request to the agency. Program-wide, the MPCA does not maintain websites to post report submittals from permitted facilities.

619  Marty Rye  Superior
  National Forest  4. Data collection appears to be solely calendar-based. In order to gain additional insight, the Monitoring Plan should also include efforts to ensure sampling occurs during a variety of hydrologic conditions such as baseflow, spring melt, rainfall events, overbank events and these should be analyzed accordingly.

MPCA considered the comment but did not change the permit. Monthly monitoring of surface water stations is sufficient to capture variable hydrologic conditions over the life of the permit.

620  Marty Rye  Superior
  National Forest  5. A photograph of the Partridge River at the time of surface water sampling (upstream and downstream) is helpful in discerning the local hydraulic condition at the time of sampling (ice cover, overbank, debris, etc.) and should be considered to be included in the data submittal to the MPCA.

MPCA considered the comment but did not change the permit. Nothing in rule requires a photograph of the sample site and photo documentation of sample sites is not required in permits program-wide.

621  Laura Gauger  Deer Tail
  Scientific  In February 2018 I submitted written comments to the Minnesota Pollution Control Agency and Minnesota Department of Natural Resources regarding draft permits for the proposed PolyMet Mine. As a result of speaking to MPCA's Stephanie Handeland and Richard Clark at the February 2018 public hearing in Duluth, there are several additional documents that I would like to submit into the record, along with observations regarding those documents made by Dr. Robert E. Moran (Golden, CO). Please see the attached report that constitutes the comments I hereby submit to MPCA on behalf of Deer Tail Scientific (Duluth, MN).

Background statement for comments to follow. No response needed.

622  Laura Gauger  Deer Tail
  Scientific  The comment included an attachment of a report on the Flambeau Mine.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

623  Rory Carlson  Duluth Chapter o
  f the Izaak Walto
  n League  Dear Sir/Madame, I believe the state of MN is making a grave mistake in allowing sulfide mining in MN. The risk/reward ratio does not make this a win for the people of MN as well as for future generations. A few jobs for 20 to 30 years does not risk polluting out watershed for generations.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

624  Rory Carlson  Duluth Chapter o
  f the Izaak Walto
  n League  If this mining is allowed, Polymet should be required to put 25% of the profits into a fund to mitigate potential future problems. After 100 (or 500?) years if the mining poses no future risk, the funds should be distributed to all Minnesotans. Thank you for your time, Rory

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

625  Bruce Johnson  Citizen  These comments are in response to the Minnesota Pollution Control Agency (MPCA)’s PolyMet NorthMet Draft NPDES/SDS permit announcement for comments January 31, 2018. The mine site is still not owned by the project proponent. The project proponent still has no legal right to construct facilities at mine site. The mine site is subject to legal decisions that put proponent’s access to the surface for the purpose of mining at risk. If this risk results in no access for PolyMet’s mining, this MPCA action for public comment would be a waste of time, money and resources, and so also would any further action by state agencies on permits. The same is true from the beginning of the project. If PolyMet does not obtain access to the surface of the mine property, this EIS has been a waste. Minnesota Department of Natural Resources (MDNR) should have seen this in February 2005 and stopped the project when the proposer laid the environmental assessment worksheet (EAW) information in its lap, and MPCA should also have seen this when it received its first completed Air Emissions Risk Assessment from PolyMet in February 2005 (PolyMet submitted its first AERA to MPCA in February 2005 as a part of the air permit process according to PolyMet’s Technical Report on the NorthMet Project, submitted to Securities Exchange Commission, Oct. 2006.)

Subsequent to the comment being submitted, the land exchange process has been completed. PolyMet now owns the property rendering the comment moot.
Nonetheless, under the provisions of the Minnesota Environmental Rights Act (Minn. Stat. Ch. 116B), we also make these comments to protect Minnesota's air, water, land, and other natural resources from pollution and destruction. We comment here on the MPCA NPDES/SDS permit to inform and notify MPCA, MDNR and responsible federal agencies of our identification of numerous illegalities identified in the Final Environmental Impact Statement (FEIS) that is the lawful basis for the NPDES/SDS Permit. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The state agencies, the Responsible Government Unit MDNR and MPCA, use the FEIS to inform “permitting and approval processes and describes mitigation measures that may be available”... Background statement for comments to follow. No response needed.

...federal agencies U.S. Army Corps of Engineers (USACE) and the US Forest Service (USFS) use the FEIS to evaluate “the potential to significantly affect the quality of the human environment” for their subsequent major federal action permitting and approval processes (FEIS, p. ES-3). The U.S. Environmental Protection Agency (USEPA) and the Minnesota Department of Health (MDH) also had critical roles in review of the FEIS. All of these agencies knew, or should have known, that is the first copper/nickel/cobalt platinum group elements mine in Minnesota, and that this mine differs from other Minnesota and regional mines in many ways reasonably expected to be potentially significant for human and ecological health. Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The people of Minnesota expect and deserve an excellent job of evaluating impacts on the human and ecological environment, and they did their parts in providing their scientific and knowledgeable reviews through commenting. Federal and state agencies are in legal violation when they ignored the substance of many of these comments. Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Not providing many of the cited final documents forming the basis for the FEIS and MDNR Record of Decision for over a decade are also legal violations under the Administrative Procedure Act (APA), National Environmental Policy Act (NEPA), and associated agency-specific regulations governing the activities of the agencies responsible for the FEIS, for review of the FEIS, and empowered to act as safe-guards against state and federal malfeasance. Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Since federal and state laws, rules or requirements are violated as described below, especially crimes under Uniform Code of Military Justice (UCMJ), then Minnesota cannot proceed with any permitting until such time as federal and state infractions, illegalities and/or crimes are adjudicated and remedied. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The following violations of environmental laws and regulations by the Co-Leads and USEPA invalidate the FEIS and preclude issuance of any permits. Co-leads’ and EPA’s oversights, omissions and errors, irregularities, inaccuracies, incompleteness outright misuse and avoidance of environmental laws and regulations are described. We conclude the previous and following violations, alone or together, are so egregious that they constitute bad faith, waste, fraud and abuse in an effort to suppress knowledge of impacts and predetermine the outcome of the EIS. The regulation 40 CFR 1508.18 specifies that Major federal actions include the circumstance where the responsible officials fail to act and that failure to act is reviewable by courts or administrative tribunals under the Administrative Procedure Act or other applicable law as agency action. Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

The commenter lists aspects of the EIS that are in violation of regulations. The commenter states that the violations show there is no basis to proceed with permitting. The violations are included in the attachment, pages 2-28. Portions of the violations that specifically mention MPCA are delineated. Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
634 Bruce Johnson Citizen HUMAN ENVIRONMENT
The information basis for the NPDES permit application is supposed to be the FEIS. All data within the application is a result of the FEIS. The FEIS is fatally flawed, as a result information on the permit application is also fatally flawed, thus the issuance of a NPDES permit based on the FEIS cannot be issued.
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

635 Bruce Johnson Citizen Violation: The Co-Leads improperly used the arsenic Maximum Concentration Level (MCL) of 10 ug/l as a ground water evaluation criterion to indicate acceptable risk at NorthMkt. In doing so, Co-Leads violated 40 CFR 141.11, "The maximum contaminant level for arsenic applies only to community water systems." The reason for this regulation is that it would be too easy to minimize the potential dangers associated with arsenic. The regulatory arsenic risk level is the MCL Goal of 0.0 [zero] - there is no safe level of arsenic.
It is unlikely these violations arise out of violation of 40 CFR 1507.2 Agency capability to comply. All of the people involved in evaluation criteria selection, MDNR, USACE, USFS, and PolyMet's advocate Barr, excluding the Tribes who were forbidden to participate in that group, ignored MDH and private party comments requesting evaluation criteria that reflected actual risk numbers pursuant to current science and the lowest statutory protective requirements, which for ground water is zero pollution by state statute.
Law/ Regulation /Policy violated: 40 CFR 141, 141.11; arsenic MCL, MCGI promulgated.
Minn. Stat. 7060.0600 Subp. 2. Ground water pollution is not allowed except by variance. Minn. Stat. Ch. 116D.03, Subd. 2 utilize a systematic, interdisciplinary approach, consultation with persons in appropriate fields of specialization to ensure the latest and most authoritative findings. Therefore, the permits cannot be issued.
The comment predominantly is an objection to an evaluation process for arsenic utilized in the EIS and an opinion that the EIS is therefore inadequate. However, the EIS has been deemed adequate. To the extent the comment relates to permit requirements related to arsenic, the permit has been revised to include an enforceable operating limit for arsenic in the WWTS discharge. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control wastewater and runoff from the facility thereby minimizing impacts related to arsenic. The effectiveness of these controls were evaluated in the EIS and the water quality permit requires their installation/operation. See response to Comment 510.

636 Bruce Johnson Citizen Violation: The Co-Leads failed to identify appropriate risk-based numbers for all evaluation criteria with the MCL as the origin.
Law/ Regulation /Policy violated: applicable promulgating regulations for the MCLs.
Therefore, the permits cannot be issued.
Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

637 Bruce Johnson Citizen Violation: The inappropriate use of the ground water and surface water evaluation criteria results in deceiving the public and FEIS and subsequent decision-makers into thinking these numbers reflect health risk levels and that it is acceptable to pollute up to the MCL or other standards or health-based numbers; therefore the Co-Leads violated 40 CFR 1502.24 that calls for professional and scientific integrity.
Law/ Regulation /Policy violated: APA Sec. 10 Agency action, findings, and conclusions are unlawful when found to be arbitrary, capricious, and abuse of discretion, or otherwise not in accordance with law; without observance of procedure required by law; unsupported by substantial evidence, and other conditions.
40 CFR 141, 141.11 promulgated arsenic MCL, MCGI.
7060.0600 Subp. 2 No pollution in the ground water is allowed without a variance. 40 CFR 1502.24 Agencies shall insure the professional integrity, including scientific integrity. Minn. Stat. Ch. 116D.03, Subd. 2 utilize a systematic, interdisciplinary approach, consultation with persons in appropriate fields of specialization to ensure the latest and most authoritative findings. Therefore, the permits cannot be issued.
Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

638 Bruce Johnson Citizen Violation: Co-Leads did not scope in a requirement for technical analysis of all reasonable releases, direct and indirect, to water for the project, making any and all risk assertions about water contamination and health risks invalid.
Law/ Regulation /Policy violated: 40 CFR 1502.24 Agencies shall insure the professional integrity, including scientific integrity.
40 CFR 1506.5 (a)(c) Agencies and federal officials are responsible for independent evaluation, scope and content of the EAW and entire EIS respectively. Therefore, the permits cannot be issued.
Comment noted. The draft permits were developed according to current state and federal law. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

639 Bruce Johnson Citizen Violation: MDNR, USACE and USFS failed to determine the risk to health in all media (surface water, ground water, soils, sediments) by the use of available standard human health assessment tools, and in so failing did not enable actions that protect, restore, and enhance the environment.
Law/ Regulation /Policy violated: 1501.0 actions that protect, restore, and enhance the environment must be enabled by the NEPA process. Minn. Stat. Ch. 116D.03, Subd. 2 utilize a systematic, interdisciplinary approach, consultation with persons in appropriate fields of specialization to ensure the latest and most authoritative findings. Therefore, the permits cannot be issued.
Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Contrary to what is implied in the comment, the project does not discharge to waters leading to Colby Lake. The WWTS discharges, in part, to Second Creek which enters Partridge River below Colby Lake. In addition, the WWTS is designed to remove arsenic and lead to levels below applicable water quality standards. The permit has been revised to include enforceable Operating Limits for arsenic, lead and mercury (among other parameters) set at the respective water quality standard. The same engineering controls described in the response to comment 198 for mercury will also control project wastewater and runoff for arsenic and lead. The effectiveness of these controls were evaluated in the EIS and the water quality permit requires their installation/operation.

Therefore, the permits cannot be issued.
<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Title</th>
<th>Text</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>643</td>
<td>Bruce Johnson</td>
<td>Citizen</td>
<td>Violation: In its review of Co-Leads’ proposed action under Section 309 of the Clean Air Act, USEPA failed to identify environmental justices conflicts between the Co-Leads and the Bands or even to read the Bands comments which indicated the issues, so it failed to ensure that the agencies have fully analyzed environmental effects on minority communities and low-income communities, including human health, social, and economic effects, and in defining the area of potential effects. In human health, USEPA failed to review the permitting screening AERA for this complex project, and in so reviewing USEPA should have found there was no final complete AERA to review. Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses, April 1998. Therefore, the permits cannot be issued.</td>
<td></td>
</tr>
<tr>
<td>644</td>
<td>Don Arnosti</td>
<td>Conservation</td>
<td>We submit these comments by the Minnesota Division of the Izaak Walton League of America on the PolyMet Corporation's Draft water permit and proposed 401 Water Quality Certification on behalf of our members and supporters in Minnesota. The Izaak Walton League is a 96-year old conservation organization with a mission to conserve, restore, and promote the sustainable use and enjoyment of our natural resources, including soil, air, woods, waters, and wildlife. Our membership includes many who have devoted their life professionally to the management of natural resources, as well all of us who use and enjoy our public lands in many forms throughout the year. We are very familiar with the lands and waters of the region of the proposed mine site itself. Some of our members and supporters live directly downstream, harvesting and eating wild rice and fish from the waters to be affected by the discharges from this proposed mine.</td>
<td></td>
</tr>
<tr>
<td>645</td>
<td>Don Arnosti</td>
<td>Conservation</td>
<td>We are deeply disturbed by this proposed Minnesota Pollution Control Agency (MPCA) Water Quality Permit– which has no enforceable discharge standards. The MPCA conducted a reasonable potential analysis and determined there is no reasonable potential to cause or contribute to the exceedance of a water quality standard. Therefore, no WQBELs are required in the permit. The MPCA included TBELs in accordance with 40 CFR part 440. In addition to TBELs, the MPCA included Operating Limits for sulfate, copper, arsenic, cobalt, lead, nickel and mercury. The Operating Limits and TBELs in the permit are enforceable and an exceedance of either the TBEL and/or Operating Limit is a violation of the permit. In addition, to address concerns regarding the permit being protective of water quality, the MPCA has also added language to the permit stating the discharge of treated wastewater from the WWTS must not violate state water quality standards. A Whole Effluent Toxicity Limit of 1.0 TUc has also been added to the permit.</td>
<td></td>
</tr>
<tr>
<td>646</td>
<td>Don Arnosti</td>
<td>Conservation</td>
<td>Further we find the water quality anti-degradation review overlooks important shortcomings in the wetland replacement plan proposed in the Permit to Mine. We also find inadequate the 401 analysis that depends upon a flawed draft DNR permit to mine that water quality will be protected with this mine plan and these permits. This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.</td>
<td></td>
</tr>
<tr>
<td>647</td>
<td>Don Arnosti</td>
<td>Conservation</td>
<td>The mining plan as presented does not use the best practices possible to protect Minnesota’s waters and other natural resources. This company, instead, proposes an off-the-shelf approach to accessing their minerals, choosing to brush aside the use of underground mining to reduce the impact to wetlands, reuses an old tailings basin structure designed to leak for disposal of filter waste products instead of using better waste disposal methods, does not propose to build an advanced water treatment facility until the final year of operations, and uses non-credible assumptions to wave away threats to groundwater which will flow both north into the Boundary Waters watershed, and south to affect waters draining to Lake Superior. Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>Commenter</td>
<td>Role</td>
<td>Text</td>
<td>Response</td>
</tr>
<tr>
<td>------</td>
<td>--------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>648</td>
<td>Don Arnosti</td>
<td>Conservation Director, Izaak Walton Lea gue</td>
<td>We can do better. They can do better. We call upon the Minnesota Pollution Control Agency to revise this permit to have enforceable discharge standards, including 10 ppm sulfate, and to withhold 401 water quality certification until the mine plan is further refined to reduce water quality impacts. PolyMet offered to resolve outstanding issues related to sulfate and wild rice by incorporating advanced wastewater treatment into the project design. While PolyMet volunteered to do this, compliance with the permit operating limit is not voluntary. The operating limit of 10 mg/L for total sulfate is an enforceable permit limit. If the operating limit for sulfate is exceeded, it will be a violation of the permit. To address concerns regarding the permit being protective of water quality, the MPCA has also added language to the permit stating the discharge of treated wastewater from the WWTS must not violate state water quality standards.</td>
<td></td>
</tr>
<tr>
<td>649</td>
<td>Don Arnosti</td>
<td>Conservation Director, Izaak Walton Lea gue</td>
<td>This draft water discharge permit and 401 water quality certification present a selfish view of our present generation of Minnesotans: take the jobs and get the metals now, leave the hard regulatory decisions and inevitable environmental contamination to later generations. We see a shell mining company with zero operating experience, Poly Met, as the applicant, financed by Glencore, an international mining company with a sorry trail of labor and environmental abuse associated with their operations on five continents. We fully expect Glencore to buy out and take over operations once the permit is issued to their front company – Poly Met Mining, Inc. PolyMet offered to resolve outstanding issues related to sulfate and wild rice by incorporating advanced wastewater treatment into the project design. While PolyMet volunteered to do this, compliance with the permit operating limit is not voluntary. The operating limit of 10 mg/L for total sulfate is an enforceable permit limit. If the operating limit for sulfate is exceeded, it will be a violation of the permit. To address concerns regarding the permit being protective of water quality, the MPCA has also added language to the permit stating the discharge of treated wastewater from the WWTS must not violate state water quality standards.</td>
<td></td>
</tr>
<tr>
<td>650</td>
<td>Don Arnosti</td>
<td>Conservation Director, Izaak Walton Lea gue</td>
<td>Anti-degradation assessment is inadequate and fails to support the conditions for 401 certification. The wetlands replacement plan provided in the DNR draft permit to mine is inadequate and no 401 certification should be issued because the state anti-degradation standards are not met, until these inadequacies are addressed. This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.</td>
<td></td>
</tr>
<tr>
<td>651</td>
<td>Don Arnosti</td>
<td>Conservation Director, Izaak Walton Lea gue</td>
<td>1) The proposed wetland replacement plan is inadequate and makes no effort to replace wetlands type-for-type as called for in the Minnesota Wetlands Conservation Act. The Application notes the destruction of wetland types 2, 3, 4, 6, 7, and 8, while the replacement from Ecosystem Investment Partners (EIP) bank at Sax-Zim bog notes only type 8 credits. More effort must be made to mitigate with type-for-type replacement. This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.</td>
<td></td>
</tr>
<tr>
<td>652</td>
<td>Don Arnosti</td>
<td>Conservation Director, Izaak Walton Lea gue</td>
<td>3) No effort is required of the permittee to minimize the indirect impacts to wetlands – as required by federal and state law and rule. The permittee should be required to adopt a plan to minimize the water drawdown in wetlands surrounding the mine footprint. Instead, it is assumed that the impacts of twenty years of dewatering will be reversed upon mine closure. This is not acceptable, as during years of drawdown, the plant community is likely to change radically, resulting in permanent alteration to the hydrology and biology of the area. Minimization of partial drainage of wetlands must be under a specific plan and must be required in permit. This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.</td>
<td></td>
</tr>
</tbody>
</table>
North River Spruce Swamp is a rare natural community as determined by the DNR’s natural heritage program under Minn. R. 8420.0515, subpart 3. There are 225 acres of FPn62 – Northern Rich Spruce Swamp located at the Mine Site. Were this any other applicant, subject to rules under the Board of Water and Soil Resources, the permit must be denied to protect this rare natural community. Minnesota Rules chapter 8424.0515, Subpart 3 reads: “Rare natural communities. A replacement plan for activities that involve the modification of a rare natural community as determined by the Department of Natural Resources’ natural heritage program must be denied [emphasis added] if the local government unit determines that the proposed activities will permanently adversely affect the natural community.” Instead, the permit allows for the applicant to contest the classification of this as a rare natural community. Unacceptable! Any other company or individual in Minnesota would have to follow this rule, but DNR worked with the legislature to obtain a special law overturning a court decision (passed just last year) to regulate the mining industry under the state wetlands law as it sees fit.

This is another case of the DNR acting as a mining promoter, rather than a regulator to protect the public interest. It was the DNR’s own ecological experts who determined this classification – long before PolyMet applied for this permit. Stand behind your own experts – not “hired guns” for a company looking to exploit the public for private gain. Deny this proposed wetland impact and require the applicant to reconfigure their mine plan to leave this rare community intact.

Mine operations will result in uncontrolled discharges to north-flowing watersheds. The water discharge permit fails to anticipate this, and the 401 certification fails to analyze this situation as well. Since groundwater in this geologic setting inevitably flows to surface waters, these seepages must be considered surface water discharges. The MPCA evaluated the monitoring needed at the facility, including that needed to ascertain whether a north flow may occur in the future, in the development of the permit.

The purpose of the north flow path wells is to monitor the hydrogeologic conditions such that it can be confidently predicted whether a north flow path may develop in the future. This can be accomplished by monitoring current and future groundwater elevations along the potential north flow paths. The Permittee is required to provide an assessment on the potential for a north flow path in the bedrock or surficial aquifer north of PolyMet’s property boundary at the Mine Site. The assessment must provide discussion on whether or not a potential for a north flow path exists and the logic for that determination. If the potential for a north flow path exists, the Permittee must include a plan and schedule for MPCA review and approval for adaptive management or mitigation to prevent northward groundwater flow.
| Page | Don Arnosti Conservation Director, Izaak Walton League | The proposed groundwater collection system is unproven, untested, and unlikely to perform as forecast — collecting over 90% of groundwater seepage for treatment...into the indefinite future? Particularly, since it is unclear whether the groundwater will all flow as predicted to the south, for collection and treatment. Given the proposed final profile of the PolyMet pit to be several hundred feet above the final profile of the Peter Mitchell taconite pit to the north, this assumption is unlikely. The Modflow modeling conducted for the EIS indicated that the capture efficiency for both systems would be in excess of 90% and the subsequent GoldSim modeling indicated that degree of capture would be sufficient to protect downgradient surface and ground water quality. See FEIS at S-7. The draft permit requires that 13 pairs of groundwater monitoring devices (wells and piezometers) at each of the seepage collection systems be monitored on a monthly basis to ensure that the necessary inward gradient is being maintained. The system consists of one of the pair located just inward of the hydraulic barrier and one just outward of the barrier. The primary purpose of the paired devices is to monitor for the presence and maintenance of an inward hydraulic gradient across the barrier which is accomplished by simultaneous measuring of the water table elevation of the two devices. If there is an inward hydraulic gradient, flow will not move out through the barrier. The draft permit further requires that the performance of the capture/containment systems and the adequacy of the monitoring network be assessed on an annual basis. If an inward gradient is not maintained, the Permittee is required to take corrective actions immediately to restore the inward gradient. If the inward gradient is not restored within 14 days, it is considered a violation of the permit. Furthermore, the draft permit requires annual assessment of the engineering controls and an assessment on the suitability of the in-place monitoring network for that purpose. The comment does not provide a basis to dispute that the groundwater collection system is unproven and that the wells are sufficient to evaluate the inward gradient. | | Don Arnosti Conservation Director, Izaak Walton League | The proposed permit condition is another shirking of regulatory duty: "issue the permit now, and figure out the solution later."
Draft Permit Condition 66: "Prior to blasting within any mine pit footprint, the Permittee must submit a report and supporting data assessing the potential for current and future northward groundwater flow at the Mine Site. If the DNR concludes that this report, or other monitoring data, indicates a reasonable likelihood of northward groundwater flow at the Mine Site, then the DNR will require adaptive management or mitigation."
This sort of information must be submitted, analysed and made available for public review and comment prior to permitting or 401 certification. The purpose of the north flow path wells is to monitor the hydrogeologic conditions such that it can be confidently predicted whether a north flow path may develop in the future. This can be accomplished by monitoring current and future groundwater elevations along the potential north flow paths. The Permittee is required to provide an assessment on the potential for a north flow path in the bedrock or surficial aquifer north of PolyMet’s property boundary at the Mine Site. The assessment must provide discussion on whether or not a potential for a north flow path exists and the logic for that determination. If the potential for a north flow path exists, the Permittee must include a plan and schedule for MPCA review and approval for adaptive management or mitigation to prevent northward groundwater flow. Furthermore, the draft permit requires annual assessment of the engineering controls and an assessment on the suitability of the in-place monitoring network for that purpose. The comment does not provide a basis to dispute that the groundwater collection system is unproven and that the wells are sufficient to evaluate the inward gradient. The requirements for groundwater monitoring are effective upon issuance of the permit and are not dependent on blasting within the mine footprint. The Draft Permit Condition 66 cited in the comment is a DNR Permit to Mine condition and is regulated by the DNR. | | Don Arnosti Conservation Director, Izaak Walton League | Again and again, the DNR draft permit to mine uses so-called "adaptive management" as in the groundwater issue, above, while deferring difficult regulatory decisions to the future. The MPCA used available data and reports when developing the permit. Adaptive management is commonly used in NPDES permitting to address issues as they arise. The incorporation of adaptive management as a failsafe does not invalidate the requirements for compliance, it allow a more rapid response in case of a problem. Adaptive management is regularly used in complex environmental scenarios to ensure standards are met while allowing flexibility. In this case, the underlying requirement must be met; the adaptive management is intended to develop strategies to maintain compliance. |
658 Don Arnosti Conservation Director, Izaak Walton Lea
gue The MPCA cannot use such vague assurances of future monitoring and regulatory responses to avoid careful analysis of actual threats to water quality under Minnesota's anti-degradation standards. This is unacceptable. It is a shirking of responsibility by regulators, and puts an undue burden on future generations of Minnesotans to figure out a solution to a problem we are about to create for them. This draft permit should be denied, because it fails to specify specific remedies for problems that are known, if not fully quantified or described, today. Passing such problems on to future generations is unacceptable. We can do better than this!
Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

659 Don Arnosti Conservation Director, Izaak Walton Lea
gue Disposal of water filtration membrane backwash in the leaky tailings basin poses a high risk for water quality in the future, when, as DNR experts forecast, the risky tailings dam inevitably fails. Disposal of the small volume of membrane backwash into the FIB will not affect the ability of the seepage containment system to capture or for the WWTS to treat the seepage that is captured. Dam safety issues are address by the DNR Dam Safety permit.

660 Don Arnosti Conservation Director, Izaak Walton Lea
gue We object to the proposed filtration membrane wash waste storage that does not use best practices to assure that the waste is stored in a manner that does not pose a risk to public resources or people for the centuries required. The proposed tailings basin will result in a "permanent" 900-acre lake perched 250 feet above the surrounding landscape resting on old taconite tailings and uses geomorphologically unstable formations which will require constant monitoring and maintenance through the centuries. Numerous experts including the DNR's own dam safety experts have cautioned against this design. The Dam Safety [Division] has numerous concerns with this project because the tailings dams must function properly for an extended period of time - we've heard on the order of 900 years. Our first concern is whether the PolyMet tailings will form a structurally sound base to support the perimeter dams. Our second concern is that the proposed wet cap will significantly increase the potential for a dam failure, and will result in costly monitoring and maintenance over the life of the project (including monitoring costs to DNR for 900 years). PolyMet must find another disposal option for their filtration wastes before any consideration can be given to permitting this risky operation.
Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit: No changes were made to the draft permit in response to this comment.

661 Don Arnosti Conservation Director, Izaak Walton Lea
gue For all of the above-mentioned deficiencies we strongly urge the MPCA to withdraw the draft water quality permit and 401 water quality certification unless and until a better mine plan is submitted by Poly Met or any future applicant wishing to mine sulfide ores in Minnesota that can truly meet the requirements of law, which require non-degradation of our precious water resources. Thank you for your consideration of our comments.
Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

662 Don Arnosti Conservation Director, Izaak Walton Lea
gue "[The] Dam Safety [Division] has numerous concerns with this project because the tailings dams must function properly for an extended period of time — we’ve heard on the order of 900 years. Our first concern is whether the PolyMet tailings will form a structurally sound base to support the perimeter dams. Our second concern is that the proposed wet cap will significantly increase the potential for a dam failure, and will result in costly monitoring and maintenance over the life of the project (including monitoring costs to DNR for 900 years). PolyMet must find another disposal option for their filtration wastes before any consideration can be given to permitting this risky operation.
Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit: No changes were made to the draft permit in response to this comment.

663 Don Arnosti Conservation Director, Izaak Walton Lea
gue For all of the above-mentioned deficiencies we strongly urge the MPCA to withdraw the draft water quality permit and 401 water quality certification unless and until a better mine plan is submitted by Poly Met or any future applicant wishing to mine sulfide ores in Minnesota that can truly meet the requirements of law, which require non-degradation of our precious water resources. Thank you for your consideration of our comments.
Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

664 Phyllis Saliin Citizen I am totally opposed to the Polymet Mine Water Quality Permitting. Minnesota's lakes, rivers, and streams are too valuable to our survival and we cannot afford to threaten them in any way by a potential sulfide mining disaster with its toxic metal contaminants. It has terrible consequences for our health, wildlife, vegetation, and our state's financial health.
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

665 Phyllis Saliin Citizen The cost of cleanup would be immense. Sulfide mining companies have a poor track record. They file for bankruptcy and leave the cost to the communities that they have destroyed.
Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.
To supplement the administrative record, PolyMet includes two additional documents relating to the Cross-Media Analysis. PolyMet appreciates that MPCA and its staff have invested substantial effort in developing the draft NPDES/SDS permit and preliminary determination concerning the Clean Water Act Section 401 water quality certification (401 certification) for the NorthMet Project (Project). These comments address three matters: (1) the Cross-Media Analysis prepared by PolyMet, which is referenced in both MPCA's draft NPDES/SDS permit fact sheet and its draft 401 certification fact sheet; (2) MPCA's preliminary surface water antidegradation review in support of the draft NPDES/SDS permit; and (3) two conditions in the draft NPDES/SDS permit.

PolyMet appreciates that MPCA and its staff have invested substantial effort in developing the draft NPDES/SDS permit, draft 401 certification, and associated permit documents. PolyMet will remain available to provide additional information as part of the permitting process. If MPCA has any questions regarding these comments or any other matter, please do not hesitate to contact me at 218-461-7746 or ckearney@polymetmining.com.

To more extensively consider the effects of the NorthMet Project (Project) on water quality, Poly Met Mining, Inc. (PolyMet) conducted a study that evaluated the effects of Project air emissions, wastewater discharges, and other Project actions on surface water quality. To inform the Minnesota Pollution Control Agency's (MPCA) understanding of the inter-relationship between different media (e.g., air and surface waters), the agency relied, in part, on this study, which is generally referred to as the Cross-Media Analysis. A complete copy of this study is included in the MPCA's administrative record for the NPDES/SDS permit and Clean Water Act Section 401 certification. The Cross-Media Analysis was informed by an extensive process overseen by the MPCA. For more than a year, a working group of interdisciplinary experts from the MPCA, Minnesota Department of Natural Resources, and PolyMet (including its outside experts) evaluated the underlying science and assumptions for the Cross-Media Analysis and analyzed the results of extensive modeling and data collection. When the Cross-Media Analysis was complete, MPCA then submitted it for independent expert peer-review. This process ensured that MPCA had the necessary technical information to inform its decision-making and that the agency had the opportunity to independently evaluate the data, methodology, assumptions, analysis, modeling, and conclusions developed for permitting purposes.

The Cross-Media Analysis demonstrates that the Project is not expected to cause or contribute to violations of any water quality standards or to cause any adverse impacts to human health, either in the immediate vicinity of PolyMet's facilities or in any waters farther downstream in the St. Louis River watershed. These determinations are founded on a sophisticated analysis of the overall impacts of air emissions, wastewater discharges, and other Project actions on mercury, sulfate, and metals loading and concentrations in surface waters in the immediate vicinity of the Project and the downstream locations. MPCA's staff memoranda reviewing the Cross-Media Analysis were consistent with these technical determinations. Accordingly, MPCA, in its fact sheet for the draft Section 401 certification, specifically summarized several important conclusions from the Cross-Media Analysis, including that (1) Project-related sulfur deposition is not expected to result in any measurable changes in concentrations of mercury in surface waters or fish tissues; and (2) no exceedances of water quality standards are expected due to any Project air emissions.

To supplement the administrative record, PolyMet includes two additional documents relating to the Cross-Media Analysis with these comments: • Overview of Cross-Media Analysis: Exhibit A is a high-level summary of the Cross-Media Analysis's purpose, design, and results. • Representative Scenario: Exhibit B includes a supplemental evaluation that PolyMet conducted using different assumptions about physical and geochemical processes relevant to the release of sulfur and metals. PolyMet explained in the Cross-Media Analysis why it believes the assumptions in the study, while understandable for the study's purpose, were very conservative in several instances, causing the Cross-Media Analysis to overestimate potential Project impacts. This supplemental evaluation is referred to as the "Representative-Scenario" evaluation, which includes assumptions more representative of actual Project conditions.

The results of the Representative-Scenario evaluation demonstrate the protectiveness of the Cross-Media Analysis. It also provides further support for the conclusions in the Cross-Media Analysis that the Project will not cause or contribute to any violations of applicable water quality standards or result in any adverse effects to human health.

If MPCA has any questions regarding these comments or any other matter, please do not hesitate to contact me at 218-461-7746 or ckearney@polymetmining.com.
Under Minnesota Rules, chapters 7050 and 7052, MPCA conducted an antidegradation review in connection with PolyMet’s applications for an NPDES/SDS permit and a Section 401 certification. In accordance with those rules, MPCA issued its preliminary determination on antidegradation, concluding as follows: [the] water quality degradation caused by the proposed project cannot be avoided, but will be prudently and feasibly minimized, existing and beneficial uses will be protected, and the proposed activity is necessary to accommodate important economic or social changes in the geographic area in which degradation of existing high water quality is expected. Therefore, the MPCA has made a preliminary determination that the project will satisfy antidegradation standards in Minnesota Rules 7050.0265, 7052.0300, and 7052.0330.2

Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

In describing the general purposes of Minnesota’s recently-adopted antidegradation rules, which MPCA has applied to the Project, MPCA explained: “[t]o summarize, antidegradation provisions are a decisionmaking process a state or authorized tribe uses to determine whether and to what extent water quality may be lowered.” The U.S. Environmental Protection Agency (EPA) has stated that while the Clean Water Act provides a state “with discretion to permit activities that degrade water quality,” the state at a minimum must maintain “the level of quality identified in [its applicable] water quality standards as being necessary to support the water body’s existing uses.” The focus on the protection of existing beneficial uses centers the antidegradation analysis on determining the extent to which the water quality for certain waters can be appropriately lowered based on existing conditions of the water, applicable water quality standards, available alternatives, and broader economic benefits.

Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Both PolyMet and MPCA relied on the foregoing principles in developing their antidegradation evaluations for the company’s applications for an NPDES/SDS permit and Section 401 certification. PolyMet agrees with MPCA’s conclusion that the Project will not impair any beneficial uses of receiving or downstream waters and that the Project satisfies all applicable antidegradation requirements. PolyMet does note that its analysis differed in certain respects from that of MPCA and that some elements of MPCA’s framework may not be necessary for any subsequent permitting processes (e.g., permit renewals). These differences do not affect MPCA’s ultimate conclusion that the Project meets all antidegradation requirements, but are helpful to understand as MPCA responds to public comments and finalizes the NPDES/SDS permit and Section 401 certification.

Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Use of FES-Model and Design-Model Concentrations PolyMet proposed in the antidegradation evaluations in support of its NPDES/SDS permit and Section 401 certification applications that MPCA utilize the treatment target concentrations for the Project’s waste water treatment system (WWTS) as developed in the models for the Final Environmental Impact Statement (FEIS). To establish that these FES-model concentrations in fact will be achievable in practice, PolyMet also provided MPCA with geochemical modeling results of its discharges from its preliminary design of the WWTS for corroborative purposes (referred to as the “design-model concentrations”). MPCA considered in greater detail the design-model concentrations in its antidegradation analysis and ultimate conclusion that existing beneficial uses would be maintained. PolyMet believes that the treatment targets (generally the FES-model concentrations) provide the best foundation for the antidegradation review because the Project’s actual effluent quality must meet all of those targets under the terms of the NPDES/SDS permit. More specifically, PolyMet believes using the treatment targets as the basis of the antidegradation analysis is more protective of the environment because, generally speaking, the FES-model concentrations showed higher concentrations of various parameters in the treated water discharge, thereby ensuring that all potential degradation was considered in the regulatory review.

Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
678 Christie Kearney Polymet Mining

This difference in how MPCA and PolyMet weighted the design-model concentrations in their respective antidegradation analyses is ultimately not significant for purposes of issuing the NPDES/SDS permit and Section 401 certification, however, because the same outcomes occur regardless of whether the FES/model concentrations or design-model concentrations are used for this antidegradation review. More specifically, both models show a limited number of parameters for which measurable increases in surface water quality are expected to occur as a result of the Project (for example at outfall SD026, there were thirteen parameters under the FEIS model and four parameters under the design model, depending on the criteria for “measurable change” as discussed below). Also, both models confirm that these increases in concentration will not violate currently numeric or narrative water quality criteria and, most importantly from an antidegradation perspective, will not prevent attainment of any applicable beneficial uses.

Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

679 Christie Kearney Polymet Mining

Consideration of Other Regulatory Criteria

Having estimated that the Project may result in measurable increases in concentrations of certain parameters in waters receiving discharges from the WWTS (and if relevant, certain downstream waters), PolyMet's NPDES/SDS permit and Section 401 certification applications proceeded to the next steps required by Minn. R. 7050.0265.11 That additional regulatory analysis supported its conclusions that: (1) the company had analyzed appropriate alternatives, (2) there were no prudent and feasible alternatives not already included in the Project design to avoid potential degradation, (3) the Project design is a prudent and feasible alternative that will appropriately minimize any degradation, and (4) any lowering of water quality from the Project is necessary to accommodate important economic and/or social considerations.

Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

680 Christie Kearney Polymet Mining

MPCA in its preliminary antidegradation determination agreed with these PolyMet conclusions, and confirms that the Project “satisfies the [antidegradation] standards in Minnesota Rules 7050.0265 and 7052.033, as well as federal surface water pollution control statutes and rules administered by the [MPCA] commissioner.” MPCA supported its conclusions with an overview of the entire Project design, which PolyMet believes is the appropriate approach because the WWTS is only part of the Project’s configuration for preventing water quality impacts. The agency’s preliminary determination, however, focuses considerable attention on fine design details of the Project’s WWTS and of the company’s internal performance monitoring system to ensure treatment to the planned sulfate criterion of 10 mg/L in the WWTS discharge. While PolyMet appreciates the agency’s attention to detail, the company has some concern that this aspect of the analysis could be misconstrued as rejecting any future antidegradation review for the Project to the specific treatment design components described in the Project’s application. It is important to note that federal and state antidegradation requirements do not impose absolute requirements concerning technological alternatives or degradation minimization, and, as recognized in the FEIS and permitting process, future modifications to the treatment approach or the applicable regulatory framework may warrant adjustments.

Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

681 Christie Kearney Polymet Mining

The possibility of such refinements, however, does not create any impediments to MPCA’s antidegradation determination or its issuance of a NPDES/SDS permit or Section 401 certification for the Project. As MPCA noted in its recent antidegradation rulemaking, changes in wastewater treatment design and operations are routinely accounted for in connection with antidegradation reviews because “wastewater treatment facilities must operate under a wide variety of conditions[,] which results in pollutant load and concentration variability.” MPCA reaffirmed this statement in its preliminary antidegradation determination for this Project, and properly concluded that “[t]herefore, until a new facility is operational, effluent and water quality concentrations can only be a best estimate.” PolyMet agrees with these conclusions, and accordingly, believes any WWTS design changes associated with final engineering, changes in statute or rule, or any other events should be evaluated for antidegradation purposes only when such proposed changes occur.

Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

682 Christie Kearney Polymet Mining

PolyMet also agrees with MPCA that if at any time in the future there is a proposal for new discharges that vary from the levels allowed by the then-governing Project permits, the determination as to whether or not a new antidegradation review will be required should be based on the cause and scope of the proposed change and other relevant considerations at that time. Those considerations will include the specific details of any proposed change in design or operations, the terms of the law and water quality standards applicable at that time, then-existing water quality conditions, and if relevant, other factors such as available alternatives for prudently and feasibly minimizing degradation.

Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
683 Christie Kearney  Polymet Mining  Measurable Change PolyMet provides the following comments regarding an additional point addressed in MPCA’s preliminary determination. To determine whether the Project would create a “measurable change” in existing surface water quality concentrations, MPCA used a “central tendency” analysis to conduct a statistical evaluation of the relevant dataset. MPCA’s rules define “measurable change” as the “practical ability to detect variation in water quality,” but do not mandate use of any specific analytical technique. The approach used by MPCA in the circumstances here is consistent with the requirements of the applicable rules.  Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

684 Christie Kearney  Polymet Mining  PolyMet believes it important, however, to further explain the company’s method for determining potential measurable changes to existing water quality, which is not clearly described in MPCA’s preliminary determination. PolyMet used the full range of available monitoring data to determine existing water quality, and reported average concentrations based on that data. PolyMet then used the Laboratory Control Sample (LCS) acceptance criteria, an approach approved by EPA for similar purposes, as a method to determine whether modeled (future) water quality would represent a measurable change from the existing water quality, which was determined using the full range of monitoring data. PolyMet used the LCS method for determining measurable change because it aligns with the regulatory definition in Minn. R. 7050.0255, subp. 24, and provides a practical method for comparing measured (existing) and modeled (future) water quality. Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

685 Christie Kearney  Polymet Mining  These differing perspectives on the underlying statistical analysis again do not affect the MPCA’s ultimate conclusion that the Project satisfies all applicable antidegradation requirements. The differing opinions only affect the number of parameters for which the Project may create a measurable change in water quality (with MPCA concluding there are fewer parameters that would result in such a change), but under the parameter-by-parameter evaluation required by the applicable rules, the number of changes is not important. For as discussed above, even if there is only a single measurable change, a review of alternatives and of the necessity of the proposed degradation is appropriate, and both PolyMet and MPCA conducted the required review. Comment noted. This comment generally states an opinion on the antidegradation analysis and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

686 Christie Kearney  Polymet Mining  PolyMet has technical comments on two specific conditions of the draft NPDES/SDS permit, as follows: 1. Condition 6.10.2 (located in the draft permit after Condition 6.10.19) states: “All water collected from the Category 1 Waste Rock Stockpile must be collected by the Category 1 Stockpile Groundwater Containment System and routed to the WWTS, with the exception of stormwater from the reclaimed portions of the stockpile.” PolyMet showed in its NPDES/SDS permit application and in the FEB that some of the water from the Category 1 Waste Rock Stockpile would be collected in the mine pits due to the Category 1 Stockpile Groundwater Containment System sump design. Page 23 of Volume II of the permit application refers to Section 2.1.2.2 of the Rock and Overburden Management Plan where the design is explained. The Category 1 Stockpile Groundwater Containment System sumps are designed for a small storm event (their holding capacity), with pumps designed for up to the 100-year, 24-hour storm event. Both sumps are designed to overflow into the mine pits if inflows to the sumps exceed their capacity. To address this design feature, this condition should allow for collection of water from Category 1 Waste Rock Stockpile to be collected by the Category 1 Stockpile Groundwater Containment System or within the mine pits. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

687 Christie Kearney  Polymet Mining  2. Condition 6.10.35 refers to “SW074.” This reference is a typographical error. It should be to monitoring location “WS074.” Correction made.

688 Elise Larson  Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness  Attached are Minnesota Center for Environmental Advocacy’s, the Center for Biological Diversity’s, and the Friends of the Boundary Waters Wilderness’s the Comments and Joint Petition for a Contested Case Hearing Regarding Poly Met Mining, Inc.’s Application for a National Pollutant Discharge Elimination System/State Disposal System Permit for the NorthMet Project. In light of the size limitations, the attachments to the Comments and Joint Petition will be sent via U.S. mail as permitted by the Notice. Background statement for comments to follow. Comment noted.
| Elise Larson | Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | Minnesota Center for Environmental Advocacy ("MCEA"), the Center for Biological Diversity ("CBD"), and the Friends of the Boundary Waters Wilderness ("FBWW") (collectively, "Petitioners") submit these Comments and Petition for a Contested Case Hearing ("Petition") to the Commissioner of the Minnesota Pollution Control Agency ("Commissioner" or "MPCA") pursuant to Minn. R. 7000.1800-1900 with regard to the application ("Application") for a National Pollutant Discharge Elimination System/State Disposal System ("NPDES/SDS") permit (the "Permit") for the NorthMet Mine Project ("NorthMet Mine Project" or "Project") submitted by Poly Met Mining, Inc. ("Applicant" or "PolyMet").1 Petitioners seek an order of the Commissioner denying issuance of the Permit unless the Permit and the Project are substantially revised to address the material issues of fact and failure to adhere to applicable legal standards described below. If the Commissioner does not deny the Permit, Petitioners petition for a contested case hearing on the material issues of fact set forth below. | Background to support commenter's contested case hearing request. Comment noted. |
| Elise Larson | Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | I. TIMELINESS. Pursuant to Minn. R. 7000.1800, a petition for a contested case hearing "must be submitted during the public comment period established under parts 7001.0100." In this case, MPCA published the Permit for public comment on January 31, 2018. The end of the comment period is March 16, 2018. Petitioners filed this Petition on March 16, 2018. The Petition and Comments are timely. | Background to support commenter's contested case hearing request. Comment noted. |
| Elise Larson | Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | II. STATEMENT OF REASONS. In general, while MPCA attempted to create a Permit with enforceable conditions that will protect the environment, the Permit conditions do not address the fundamental underlying problem with this Project: the engineered systems will not function at their assumed efficiencies either during the mining operation or during the prolonged—essentially endless—period of post-closure. The mine pits, the permanent storage pile, and the flotation tailings basin all ultimately will be sources of pollutants that will cause exceedances of water quality standards and degradation of waters of the state. MPCA has turned a blind eye to the long-term impact of granting this short-term permit. | This comment provides a summary of detailed comments that follow. The MPCA provides responses to the comments in detail below. |
| Elise Larson | Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | Once this project begins, there is no turning back. This can already be seen at the Mine Site, which is already a source of legacy mercury pollution to the watershed. | This comment presents the opinion of the commenter, but does not address the NPDES permit conditions. |
| Elise Larson | Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | Early in the environmental review process, the Minnesota Department of Natural Resources ("DNR") considered whether it would be feasible to backfill waste rock into existing taconite pits Applicant owned. DNR's analysis found it would not be feasible, because the existing pit, created by LTV Steel fifty years ago, is already a source of mercury pollution via overflow.2 If more rock were added to the pit, the discharge of mercury would increase, which would not be allowable under the Clean Water Act, and the proposal was accordingly rejected. In other words, the history of mining on Applicant's property is already a source of legacy mercury pollution from 50 years ago, and what will happen in the next 20 years at that site will reverberate for centuries. | This comment presents background information and the opinion of the commenter, but does not address the NPDES permit conditions. |
694 Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | Under the Clean Water Act and state law, MPCA has an obligation to ensure that the designs intended to prevent pollution of the groundwater and surface water will function as proposed for both the short-term and the long-term. MPCA also has an obligation to include conditions in the Permit that will ensure that the Permit can be enforced both now and in the future, and conditions that will ensure that MPCA retains the authority to require Applicant to meet the highest standards. It is not sufficient for MPCA to prohibit discharges except at the permitted outfalls when the evidence suggests that there will be numerous, unpermitted discharges that will eventually reach surface water undetected by the deficient monitoring system. Nor is it sufficient for MPCA to allow the Permit to be issued on the basis that, in the future, there will be "adaptive management" that will address the predictable problems, particularly where that adaptive management is comprised of untested schemes that are likely to fail. Ultimately, MPCA treats the Permit as if the next 5 years are the only years that matter for Permit approval. But the evidence shows the strategies Applicant proposes will not work long term and that Applicant intends to abandon all of water-treatment plans as soon as possible. MPCA cannot ignore known, long-term issues. For these reasons and as set forth below, Petitioner seek substantial changes in the Permit and a contested case hearing.

695 Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | III. STATEMENT OF ISSUES. The Commissioner must grant a petition to hold a contested case hearing if the Commissioner finds that: A. there is a material issue of fact in dispute concerning the matter pending before the board or commissioner; B. the board or commissioner has the jurisdiction to make a determination on the disputed material issue of fact; and C. there is a reasonable basis underlying the disputed material issue of fact or facts such that the holding of a contested case hearing would allow the introduction of information that would aid the board or commissioner in resolving the disputed facts in making a final decision on the matter. In Parts VII-X below, Petitioners set forth the material issues of fact that are in dispute. Petitioners further provide the basis underlying the material and disputed issues illustrating that a contested case hearing would aid the Commissioner in making a final decision as to whether MPCA should issue the Permit.

696 Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | IV. STATEMENT OF INTEREST. MCEA is a Minnesota nonprofit public interest organization with over 3,000 members and its mission is to use law, science, and research to protect and enhance Minnesota’s natural resources, wildlife, and the health of its people. MCEA has program areas in mining and natural resources, and protecting Minnesota’s resources from the unsafe development of copper-nickel deposits has been part of MCEA's mission since its inception. MCEA has participated in the administrative processes concerning the NorthMet Mine Project since the first incarnation of the project proposal in the late 2000s, by submitting comments, retaining expert consulting services, and attending and speaking at public hearings. MCEA members live and recreate on lands and waterways that will be impacted by the NorthMet Mine Project. MCEA members use and enjoy these lands, rivers, lakes and streams for recreation, spiritual, cultural, economic, and aesthetic enjoyment. Many members obtain nutrition and sustenance from resources that would be negatively impacted by the project, including fish and wild rice.

697 Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | CBD is a nonprofit conservation organization headquartered in Tucson, Arizona, with offices in a number of states, including an office in Duluth, Minnesota. CBD is a leading organization fighting on behalf of wildlife and wild places, including threatened and endangered species such as the Canada lynx and gray wolf that would be adversely affected by the NorthMet Mine Project. CBD believes that the welfare of human beings is deeply linked to nature—the existence in our world of a vast diversity of wild animals and plants. Because diversity has intrinsic value, and because its loss impoverishes society, CBD works to secure a future for all species, great and small, hovering on the brink of extinction.
CBD has over 63,000 members, including members who own land and recreate in northeastern Minnesota, including downstream from the proposed NorthMet Mine Project. These members’ interests include fishing, canoeing, wild-rice gathering, camping, hiking, and seeking quiet remote places to recreate within the Superior National Forest. These interests would be negatively and potentially permanently impacted if the NorthMet Mine Project is permitted and allowed to proceed. CBD and some of its members have been actively engaged in the NorthMet Mine Project for many years, including submitting detailed comments to state and federal agencies and attending public hearings.

The mission of FBWW is “to protect, preserve and restore the wilderness character of the Boundary Waters Canoe Area Wilderness and the Quetico-Superior ecosystem.” As the NorthMet Mine Project is within the Superior ecosystem, its protection falls squarely within FBWW’s mission and within the interests of its 3,000-plus members and supporters. FBWW members recreate not only within the Boundary Waters Canoe Area Wilderness, but also in other parts of Minnesota’s Arrowhead region, on federal, state, and county land. FBWW members paddle, fish, swim, and ride on the St. Louis River downstream from the NorthMet Mine Project. Impacts on water quality from the Project could affect these activities. Many FBWW members hunt in the area, and many more enjoy seeing and being in the presence of wildlife in its natural habitat. If the Project is built, it will destroy habitat for species that are important to FBWW members, such as moose, Canada lynx, wolves, northern goshawks, and great grey owls. FBWW and its members care deeply about the ecosystems of Minnesota’s north woods, and are committed to ensuring that they will not disappear. The Project would destroy hundreds of acres of natural communities that are already considered vulnerable or vulnerable/imperiled and that will not be replaced. Most FBWW members are Minnesota taxpayers. They are also Minnesota residents who hope their grandchildren and great-grandchildren will live in Minnesota and enjoy the Superior National Forest and surrounding lands and waters as they do. The Project as proposed presents risks to future generations that will include the descendants of FBWW members. Those risks are both to natural resources, most especially clean water, and to financial well-being should Minnesota taxpayers be required to pay for the environmental damage caused by the NorthMet Mine Project.

Page 7 to 9 describes expectations of the contested case hearing, including timing, witnesses, and purpose of need.
VI. APPLICABLE LEGAL STANDARDS. Before issuing the Permit, MPCA must make the following finding: Except as provided in subpart 2, the agency shall issue, reissue, revoke and reissue, or modify a permit if the agency determines that the proposed permittee or permittees will, with respect to the facility or activity to be permitted, comply or will undertake a schedule of compliance to achieve compliance with all applicable state and federal pollution control statutes and rules administered by the agency, and conditions of the permit and that all applicable requirements of [Minn. Stat. ch. 116D, and the rules adopted under . . . chapter 116D, have been fulfilled. For solid waste facilities, the requirements of [Minn. Stat. § 473.823, subds. 3, 4] must also be fulfilled.11 Similarly, the MPCA can refuse to issue the Permit if it finds:

A. that with respect to the facility or activity to be permitted, the proposed permittee or permittees will not comply with all applicable state and federal pollution control statutes and rules administered by the agency, or conditions of the permit;

. . . . C. that the permittee has failed to disclose fully all facts relevant to the facility or activity to be permitted, or that the permittee has submitted false or misleading information to the agency or to the commissioner; D. that the permitted facility or activity endangers human health or the environment and that the danger cannot be removed by a modification of the conditions of the permit; . . . .12

In issuing an NPDES/SDS permit, MPCA must ensure that the permit contains "conditions necessary for the permittee to achieve compliance with all Minnesota or federal statutes or rules."13 The Commissioner is required to establish "effluent limitations, standards, or prohibitions for each pollutant to be discharged from each outfall or discharge point of the permitted facility."14

The provisions cited above all have the goal of protecting water-quality standards, including water-quality standards applicable to surface water and groundwater. However, MPCA's rules also prohibit the issuance of permits if the activity would cause unnecessary degradation of waters. For groundwater, MPCA's policy is that "the disposal of sewage, industrial waste, and other wastes shall be controlled as may be necessary to ensure that to the maximum practicable extent the underground waters of the state are maintained at their natural quality."15 If groundwater is not going to be maintained at its natural quality, MPCA must determine "that a change is justifiable by reason of necessary economic or social development and will not preclude appropriate beneficial present and future uses of the waters."16 For surface water, Minn. R. 7050.0250 provides: The purpose of the antidegradation provisions in parts 7050.0250 to 7050.0335 is to achieve and maintain the highest possible quality in surface waters of the state. To accomplish this purpose: A. existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected; B. degradation of high water quality shall be minimized and allowed only to the extent necessary to accommodate important economic or social development; C. water quality necessary to preserve the exceptional characteristics of outstanding resource value waters shall be maintained and protected; and D. proposed activities with the potential for water quality impairments associated with thermal discharges shall be consistent with section 316 of the Clean Water Act, United States Code, title 33, section 1326.

Below, Petitioners set forth the detailed reasons why the Permit does not meet the standards set forth above.
The permit includes specific authorized discharge points (SD002-SD111). It does not authorize any other point source discharge and in fact prohibits direct discharge to surface waters from the mine site and plant site. The permit language quoted in the comment (“other releases of wastewater or materials to the environment, whether intentional or not, are prohibited”) directly contradicts the conclusion of the comment, that other discharges are not prohibited.

This comment raises a factual issue, but there is no reasonable basis for dispute. The comment quotes the permit language that directly contradicts the comment’s conclusion. Therefore, a contested case hearing would not aid the commissioner. Minn. R. 7000.1800, subp. 1(c).

703 Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

VII. MPCA CANNOT FIND APPLICANT’S PROPOSED ACTIONS TO MINIMIZE GROUNDWATER CONTAMINATION ARE ADEQUATE.

The Permit does not adequately minimize groundwater contamination. To issue the Permit, MPCA must determine that Applicant will comply with all applicable state and federal pollution control statutes and rules administered by MPCA, and conditions of the permit.20 Similarly, under MPCA’s rules “a [NPDES] permit issued by the agency must contain conditions necessary for the permittee to achieve compliance with all Minnesota or federal statutes or rules.”21 Finally, as noted above, under MPCA’s water-quality rules, the beneficial uses of surface water and groundwater must be protected from degradation.

MPCA includes conditions in the Permit that prohibit Applicant from discharging to surface water from a number of different sites at the facility. For example, permit condition 6.10.17 states “[t]he Permittee shall not discharge any process wastewater from the Mine Site to surface waters under this permit.” A similar condition is attached to the Category 2/3 Stockpile, Category 4 Stockpile, Overburden Storage and Laydown Area, Ore Surge Pile, and Equalization Basins.23 “[t]he Permittee shall operate and maintain its engineering controls associated with these infrastructure facilities to ensure there is no discharge to surface waters from the Mine Site.”24 MPCA has included the following condition in the Permit applicable to the FTB: “[d]irect discharge to surface waters from the FTB Seepage Containment System is prohibited. All water collected from the FTB Seepage Containment System must either be pumped back to the FTB or routed to the WWTs.”25

In addition, “[t]his permit does not authorize the direct discharge to surface waters from the High Concentration, Low-Concentration and Construction Mine Water Pipelines.”26 For each of these areas, the Permit includes conditions that are intended to act as insurance for compliance with the stated prohibitions. Although permit condition 6.16.36 states that “[e]xcept for discharges from outfalls specifically authorized by this permit, overflow, discharges, spills, or other releases of wastewater or materials to the environment, whether intentional or not, are prohibited,” in fact MPCA has not prohibited discharges to the groundwater in this Permit.

The MPCA relies on technical review of the permit application and plans submitted to determine if proposed systems will adequately minimize the potential degradation. The MPCA has reviewed the available information, including an engineering review, and concluded the permit conditions can be met and the engineering controls will function as designed. Although the comment questions the engineering conclusion reached by the MPCA, it does not provide a factual basis for disputing it. The comment cites the surface water antidegradation review, when in fact the groundwater nondegradation review addressed the issues regarding potential groundwater contamination raised by the commenter.

The comment raises a factual issue; however, no new information on this issue is identified that could be introduced at a hearing, so there is no reasonable basis underlying the disputed facts to support holding a hearing. See Matter of Solid Waste Permit for the ISP Red Wing Ash Disposal Facility, 421 N.W.2d 398, 404 (Minn. Ct. App. 1988) (hereafter “Red Wing”); in the Matter of Amendment No. 4 to an Emission Facility Permit, 454 N.W.2d 427, 430 [Minn. 1990] (hereafter “Amendment No. 4”) (holding that the petitioner must show evidence can be produced contrary to the proposed action). In addition, the MPCA has adequately addressed the issue. Therefore, a contested case hearing would not aid the Commissioner. Minn. R. 7000.1900, subp. 1(c). Cf. In re City of Owatonna’s NPDES/SDS Proposed Permit Reissuance for Discharge of Treated Wastewater, 672 N.W.2d 921, 929 [Minn. Ct. App. 2004] (hereinafter “City of Owatonna”) (holding “a genuine question concerning whether the MPCA adequately addressed the disputed fact issues” provides grounds for a hearing).

703-A Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

27 Instead, MPCA has merely concluded that the “combination of controls and mitigation measures (such as engineering controls, wastewater treatment and water monitoring activities) that are part of the Project design” will meet the groundwater-protection requirement.28 For groundwater, these controls and mitigation measures included the “groundwater containment system” for the permanent Category 1 Stockpile and a geomembrane cover for that pile,29 and engineered low-permeability composite liner systems for the Category 2/3 and 4 Stockpiles and the Ore Surge pile, all with collected wastewater routed to the WWTs. MPCA also noted the plan to return the Category 2/3 and 4 waste rock to the mine pits, which will be flooded to control pollutants generated by oxidation.30 In the interim, wastewater will be treated.31 MPCA concluded that “[c]ollectively, the incorporation of these components into the project design at the Mine Site will minimize the release of pollutants from the Mine Site, which significantly contributes to the minimization of impacts from the proposed WWTs discharge at the Plant Site.”32 It is unclear upon which basis the MPCA makes this conclusion, since the design of the containment systems have been called into serious question by DNR’s consultants,33 and the final design of the containment systems is unknown.34

The MPCA concludes the permit conditions can be met and the WWTs will function as designed. Although the comment questions the engineering conclusion reached by the MPCA, it does not provide a factual basis for disputing it. The comment cites the surface water antidegradation review, when in fact the groundwater nondegradation review addressed the issues regarding potential groundwater contamination raised by the commenter.

The comment raises a factual issue; however, no new information on this issue is identified that could be introduced at a hearing, so there is no reasonable basis underlying the disputed facts to support holding a hearing. See Matter of Solid Waste Permit for the ISP Red Wing Ash Disposal Facility, 421 N.W.2d 398, 404 (Minn. Ct. App. 1988) (hereafter “Red Wing”); in the Matter of Amendment No. 4 to an Emission Facility Permit, 454 N.W.2d 427, 430 [Minn. 1990] (hereafter “Amendment No. 4”) (holding that the petitioner must show evidence can be produced contrary to the proposed action). In addition, the MPCA has adequately addressed the issue. Therefore, a contested case hearing would not aid the Commissioner. Minn. R. 7000.1900, subp. 1(c). Cf. In re City of Owatonna’s NPDES/SDS Proposed Permit Reissuance for Discharge of Treated Wastewater, 672 N.W.2d 921, 929 [Minn. Ct. App. 2004] (hereinafter “City of Owatonna”) (holding “a genuine question concerning whether the MPCA adequately addressed the disputed fact issues” provides grounds for a hearing).

704 Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

Needless to say, if these acts/ies and controls will not function as designed, MPCA lacks a reasonable basis for concluding that its permit conditions will be protective. MPCA cannot justify permitting inadequate systems by pointing to requirements in the Permit for the Applicant to do after-the-fact studies of these systems that may lead to their redesign35 because the standard for permit approval does not allow new facilities to be permitted that do not comply with requirements, except if there is a “schedule of compliance.”36 For a new facility, a “schedule of compliance” should not be necessary and are not authorized.37

As noted in response to Comment 703-A, the MPCA relies on technical review. The MPCA concluded the permit conditions can be met and the WWTs will function as designed. Although the comment questions the engineering conclusion reached by the MPCA, it does not provide a factual basis for disputing it. The incorporation of adaptive management as a failsafe does not invalidate the requirements for compliance. Adaptive management is regularly used in complex environmental scenarios to ensure standards are met. In this case, the underlying requirement must be met; the adaptive management is intended to develop strategies to maintain compliance.

The comment raises a factual issue; however, no new information on this issue is identified, so there is no reasonable basis underlying the disputed facts. See Red Wing; Amendment No. 4. Therefore, a contested case hearing would not aid the Commissioner. Minn. R. 7000.1800, subp. 1(c).
<table>
<thead>
<tr>
<th>Page</th>
<th>Author</th>
<th>Location</th>
<th>Text</th>
</tr>
</thead>
</table>
| 704-A | Elise Larson | Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | Petitioners have examined the components intended to protect groundwater and have concluded that, as currently designed, the components will not function as designed to minimize contamination of the groundwater. This issue is compounded by the fact that the monitoring system is inadequately designed and will not identify problems if they do occur.38 Worse, no limits are included in the Permit for the groundwater, which is “monitor only.”39 As a result, even if groundwater begins to show impacts because the activities and controls are failing, it is not a violation of the Permit. Although the nondegradation attachment to the Fact Sheet includes discussion of what would constitute degradation of the groundwater, no conditions in the Permit exist to make this determination enforceable.40 The lack of any enforceable condition constitutes a material deficiency in the Permit. See response to Comment 703-A and 704 regarding the functionality of engineering controls. See responses to Comments 710 through 712-B regarding adequacy of groundwater monitoring. The permit requires an Annual Comprehensive Performance Evaluation Report (item 5.1B.216), which must evaluate the effectiveness of each of the major engineering controls (i.e., seepage containment systems, stockpile liner systems, equalization basins) based on all relevant monitoring and performance data, and must identify any adaptive management needed to prevent impacts. The incorporation of adaptive management as a failsafe does not invalidate the requirements for compliance. Adaptive management is regularly used in complex environmental scenarios to ensure standards are met while allowing flexibility.

| 704-B | Elise Larson | Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | As the Applicant admits, polluted groundwater has the potential to reach certain surface waters in 30 to 35 years.41 Petitioners submitted the Permit and supporting documents to Dr. Tom Myers for review. Dr. Myers summarizes the issues, concluding that “[t]he NPDES/SDS permit for the PolyMet mine proposal should not be awarded because the application is based on overly optimistic design assumptions, modeling that does not consider flow path details near either the mine site or tailings impoundment, inaccurate analysis of pathways for contaminants to reach the rivers, and grossly insufficient proposed monitoring.”42 Below, Petitioners describe the problems with the assumed efficacy of the mine pit management, waste rock systems, and seepage-collection systems proposed for the Category 1 Stockpile and the FTB. Petitioners demonstrate why it is not reasonable for MPCA to assume that these actions will be effective. As described in responses to Comments 705 through 713, the MPCA already enforceable condition constitutes a material deficiency in the Permit.

| 705 | Elise Larson | Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness | A. The Mine Pit Lakes Will Cause Degradation of Groundwater. Applicant’s proposal regarding management of the mine pit lakes will not avoid degradation to groundwater. Applicant proposes to dewater the West Pit during mine operations, and posits that during this time “groundwater will flow inwards towards the pit, thereby having no impact to groundwater quality during mining operations.”43 After the mining operation, Applicant will accelerate the natural flooding of the pit with treated water and will treat and return the water as the West Pit fills “to manage the overall water quality of pit waters prior to groundwater outflow from the pit to the surficial aquifer.”44 Applicant notes that, at about Mine Year 48, the West Pit will flow into the surficial groundwater flow path towards the Partridge River, but claims that the flooding of the West Pit will control water quality by reducing the oxidation time for the pit wall rock and that “contaminant constituent concentrations [will be at] long-term steady state concentrations.”45 The East Pit and Central Pit will also be dewatered during mining operations, which Applicant claims will cause groundwater to flow inwards so that there is no impact to groundwater quality. After mining is completed, the East Pit and Central Pit will be backfilled and flooded. During flooding and approximately 14 years after flooding is complete, Applicant will recirculate and treat mine pit waters at the WWTS.46

This comment is predicated on what was submitted as new hydrogeologic modeling by the petitioners. Similar modeling was submitted by the petitioners during the EIS for which the DNR, through its third party consultant, completed a detailed review. The review specifically included certain model assumptions related to aquifer recharge, hydraulic conductivities, project engineering controls, and model boundaries and their effect on subsequent groundwater flow predictions. See FEIS Appendix A at 483; Comparison of Myers Flow/Transport Model with Agency EIS Models, Sept. 21, 2015. Given the differences in some of the assumptions for the alternative model, many of which DNR did not agree with, MPCA determined that the EIS modeling was sufficient and did not further consider the alternative model.

MPCA has worked with MDNR in the review of the newly submitted modeling information and has determined that, in fact, it is not actually new information but rather a repackaging of information already addressed during the EIS process. The recent submission includes numerous assumptions that MDNR reviewed and disagreed with in the prior review. MPCA supports DNR’s position on this matter. As a result, there is not a reasonable basis underlying the alleged factual dispute and a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C).

The recent submission includes numerous assumptions that MDNR reviewed and disagreed with in the prior review. MPCA considered and supports DNR’s position on this matter. As a result, there is not a reasonable basis underlying the alleged factual dispute and a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C).
Applicant’s proposal suffers from two unreasonable assumptions that will result in groundwater degradation: (1) the amount of contamination the waste rock will generate is 50% lower than 100% of the mining waste and projected mine drainage, and (2) the mechanism of groundwater protection would be barrier walls. In both circumstances, MPCA relied on the unreasonable assumptions to support issuing the Permit. MPCA should not rely on these assumptions for the reasons set forth below.

First, Applicant makes an unreasonable assumption regarding the contamination that will be generated by the waste rock. Dr. Ann Maest, a leading expert in geochemistry and water resources, reviewed Applicant’s assumptions and concludes that incorrect assumptions about solid waste and contaminant leaching have led to the potential impacts of mine water on the environment at and around the mine site. The assumptions include that site conditions are such that waste will not leach, and that any release from the tailings impoundment will be captured and treated before reaching surface water. These assumptions suggest that Applicant has underestimated the potential impact of mine water on the environment at and around the mine site and adjacent surface waters. Maest concluded that:

- The subject of waste rock characterization for the purpose of predicting geochemical behavior is under MDNR jurisdiction for the Permit to Mine according to Minnesota Rule 6120. 1000. The issues of the type and degree of waste characterization done and the practical ability to segregate high-sulfur waste rock during operations was thoroughly addressed in the EIS process. See FEIS Section 3.2.2.1.7 and Table 3.2-8. MPCA concurs with this analysis.

Specifically, DNR determined that the number of waste rock samples were sufficient. Samples were pre-selected to be spatially dispersed across the deposit, including rock from each of the major lithologic units, and captured the range in metal and sulfide concentrations found in hundreds of borings. Rather than conducting an assessment of neutralization potential of the waste rock, DNR assessed the acid-generating potential of the rock by directly measuring effluent from the multi-year humic acid tests that were performed. Finally, DNR determined that new technologies, such as high precision GPS, make waste segregation in the field more practical and that they will require confirmational sampling of the Category 1 waste rock stockpile to verify proper placement of waste rock materials. MPCA staff participated in the review of this issue during the EIS process and agrees with the conclusions. The comment provided no new information that would give the MPCA reason to disagree with the EIS analysis and proceed with the reconsideration.

Regarding groundwater modeling assumptions, see response to Comment 705.

Applicant modeled the seepage capture from the Category 1 Stockpile recovery system and has estimated that it will recover between 91% and 99% of the seepage from the waste rock.57 Similarly, Applicant has asserted that the seepage-collection system for the FTB will capture 90% of the seepage from the FTB, relying on a newer modeling exercise conducted by Barr Engineering (2015b).58 Based on these assumptions and Applicant’s calculation of the potential level of pollutants in this seepage, Applicant posits that the impacts to groundwater (and eventually surface water) will be minimal.59 MPCA appears to have accepted these assumptions,60 despite the fact that the final design of these containment systems remains unknown.61 Petitioners’ experts question these assumptions, however, as described below. Whether these assumptions are material because, if the safeguards intended to recapture the seepage do not operate as designed, there is the potential for pollutants from the Category 1 Stockpile to reach the Partridge River, based on the modeling conducted by Dr. Myers.62 If the FTB seepage collection system does not operate as designed, there is the potential for pollutants to reach the Embarrass River.

The MPCA can, and has, issued MPCA-065 permits prior to completion of the final plans and specifications. MODFLOW modeling specific to both the flotation tailings basin (FTB) seepage capture system and the Category 1 waste rock stockpile containment system was conducted during the EIS and provided reliable estimates of seepage capture. See FEIS at section 3.47, 5.7. Results from this modeling were used in conjunction with the overall GoldSmip water quality model, which showed the predicted degree of capture would be sufficient to protect downstream surface and ground water quality. Additionally, the design details in the permit application for the FTB seepage capture system (including the support drawings in Appendix B to Vol. I of the application and referenced material in the Water Management Plan - Plant) and for the Category 1 waste rock stockpile containment system (including support drawings in Appendix B to Vol. I of the application and referenced material in the Water Management Plan - Mine) provide sufficient detail on how and where the capture systems will be constructed.

The MPCA added language in parts 5.175.54 and 5.175.78 of the draft permit that specifically addresses the design and construction of the FTB and Category 1 containment systems. The Language ensures that the key components of the systems are required, including cutoff wall permeability. In addition, the MPCA added language in parts 5.175.57 and 5.175.80 of the draft permit requiring a signed certification that the systems, as constructed, meet the design performance standards and the submittal of as-built drawings and QA/QC test results for the systems. These requirements assure that the containment systems will be constructed as proposed and as modeled.

The MPCA participated in the review of this issue during the EIS process and upon review of the permit application found no reason to disagree with the EIS analysis. The modifications to draft permit language are sufficient to adequately address the comment without a hearing. Cf. City of Owatonna. As a result, a contested case hearing would not aid the Commissioner. Minn. R. 7000.1900, subp. 1(C).
Petitioner’s experts universally criticized Applicant’s recapture assumptions based on the proposed design of the systems. In his comments regarding the Final Environmental Impact Statement, Dr. David Chambers, an Engineer and Professional Geophysicist, opines that the quality and efficacy of a cutoff wall will depend on:

1. How well the cutoff wall can be grouted into the fractured bedrock to avoid contaminants moving under the wall in more permeable sediments;
2. How effective the collection system on the upstream side of the cutoff wall is at removing pressure on this barrier; and,
3. The permeability contrast between the cutoff wall and the adjacent sediments.70 But Dr. Chambers observes issues, such as, if the grouting is done incorrectly a “zone of relatively high permeability for contaminants to escape could be created”; and that the seepage-collection system for the Category 1 Stockpile may put “more hydraulic pressure” on the cutoff wall, meaning “more seepage through or under the barrier.”71

These concerns are shared by Dr. Michael Malaisi, a specialist in waste contaminant barriers. According to Dr. Malaisi: Specifications generally call for a minimum depth of key into the lower confining unit to ensure an adequate seal that minimizes seepage. Without a proper key, the assumption of perfect contact between the cutoff wall and the bedrock in the seepage model is probably a poor assumption that will overestimate the actual seepage capture. The permit should include a commitment to a minimum depth of key for the wall.72 Malaisi also notes that use of a cutoff wall with a maximum allowable k of 10-5 cm/s is not consistent with standard practice for vertical barriers used in long-term hydraulic control or geoenvironmental containment (i.e., pollution control) applications. The typical maximum k in these applications is 10-6 or 10-7 cm/s (e.g., Okwadiat and Day 1988, McNichol and Okwadiat 2001, Spaulding 2007, Ryan and Spaulding 2008); which is 10 to 100 times lower than proposed for this wall.73 Consultants hired by DNR to review Applicant’s Permit to Mine Application concluded similarly, noting that “if in our view that this should not be termed a ‘wall.’ A compacted soil hydraulic barrier should have a hydraulic conductivity of less than 10-7 cm/s.”74 None of these concerns with the efficacy of the containment systems have been resolved by modifications to the design, which has not yet been finalized.75

The comment interprets the requirements of Minnesota’s nonferrous reclamation rules (Minnesota Rules 6132) as it relates to project design. It falls under MNDNR’s Permit to Mine jurisdiction, not MPCA or Clean Water Act authorities.

The interpretation of the requirements is a legal issue rather than factual issue. Because it does not raise a factual issue and is outside the jurisdiction of the MPCA commissioner, a contested case hearing is inappropriate. Minn. R. 7000.1900, subp. 1(A), (B).

This raises a factual issue, but there is no reasonable basis underlying the disputed fact. As described above at response to Comments 705 through 707-A, the information provided by the commenter’s experts regarding waste rock characterization and effectiveness of the barrier were considered in the EIS. For the reasons above, the agency correctly determined that the treatment would meet the standard assumed in the EIS. The MPCA has added requirements in the permit to require construction consistent with the application. No new information is identified in the petitions, including the cited experts, to support a different conclusion and the issue was adequately addressed in the EIS and the permit. See Red Wing Amendment No. 4. Therefore, a contested case would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); cf. City of Owatonna v. MPCA.
Finally, Dr. Maest also notes that mitigation measures for the Category 1 Stockpile are unlikely to prevent the movement of contaminants to mine site groundwater and surface water.76 Although MPCA included Permit conditions to ensure that the seepage trenches will be monitored, there is no assurance in the Application that the seepage trenches will be appropriately grouted or keyed into the bedrock or that the permeability head will be maintained. With regard to the FTB trench, there is no assurance that all of the compatible silt and peat layers, including legacy tailings from the LTV mining operation.77 It is not clear what construction technique will be used for the Category 1 Stockpile trench, as the Permit to Mine Application is equivocal.78 If the trenches are not properly grouted to competent bedrock or designed to maintain appropriate inward pressure, there is no assurance that the assumed levels of collection will be met and the systems will have to be redesigned “on the fly” after the problems are discovered. In order to ensure MPCA’s assumptions about the efficacy of the trenches are not unreasonable, MPCA must, at a minimum, include a term in the Permit specifically establishing the “key” to the bedrock for each seepage-collection trench. In addition, as Dr. Maest recommends, MPCA should require that a synthetic liner and segmented leachate-collection system be installed under the Category 1 Stockpile to minimize the release of contaminants to groundwater and help identify the location of leaks that do develop.79 The Applicant’s own modeling demonstrates that water from the Category 1 Stockpile will be a major source of water contamination, rendering additional mitigation measures appropriate: Modeling indicates that capping of the stockpile will reduce the total flow and increase sulfate and metal concentrations, but will not significantly reduce the amount of sulfate and metals modeling indicates that the Category 1 Waste Rock Stockpile is a major source of sulfate and heavy metals to the West Pit Lake.80

Waste rock stockpile engineering and design is under the regulatory authority of the MDNR in the Permit to Mine. Minn. R. 6132.1100, subp. 6(B). The MDNR’s regulatory authority is to control discharges to protect water quality. As described above, the MPCA has concluded that the proposed design will adequately control water quality.

Waste rock stockpile design is based on the potential of the waste rock to generate acid and/or metal leachate as determined by long-term rock-water characterization testing. The adequacy of the Category 1 waste rock stockpile design was assessed in detail in the EIS, taking into account the predicted geotechnical behavior of the rock and soil, including the consequence of higher sulfide waste rock was improperly placed in the stockpile. As identified in response to Comments 704 above, this included an assessment of the representativeness of geotechnical samples at the issue regarding the practicality of segregating waste rock types based on sulfur content. The EIS concluded that the proposed engineering controls would be sufficient to control any water potentially affected by the waste rock. See FEIS at 5-7. The MPCA participated in the review of this issue during the EIS process and upon review of the permit application found no reason to disagree with the EIS analysis. The comment does not provide new information to dispute that conclusion.

The MPCA did note the permit regarding construction of the Category 1 stockpile groundwater containment system (part 5.175.78): “The Permittee shall construct the Category 1 Waste Rock Stockpile Groundwater Containment System to include a low permeability cutoff wall keyed into bedrock, a subgrade collection and sump system on the seaward side of the cutoff wall, and pumping capacity of removing collected water to the Evaporation Basin for subsequent treatment at the WWTS. The cutoff wall shall be no less than two feet in thickness and have a maximum permeability of 1x10-5 cm/sec, or equivalent as approved by MPCA. The FTB Seepage Containment System shall be constructed and operated so as to maintain an inward hydraulic gradient across the cutoff wall.” In addition, the monitoring surrounding the stockpile described in response to Comment 751 will ensure no seepage leaves the site.

Tailings basin design is primarily under the regulatory authority of the MDNR and the Permit to Mine. Minn. R. 6132.1100, subp. 6(B). Alternative tailings basin designs and locations were considered in the EIS process. See EIS at section 3.2.3. Incorporation of a geomembrane liner in the FTB design would require a greenfield site outside the boundaries of the existing tailings basin due to the significant geotechnical impracticalities of placing a geomembrane liner in the saturated and partially inundated cells 1E and 2E of the existing basin. The MDNR determined during the EIS scoping process that an alternative site had not been identified that would likely have significant environmental benefits over the proposed site and that an alternative site may not be feasible or achievable in the time frame of the project. See FEIS at section 3.2.3.3.1. The MPCA has determined that the proposed design will meet all water quality standards and the NPDES requirements under the Clean Water Act.

Although not specifically delineated as an alternative in the EIS (section 3.2.3), the removal of the existing LTV tailings for the purpose of making available a location for dry deposition of tailings is not likely to be feasible, nor does it provide an environmental benefit. The removal of the existing tailings would necessitate an additional proposal for a new location for tailings disposal. The EIS process did consider the alternatives of dry stacking and thickened tailings technologies and determined that these technologies would not have significant environmental benefit over the proposed wet tailings method, primarily because a new tailings basin would be required. The MPCA determined that the alternative selected in the EIS will meet all water quality standards, and NPDES and antidegradation requirements.

The comment raises a factual issue; however, the consideration of alternatives was addressed adequately in the EIS and jurisdiction over tailings disposal lies in the MDNR’s Permit to Mine. Minn. R. 7000.1900, subp. 1(B). Additionally, no new information is identified in the petitions such that a hearing is merited. See Red Wing; Amendment No. 4. Because no reasonable basis is presented for a dispute, a contested case would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C).

The comment raises a factual issue; however, the consideration of alternatives has been adequately addressed in the EIS and jurisdiction over tailings disposal lies in the MDNR’s Permit to Mine. Minn. R. 7000.1900, subp. 1(B). Additionally, no new information is identified in the petitions such that a hearing is merited. See Red Wing; Amendment No. 4. Because no reasonable basis is presented for a dispute, a contested case would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C).
The draft permit clearly anticipated installation of liners. See Draft Permit at 4 (describing liner), 6.5.20 (requiring samples from liners), 6.10.73 (evaluating liners).

The MPCA added permit language that will require the Category 2/3 and Category 4 liner systems to meet the level of containment identified in the application. The permit in parts 5.175.87 and 5.175.88 requires the Permittee to construct the Category 2/3 and Category 4 stockpile liner systems to the permeability specifications identified in the application (10E-5 cm/sec for the Category 2/3 stockpile and 10E-6 cm/sec for the Category 4 stockpile). In addition, language has been added to the draft permit in part 5.175.89 requiring the submittal of as-built drawings and QA/QC test results for the liner systems sufficient to document that the required designs have been achieved.

This comment raises a factual dispute regarding the type of liner needed. The MPCA modified permit language to expressly require a liner, which adequately addresses the comment that a Category 2/3 liner be required. Cf. City of Owatonna. No new information is contained in the 2018 Malusis report on this issue beyond what was in the author’s 2014 report submitted with comments on the SDEIS that would warrant a contested case hearing. The MPCA considered this information and determined there is not a reasonable basis underlying the dispute, because the type of liner referenced in the comment will be adequately protective as shown by the modeling conducted as part of the EIS. Therefore, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(c).

The efficacy of the liner system installed for the Stockpiles and its proper construction is material because, based on the modeling prepared by Dr. Myers, releases from these locations may not be caught by the monitoring system (as described in Part VIII) and have the potential to impact a significant quantity of groundwater. Although the Permit does not require their use. The Permit states: 6.10.22 Category 2/3 Waste Rock Stockpile, Category 4 Waste Rock Stockpile, OSLA, Ore Surge Pile, and Equalization Basins 6.10.23 The Permittee shall operate and maintain its engineering controls associated with these infrastructure facilities to ensure there is no discharge to surface waters from the Mine Site. These engineering controls may include, among other things, liner systems, sumps, underdrains (if used), ponds, pumps, and pipelines.

The MPCA added permit language that will require the Category 2/3 and Category 4 liner systems to meet the level of containment identified in the application. See response to Comment 708.

The MPCA does not dispute that the proposed liner is not equivalent to a heap leach facility. Given the different purpose and material characteristics of the proposed waste rock stockpiles, design standards appropriate for heap pad liners for heap leaching facilities are not appropriate for the category 2/3 and category 4 stockpiles. In contrast to a waste rock stockpile, heap leaching involves ore grade material, is designed to maximize leaching to extract the commodity of interest, and introduces a leaching solution such as sodium cyanide or sulfuric acid to the stockpile. Those factors increase the risk of a release and justify the more protective liner for the heap leach facility.

The comment does not raise a factual issue, but rather the issue of the legal enforceability of permit language. The MPCA has adequately addressed this issue through permit requirements. Therefore, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(a).

The efficacy of the liner system installed for the Stockpiles and its proper construction is material because, based on the modeling prepared by Dr. Myers, releases from these locations may not be caught by the monitoring system (as described in Part VIII) and have the potential to impact a significant quantity of groundwater. Although the Permit does not require their use. The Permit states: 6.10.22 Category 2/3 Waste Rock Stockpile, Category 4 Waste Rock Stockpile, OSLA, Ore Surge Pile, and Equalization Basins 6.10.23 The Permittee shall operate and maintain its engineering controls associated with these infrastructure facilities to ensure there is no discharge to surface waters from the Mine Site. These engineering controls may include, among other things, liner systems, sumps, underdrains (if used), ponds, pumps, and pipelines.

The MPCA added permit language that will require the Category 2/3 and Category 4 liner systems to meet the level of containment identified in the application. See response to Comment 708.

The MPCA does not dispute that the proposed liner is not equivalent to a heap leach facility. Given the different purpose and material characteristics of the proposed waste rock stockpiles, design standards appropriate for heap pad liners for heap leaching facilities are not appropriate for the category 2/3 and category 4 stockpiles. In contrast to a waste rock stockpile, heap leaching involves ore grade material, is designed to maximize leaching to extract the commodity of interest, and introduces a leaching solution such as sodium cyanide or sulfuric acid to the stockpile. Those factors increase the risk of a release and justify the more protective liner for the heap leach facility.

The comment does not raise a factual issue, but rather the issue of the legal enforceability of permit language. The MPCA has adequately addressed this issue through permit requirements. Therefore, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(a).

The efficacy of the liner system installed for the Stockpiles and its proper construction is material because, based on the modeling prepared by Dr. Myers, releases from these locations may not be caught by the monitoring system (as described in Part VIII) and have the potential to impact a significant quantity of groundwater. Although the Permit does not require their use. The Permit states: 6.10.22 Category 2/3 Waste Rock Stockpile, Category 4 Waste Rock Stockpile, OSLA, Ore Surge Pile, and Equalization Basins 6.10.23 The Permittee shall operate and maintain its engineering controls associated with these infrastructure facilities to ensure there is no discharge to surface waters from the Mine Site. These engineering controls may include, among other things, liner systems, sumps, underdrains (if used), ponds, pumps, and pipelines.

The MPCA added permit language that will require the Category 2/3 and Category 4 liner systems to meet the level of containment identified in the application. See response to Comment 708.

The MPCA does not dispute that the proposed liner is not equivalent to a heap leach facility. Given the different purpose and material characteristics of the proposed waste rock stockpiles, design standards appropriate for heap pad liners for heap leaching facilities are not appropriate for the category 2/3 and category 4 stockpiles. In contrast to a waste rock stockpile, heap leaching involves ore grade material, is designed to maximize leaching to extract the commodity of interest, and introduces a leaching solution such as sodium cyanide or sulfuric acid to the stockpile. Those factors increase the risk of a release and justify the more protective liner for the heap leach facility.

The comment does not raise a factual issue, but rather the issue of the legal enforceability of permit language. The MPCA has adequately addressed this issue through permit requirements. Therefore, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(a).

The efficacy of the liner system installed for the Stockpiles and its proper construction is material because, based on the modeling prepared by Dr. Myers, releases from these locations may not be caught by the monitoring system (as described in Part VIII) and have the potential to impact a significant quantity of groundwater. Although the Permit does not require their use. The Permit states: 6.10.22 Category 2/3 Waste Rock Stockpile, Category 4 Waste Rock Stockpile, OSLA, Ore Surge Pile, and Equalization Basins 6.10.23 The Permittee shall operate and maintain its engineering controls associated with these infrastructure facilities to ensure there is no discharge to surface waters from the Mine Site. These engineering controls may include, among other things, liner systems, sumps, underdrains (if used), ponds, pumps, and pipelines.

The MPCA added permit language that will require the Category 2/3 and Category 4 liner systems to meet the level of containment identified in the application. See response to Comment 708.

The MPCA does not dispute that the proposed liner is not equivalent to a heap leach facility. Given the different purpose and material characteristics of the proposed waste rock stockpiles, design standards appropriate for heap pad liners for heap leaching facilities are not appropriate for the category 2/3 and category 4 stockpiles. In contrast to a waste rock stockpile, heap leaching involves ore grade material, is designed to maximize leaching to extract the commodity of interest, and introduces a leaching solution such as sodium cyanide or sulfuric acid to the stockpile. Those factors increase the risk of a release and justify the more protective liner for the heap leach facility.

The comment does not raise a factual issue, but rather the issue of the legal enforceability of permit language. The MPCA has adequately addressed this issue through permit requirements. Therefore, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(a).

The efficacy of the liner system installed for the Stockpiles and its proper construction is material because, based on the modeling prepared by Dr. Myers, releases from these locations may not be caught by the monitoring system (as described in Part VIII) and have the potential to impact a significant quantity of groundwater. Although the Permit does not require their use. The Permit states: 6.10.22 Category 2/3 Waste Rock Stockpile, Category 4 Waste Rock Stockpile, OSLA, Ore Surge Pile, and Equalization Basins 6.10.23 The Permittee shall operate and maintain its engineering controls associated with these infrastructure facilities to ensure there is no discharge to surface waters from the Mine Site. These engineering controls may include, among other things, liner systems, sumps, underdrains (if used), ponds, pumps, and pipelines.

The MPCA added permit language that will require the Category 2/3 and Category 4 liner systems to meet the level of containment identified in the application. See response to Comment 708.

The MPCA does not dispute that the proposed liner is not equivalent to a heap leach facility. Given the different purpose and material characteristics of the proposed waste rock stockpiles, design standards appropriate for heap pad liners for heap leaching facilities are not appropriate for the category 2/3 and category 4 stockpiles. In contrast to a waste rock stockpile, heap leaching involves ore grade material, is designed to maximize leaching to extract the commodity of interest, and introduces a leaching solution such as sodium cyanide or sulfuric acid to the stockpile. Those factors increase the risk of a release and justify the more protective liner for the heap leach facility.

The comment does not raise a factual issue, but rather the issue of the legal enforceability of permit language. The MPCA has adequately addressed this issue through permit requirements. Therefore, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(a).
Elise Larson  
Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

VIII. THE GROUNDWATER AND SURFACE WATER MONITORING SYSTEM IS INADEQUATE TO DETECT ISSUES AT THE MINE SITE OR THE PLANT SITE SUCH THAT CORRECTIVE ACTIONS CAN BE TAKEN IN A MEANINGFUL TIME PERIOD.

The Permit fails to require Applicant to provide an adequate monitoring system; the monitoring system cannot adequately detect issues at either the Mine Site or the Plant Site such that corrective actions can be taken in a meaningful period of time. MPCA is required to establish appropriate monitoring and reporting requirements to ensure compliance with permitting limitations. These requirements must include "any ... measurement needed to determine compliance with a permit condition." 94 As required by applicable laws95 and proposed in the Application,96 the Permit requires Applicant to construct and operate a monitoring system as a necessary safeguard to protect groundwater and surface water from unpermitted contamination.97 MPCA relies on the monitoring system to ensure the containment system's 100% effectiveness.98 And the Permit assumes the monitoring plan will detect leaks before significant impacts to groundwater and surface water occur.99 Although MPCA intends the monitoring system set forth in the Permit to detect a leak if a leak has occurred at the Mine Site or Plant Site, for the reasons stated below Petitioners submit the design is inadequate. Thus, the Permit fails to establish an "appropriate monitoring" plan that will detect leaks. Because the design is inadequate, Petitioners request that MPCA require Applicant to create an adequate monitoring system before issuing the Permit. If MPCA does not require Applicant to undertake this work, Petitioners request a contested case hearing on this issue, as the monitoring system's adequacy constitutes a contested issue of material fact with regard to whether the Application satisfies the requirements of section 7001.1080.

This statement summarizes what will be said in more detail in following statements. See the MPCA's detailed responses to comments 710 through 712-B. The comment does not raise a factual issue, but rather summarizes the detailed issues that follow. See responses to Comments 710 through 712-B for supporting rationale.

A. Applicant Failed to Describe How It Selected the Location of the Monitoring Wells.

In the Application, Applicant failed to describe how it selected the location of the monitoring wells proposed in the Permit.100 At Petitioners’ behest, Dr. Tom Myers, an expert in hydrologic monitoring systems, reviewed the Application to assess Applicant’s monitoring strategy. Dr. Myers’ first observation is that Applicant did not use the steps necessary to create an adequate monitoring plan when Applicant suggested the placement of the monitoring wells.101 Dr. Myers indicates that, while “[t]here is no simple, uniform beltane format for guidelines for developing a groundwater monitoring plan . . . . monitoring wells should be placed where contaminant plumes are most likely to pass, in order to be effective[102]” and, to assess the proper placement of monitoring wells, Dr. Myers posts that four steps are “necessary for the establishment of an adequate monitoring plan.”103 Specifically:

1. Identify the groundwater dependent ecosystems and wells that should be protected. Determine what is necessary to protect them.

2. Develop a localized conceptual flow model (CFM) that describes the hydrologic system that supports each groundwater-dependent ecosystem and water right. This would be more detailed than a CFM used for a large region because broad-scale flows do not describe small features very well. For example, some springs may be perched and therefore affected only by nearby local contaminations but larger ones such as the Fortlege and Embarosa Rivers could be supported by groundwater flow from much further away.

3. Implement the more refined CFM to estimate the detailed pathway between the potential sources and sinks. Because the sources could be a large area, such as the entire area beneath the Category I waste rock stockpile, the pathways could be defined as an envelope of paths. This may require numerical modeling or data collection to estimate the paths.

4. Determine the tape and location of monitoring that would allow the prediction of changes. For water quality, this means determining the depths to screen the well. Understanding uncertainty should inform these decisions, with more monitoring required where pathways are difficult to estimate.104

Dr. Myers conducted detailed modeling using these four steps and concludes that, because Applicant failed to develop a CFM, “contaminant plumes would miss much of the proposed monitoring.”105 The reasons contaminant plumes would miss the proposed monitoring wells is discussed in detail in Parts VIII.B and VIII.C. Dr. Myers opines that “[i]t was obviously no consideration given to dispersion of the contaminants or the advective path other than that the general direction was north or south[.] and, therefore, “[i]t contaminant plumes could easily pass between the point of compliance wells.”106

MPCA has adequately addressed the facts raised on this issue and a detailed issues that follow. See responses to Comments 710 through 712-B. This statement summarizes what will be said in more detail in following statements.

In general, monitoring wells were installed with the primary goals of: (1) monitoring the performance of engineering infrastructure, (2) serving as indicators for the early detection of potential project impacts, and (3) determining corrective actions that must be taken to address these issues. The comment criticizes the permit applicant for not explaining the basis for the proposed monitoring, but there is no legal obligation for the MPCA to use a particular set of steps to determine the monitoring needed, and the process proposed in the comment does not necessarily fulfill the multiple goals of the monitoring network.

The comment raises a policy issue regarding the method to determine monitoring requirements. Therefore, it does not meet the criteria for a contested case hearing. Minn. R. 7000.1930, subp. 1(e). Furthermore, there is not a reasonable basis underlying any factual issue such that a contested case hearing would aid the Commissioner. Cf. City of Owatonna v. MPCA 7001.0170 to modify the permit, and authority under part 7001.0150 to require sufficient

The MPCA included the basis for wells in the fact sheet, which is referenced in the comments. The MPCA’s approach was based on its own expertise and experience in developing permitting requirements, rather than the specific method suggested by Dr. Myers. In its own process, the MPCA assumed the location of each individual well as dictated by the purpose of each well and how each well fit into the overall monitoring well network. This approach was coupled with the incorporation of existing monitoring wells (each with a record of baseline water quality), and practical considerations such as access and potential disturbance to wetlands. The well network in the permit was developed to meet multiple goals, which included goals listed on the fact sheet addressed in the comments. There is no legal obligation for the MPCA to use a particular set of steps to determine the monitoring needed, and the process proposed in the comment does not necessarily fulfill the multiple goals of the monitoring network.

The MPCA determined in this factor that the monitoring well network is sufficient, the agency has jurisdiction under Minnesota Rule 7001.0150 to require sufficient monitoring to determine compliance.

MINE SITE OR THE PLANT SITE SUCH THAT CORRECTIVE ACTIONS CAN BE TAKEN IN A MEANINGFUL TIME PERIOD.

This statement summarizes what will be said in more detail in following statements. See the MPCA’s detailed responses to comments 710 through 712-B. The comment does not raise a factual issue, but rather summarizes the detailed issues that follow. See responses to Comments 710 through 712-B for supporting rationale.

Cf. City of Owatonna v. MPCA 7001.0170 to modify the permit, and authority under part 7001.0150 to require sufficient monitoring to determine compliance.
### 711 Elise Larson

**Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness**

B. Applicant Failed to Propose an Appropriate Monitoring Plan at the Mine Site.

Applicant's proposed monitoring plan at the Mine Site is unlikely to detect contamination into groundwater and surface water if a leak occurs. In his attached report, Dr. Myers models the pathway contaminant plumes would take if the mine water collection systems fail.107 Dr. Myers opines that, based on his model, "the proposed monitoring plans are insufficient because the wells are spaced too far apart to provide confidence that contaminant plumes would not pass through the monitoring well network."

This comment appears to misunderstand the purpose and function of the wells surrounding the Category 1 stockpile. The paired groundwater monitoring network at the Category 1 seepage management system consist of 13 pairs of piezometers or monitoring wells, one of the pair located just inward of the hydraulic barrier and one just outward of the barrier. The primary purpose of the paired devices is to monitor for the presence and maintenance of an inward hydraulic gradient across the barrier, which is accomplished by simultaneous measuring of the water table elevation of the two devices. The consistent presence of an inward gradient across the barrier is essential for the proper functioning of the containment system. Water quality monitoring from the paired wells, in which a sample is taken for water chemistry, is only a secondary purpose of these wells.

As opposed to identifying a potential pinhole leak in a liner, for example, which could have a fairly narrow plume and be missed by spaced wells at the edge of the stockpile, verifying the direction of hydraulic gradient is not nearly as dependent on a dense array of paired monitoring devices. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape -- instead, water will tend to flow into the capture system. Since the primary purpose of this network is to measure hydraulic gradient and not water chemistry, the proposed locations and spacing are appropriate and the concern in the comment is not applicable. Furthermore, the draft permit requires annual assessment of the engineering controls and an assessment on the suitability of the in-place monitoring network for that purpose. The comment does not provide a basis to dispute that the wells are sufficient to evaluate the inward gradient.

---

### 711-A Elise Larson

**Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness**

One specific example is the monitoring system around the Category 1 stockpile. The monitoring wells are spaced in close proximity to the seepage containment system and, as a result, the monitoring wells "would likely detect contaminants only if the leak or bypass of the containment system is just upgradient of the well."109 Dr. Myers' modeling shows similar spacing issues through the placement of the groundwater monitoring wells around the Mine Site.110 As a result, Dr. Myers' analysis shows the monitoring wells are simply spaced too widely to detect contaminant plumes from the mine operations.111 And modeling demonstrates that a number of mine-site contaminant could evade detection from the monitoring system altogether.112

This comment appears to misunderstand the purpose and function of the wells surrounding the Category 1 stockpile. The paired groundwater monitoring network at the Category 1 seepage management system consist of 13 pairs of piezometers or monitoring wells, one of the pair located just inward of the hydraulic barrier and one just outward of the barrier. The primary purpose of the paired devices is to monitor for the presence and maintenance of an inward hydraulic gradient across the barrier, which is accomplished by simultaneous measuring of the water table elevation of the two devices. The consistent presence of an inward gradient across the barrier is essential for the proper functioning of the containment system. Water quality monitoring from the paired wells, in which a sample is taken for water chemistry, is only a secondary purpose of these wells.

As opposed to identifying a potential pinhole leak in a liner, for example, which could have a fairly narrow plume and be missed by spaced wells at the edge of the stockpile, verifying the direction of hydraulic gradient is not nearly as dependent on a dense array of paired monitoring devices. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape -- instead, water will tend to flow into the capture system. Since the primary purpose of this network is to measure hydraulic gradient and not water chemistry, the proposed locations and spacing are appropriate and the concern in the comment is not applicable. Furthermore, the draft permit requires annual assessment of the engineering controls and an assessment on the suitability of the in-place monitoring network for that purpose. The comment does not provide a basis to dispute that the wells are sufficient to evaluate the inward gradient.

---

This raises a factual issue; however, there is no reasonable basis underlying the disputed issue. Minn. R. 7000.1900, subp. 1(C). The MPCA has adequately addressed the facts presented. Cf. City of Owatonna. Therefore, a contested case hearing would not aid the Commissioner.

---

In addition, the draft permit requires an annual assessment of the suitability of the monitoring program, and requires the proposal of additional/alternative monitoring locations in the event the original program is not sufficient, based on the ongoing collection of data (including flow rates, flow direction and water quality).
The primary purpose of the surface water monitoring requirements in the draft permit is to assess the overall effect that the project may have on downstream water quality and to ensure that unacceptable impacts are not occurring or will be likely to occur. Its primary intent is not to assess the performance of individual features or engineering controls of the project (the various groundwater and waste stream monitoring requirements are better suited to that). Surface water monitoring stations are generally located upstream and downstream of the two main project areas (i.e., Mine Site and Plant Site) and downstream of WWTS discharge points. The selected locations generally have a long monitoring history such that pre-operational baseline conditions can be established and any changes or trends during operation can be identified. Although the proposed surface water stations may not be able to discern the effect from an individual single-source plume, they are suitable to assess the overall impacts of the project.

Dr. Myers’ modeling also shows that surface-water monitoring will fail to detect whether the Mine Site plumes reach surface water, a very significant risk because “there are various potential groundwater pathways for contamination to reach surface water.”113 Dr. Myers notes that the location of the surface-water monitoring wells will fail to isolate the location of leaks.114 For example, if SW002 detected contaminants, the leak could be coming from the Category 1 stockpile, the East Pit, the Central Pit, or the Northshore Mine.115 In situations like this, surface water monitoring wells should be placed such that they can detect where contaminants would discharge to surface water. For these reasons, the Mine Site monitoring plan is unlikely to detect contaminants once a leak occurs. Thus, the Permit fails to establish “appropriate monitoring . . . needed to determine compliance with a permit condition”117 and Petitioners request that MPCA require Applicant to create an adequate monitoring system before issuing the Permit. If MPCA does not require Applicant to undertake this work, Petitioners request a contested case hearing on this issue.

C. Applicant Failed to Propose an Appropriate Monitoring Plan at the Plant Site.

Data from the existing monitoring wells downstream of the tailings basin indicate that monitoring wells GW-009 and GW-016 do intercept the northwest and west plumes from the tailings basin respectively, as indicated by existing elevated concentrations of key indicator constituents. These data demonstrate that the monitoring network is capable of detecting potential impacts from operation of the flotation tailings basin, contrary to the claim in the comment.

Applicant’s proposed monitoring plan at the Plant Site is similarly unlikely to detect contamination into groundwater and surface water if a leak occurs in the engineering controls.118 Dr. Myers models the various pathways a contaminant plume would take if the seepage-collection system at the Plant Site fails. Dr. Myers concludes that: [Monitoring wells] will show a decrease in concentration due to seepage capture, but they will not show leaks with certainty because they are spaced too far apart. Monitoring wells located midway between the impoundment and the river show contaminants reaching the wells, but do not begin responding for 20 or more years. This shows they would not be good indicators of a leak. Simulated plumes from leaks placed within the simulated tailings basin could miss the monitoring wells. This is because the width of the plumes is less than the spacing of the monitoring well.119

The modeling indicates that, for the prompt and accurate detection of water contamination, Applicant needs to place more wells around the Plant Site. For instance, Dr. Myers notes that “[t]here should be more compliance wells along the center of the simulated plumes to increase the chances of detecting plumes.”120 Furthermore, “[t]he variable slopes in the cumulative load curve, both for with and without the cutoff wall, shows the need for at least four surface water monitoring points along the river, at around mile point 6, 8, 10, and 13.”

Petitioners request a contested case hearing on this issue. This is a factual issue; however, the MPCA does not dispute that surface water monitoring will not identify the specific source of pollution. Minn. R. 7000.1900, subp. 1(C). To the extent there is a dispute over the ability to detect pollutants reaching surface water, no specific new information is identified, and there is no reasonable basis for the dispute, so a contested case hearing would not aid the Commissioner. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4.
The modeling also shows that the wells need to be placed more effectively. For example, Dr. Myers says “[p]roposed monitoring wells on the edge of area between the tailings and the Embarrass River are too far west and east to monitor most plumes emanating from either the entire tailings impoundment or from specific leaks within the impoundment.”122 Because these contaminant plumes move slowly, this monitoring “must continue for hundreds of years after closure, even if the wells show little contamination at closure.” For these reasons, the Plant Site monitoring plan is unlikely to detect contaminants once a leak occurs. Thus, the Permit fails to establish "appropriate monitoring" needed to determine compliance with a permit condition124 and Petitioners request that MPCA require Applicant to create an adequate monitoring system before issuing the Permit. If MPCA does not require Applicant to undertake this work, Petitioners request a contested case hearing on this issue.

IX. THE PERMIT FAILS TO ACCURATELY PROJECT THE QUALITY AND QUANTITY OF WATER THAT WILL BE GENERATED BY THE MINING OPERATION SUCH THAT THE WWTS AS CURRENTLY DESIGNED CAN TREAT THE WATER PRIOR TO DISCHARGE.

Applicant fails to accurately project the quality and quantity of water that the mining operation will generate such that the WWTS, as currently designed, can treat the water prior to discharge. Applicant’s inaccurate projections affect both the sizing of the WWTS, as well as the ability of the WWTS to clean the water to the standards set forth in the Permit. In order for MPCA to grant a NPDES/SDS permit, Applicant must show that it can: at all times properly operate and maintain the facilities and systems of treatment and control and the appurtenances related to them which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.125 Additionally, Applicant must “install and maintain appropriate backup or auxiliary facilities if they are necessary to achieve compliance with the conditions of the permit.”126

For the reasons set forth in detail below, Applicant has failed to accurately project the quality and quantity of water that the mining operation will generate such that the WWTS will “achieve compliance with the conditions of the permit,” that the WWTS will perform “effectively[ly],” or that Applicant has “appropriate backup . . . facilities” necessary to achieve Permit compliance.127 In light of these inadequacies, Petitioners request application to undertake the proper hydraulic gradient monitoring and an assessment of the engineering controls and an assessment on the suitability of the in-place monitoring network for that purpose. The comment does not provide a basis to dispute that the wells are sufficient to evaluate the inward gradient.

The comment appears to misunderstand the purpose and function of the wells surrounding the flotation tailings basin. The paired groundwater monitoring network at the flotation tailings basin seepage management system consist of 12 pairs of piezometers or monitoring wells, one of the pair located just inward of the hydraulic barrier and one just outward of the barrier. The primary purpose of the paired devices is to monitor for the presence and maintenance of an inward hydraulic gradient across the barrier which is accomplished by simultaneous measuring of the water table elevation of the two devices. The consistent presence of an inward gradient across the barrier is essential for the proper functioning of the containment system. Water quality monitoring from the paired wells, in which a sample is taken for water chemistry, is only a secondary purpose of these wells.

As opposed to identifying a potential pinhole leak in a liner, for example, which could have a fairly narrow plume and be missed by spaced wells at the edge of the stockpile, verifying the direction of hydraulic gradient is not nearly as dependent on a dense array of paired monitoring devices. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape -- instead, water will tend to flow into the basin. Since the primary purpose of this network is to measure hydraulic gradient and not water chemistry, the proposed locations and spacing are appropriate and the concern in the comment is not applicable. Furthermore, the draft permit requires annual assessment of the engineering controls and an assessment on the suitability of the in-place monitoring network for that purpose. The comment does not provide a basis to dispute that the wells are sufficient to evaluate the inward gradient.

This statement summarizes what will be said in more detail in following statements. See responses to Comments 714 through 715-B.
A. WWTS Size
Applicant fails to project an adequate size for the WWTS. 138 In order to ensure the WWTS performs effectively, MPCA must understand "the water flow through the facility with a water balance" including "approximate average flows at intake and discharge points and between units, including treatment units." 129 Such information not only ensures the WWTS will operate properly, 130 but also is necessary for the proper calculation of non-TBI effluent limitations. 131 Here, the WWTS will not perform effectively because Applicant underestimates the amount of water that will enter the WWTS and, therefore, the size of the WWTS is likely inadequate for the volume of water. 132

In particular, it is imperative Applicant base the WWTS size on accurate dewatering water projections, as dewatering water is "a primary source of water for... the treatment facilities." 133 Dewatering water includes the groundwater pumped from pit seepage, as well as accumulated run-off in the Stockpiles. 134 In 2017, Applicant submitted an updated Water Management Plan—Nov. 135 Applicant predicted mine dewatering rates as follows:

The East Pit would have the highest inflows due to it intersecting the Virginia Formation. 136 Total inflow to the East Pit in year 1 would average 205 gpm and range as high as 252 gpm (the 90th percentile predictions using the GoldSim model), and during year 11 and 20 would average and range to 378 and 863 gpm and to 448 and 1006 gpm, respectively. Dewatering rates at the West and Central Pits will be lower because, according to PolyMet, the bedrock conductivity is much smaller. 136

Contrary to Applicant's statements, the dewatering inflow rates to the WWTS are highly uncertain. 137 Applicant's "estimates are based on [a] limited understanding of the hydrogeology of the bedrock at the site, especially the hydrologic properties of the bedrock which control the inflow rates to the pit." 138 In fact, Applicant's own expert report details many ways the dewatering estimates could be too low, including failure to consider the occurrence of unplanned fractures. 138

Petitioners asked Dr. Myers to separately evaluate the dewatering rates. Applying his model, Dr. Myers predicts "overall dewatering rates would be significantly higher" than Applicant's projections. 139 Dr. Myers contends his model provides "a more realistic estimate for the potential range of inflows." 140 Dr. Myers: "Dewatering rates are higher because much more groundwater needs to be dewatered in light of calibrated bedrock conductivity being higher than that used by PolyMet and the recharge rate is twice that used by PolyMet." 141 Dr. Myers also opines that Applicant failed to "estimate the relative proportions of water entering through different layers or elevations in the pit, which could result in different water quality due to flow through different formations." 141

B. Water Quality
In addition to inadequately projecting the amount of dewatering water from the system, Applicant also underestimates the ability of the WWTS to meet the water quality standards set forth in the Permit. 148 First, as set forth in Part VIII.A, Applicant likely underestimated the amount of dewatering water the WWTS must treat and, therefore, the "[d]ewatering rates... will likely exceed the [WWTS] capacity to treat water. 149 If the Permit does not require Applicant to site the WWTS based on accurate projections, water quality will suffer the consequences. 149

The issues related to mine pit dewatering rates were thoroughly addressed in the EIS, including the specific issues raised in this comment regarding efficacy of the WWTS. See RSU Consideration of Comments on the EIS, Exhibit A at 485. The MPCA reviewed the EIS and has not received information causing it to disagree with the EIS conclusions. The volume and chemistry of pit inflows was specifically considered and the GoldSim modeling conducted for the EIS considered a reasonable range of flows and water quality. The MPCA reviewed this information and concurred it was reasonable. If the flows are higher than expected, fractures can be grouted to reduce pit inflow and/or the WWTS could be expanded to handle higher flow or provide additional treatment. The flows are anticipated to increase over time, and there is sufficient WWTS expansion capacity available to handle these higher flow rates if they were to occur. The comment does not provide facts refuting the feasibility of the approach.

714 A. MN Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness
Therefore, a contested case hearing would not aid the Commissioner. Minn. R. 7000.1900, subp. 1(C); cf. City of Owatonna. Therefore, a contested case hearing would not aid the Commissioner.

714-A A. Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness
For these reasons, dewatering water will likely exceed the amount Applicant predicted, which calls into question whether the WWTS is the proper size. Consequently, Applicant has failed to show that the WWTS will perform effectively and "achieve compliance with the conditions of the permit." 147 Petitioners request that MPCA require Applicant to show the WWTS is properly sized and will perform effectively before issuing the Permit. Petitioners request a contested case hearing on this issue.

The issues related to the management of groundwater from under the stockpile liner systems were addressed in the EIS. See FEIS Section 5.2.2.3.2 at 5-120. The MPCA reviewed the EIS and has not received information causing it to disagree with the EIS conclusions. The volume and chemistry of pit inflows was specifically considered and the GoldSim modeling conducted for the EIS considered a reasonable range of flows and water quality. The MPCA reviewed this information and concurred it was reasonable. If the flows are higher than expected, the WWTS could be expanded to handle higher flow.

This raises a factual issue; however, no specific new information is identified, including that from the cited experts, making a contested case hearing unnecessary. See Red Wing; Amendment No. 4. In addition, the MPCA has adequately addressed the factual issue and there is no reasonable basis underlying the dispute. Minn. R. 7000.1900, subp. 1(C); cf. City of Owatonna. Therefore, a contested case hearing would not aid the Commissioner.

715 A. Elise Larson
In addition to inadequately projecting the amount of dewatering water from the system, Applicant also underestimates the ability of the WWTS to meet the water quality standards set forth in the Permit. 148

The issues related to the volume and quality of wastewater from the various sources at the mine site, including the back-filled East Pit, were thoroughly addressed in the EIS. The GoldSim modeling conducted for the EIS considered a range of flows and concentrations for this water, including groundwater inflows. See FEIS at 5.2.2.2.1. The MPCA reviewed the EIS and has not received information causing it to disagree with the EIS conclusions. If the flows are higher than expected, the WWTS could be expanded to handle the higher flow or treat higher concentrations. For the flows from the backfilled East Pit in particular, these flows will not be encountered until the later years of the project (beyond mine year 10); thus, there will be sufficient time to assess actual inflow rates to the East Pit prior to the need to collect and treat that water.

The issues related to the management of groundwater from under the stockpile liner systems were addressed in the EIS. See FEIS Section 5.2.2.3.2 at 5-120. The MPCA reviewed the EIS and has not received information causing it to disagree with the EIS conclusions. The volume and chemistry of pit inflows was specifically considered and the GoldSim modeling conducted for the EIS considered a reasonable range of flows and water quality. The MPCA reviewed this information and concurred it was reasonable. If the flows are higher than expected, the WWTS could be expanded to handle higher flow.

This raises a factual issue; however, no specific new information is identified, including that from the cited experts, making a contested case hearing unnecessary. See Red Wing; Amendment No. 4. In addition, the MPCA has adequately addressed the factual issue and there is no reasonable basis for dispute. Minn. R. 7000.1900, subp. 1(C); cf. City of Owatonna. Therefore, a contested case hearing would not aid the Commissioner.
The MPCA cannot permit a system it believes will not comply with the permit conditions. Minn. R. 7000.1040. Nor does the agency issue permits assuming that wastewater treatment systems will fail. The Agency relies on its technical review of the permit application and plans submitted to determine if proposed wastewater treatment systems will adequately treat waste from the proposed source. The MPCA technical staff has reviewed the plans and found them reasonably assure the WWTS will work as designed. If the Permittee does not comply with the permit, the permittee may be subject to enforcement actions to correct the violations.

To verify proper operation of the treatment system, the draft permit requires an annual evaluation of the engineering controls at the Mine Site and Plant Site. The permittee is required to conduct an annual comprehensive assessment of the engineering controls and monitoring system at the Mine Site and Plant Site to prevent impacts to water resources downstream of the project. If the evaluation of the facility indicates the engineering controls are not operating as intended or are not providing a sufficient level of controls, the Permittee must describe in detail the adaptive management or corrective actions that are being done, or will be done to correct the problem, including a schedule for their implementation. Should such insufficient control cause a violation of a permit condition, the MPCA can take action to enforce the permit.

The comment raises a legal issue, not a factual issue, regarding the enforceability of permit requirements. Legal issues are not subject to a contested case hearing. Minn. R. 7000.1900, subp. 1(C). The MPCA has adequately addressed the issue raised by this comment. Cf. City of Owatonna. No new information on this issue is identified in the petition and a contested case hearing would not aid the Commissioner.

X. MPCA CANNOT RELY ON FAULTY ASSUMPTIONS AND FUTURE ACTIONS TO GRANT THE PERMIT.

The MPCA reviewed the EIS and has not received information causing it to disagree with the EIS conclusions. If flows are higher than expected, the WWTS could be expanded to handle the higher flow or treat higher concentrations.

This raises a factual issue; however, no specific new information is identified, including that from the cited experts, making a contested case hearing unnecessary. See Red Wing; Amendment No. 4. The MPCA has adequately addressed the factual issue, and there is no reasonable basis for dispute. Minn. R. 7000.1900, subp. 1(A). Cf. City of Owatonna. Therefore, a contested case hearing would not aid the Commissioner.

The issues related to the volume and quality of wastewater generated from the mining operation were thoroughly addressed in the EIS. The GoldSim modeling conducted for the EIS considered a range of flows and concentrations for this water. The MPCA reviewed the EIS and has not received information causing it to disagree with the EIS conclusions. If flows are higher than expected, the WWTS could be expanded to handle the higher flow or treat higher concentrations.

The comment raises a legal issue, not a factual issue, regarding the enforceability of permit requirements. Legal issues are not subject to a contested case hearing. Minn. R. 7000.1900, subp. 1(C). The MPCA has adequately addressed the issue raised by this comment. Cf. City of Owatonna. No new information on this issue is identified in the petition and a contested case hearing would not aid the Commissioner.
Elise Larson
Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

As currently designed, the Project will require wastewater treatment for more than 150 years, essentially water treatment “in perpetuity.” 166 In the absence of new technological developments, 167 the WWTS and engineering controls must continue to work perfectly the entire time to prevent an unplanned discharge to groundwater and surface water. 168 But assumptions that the engineering controls will be “100% effective . . . are questionable.” 169 And, studies applying more realistic assumptions show that “there will definitely be leaks that would be very difficult to remediate, and result in groundwater and surface water contamination.” 170 Thus, MPCA must consider and create Permit conditions around the evidence that groundwater and surface water will be contaminated when the engineering controls fail.

The MPCA relies on technical review of the permit application and plans submitted to determine if proposed wastewater treatment systems will adequately treat waste from the proposed industry. The MPCA has reviewed the available information, including an engineering review, and concluded that the permit conditions can be met and the WWTS will function as designed. Although the comment questions the engineering conclusion reached by the MPCA, it does not provide a factual basis for disputing it. The MPCA added language to the permit to require construction of key treatment components of the WWTS to be consistent with the application. The incorporation of adaptive management as a failsafe does not invalidate the requirements for compliance. Adaptive management is regularly used in complex environmental scenarios to ensure standards are met. In this case, the underlying requirement must be met; the adaptive management is intended to develop strategies to maintain compliance.

As described in response to comments 714 through 715-A, the WWTS can be expanded to treat higher flows or concentrations if necessary. The permit requires the WWTS to meet all discharge limitations. The ability to expand the WWTS provides the ability to achieve those limits. Adaptive management would be implemented as necessary based on monitoring results. As discussed above in response to Comment 22, flows are expected to increase over time and the permittee will have time to address changes in flow. The WWTS design is adaptable so that the treatment capacity can be adjusted to accommodate varying influent streams. Examples of adaptive management options may include: the transfer of water from one stream to another, the addition of membranes to nanofiltration units or vice versa, the completion of a Clean in Place process, pressure cycling of the membrane modules, and replacement of the membrane modules. Adaptive management is commonly used in NPDES permitting to address issues as they arise.

Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

Further, as discussed in Part IX.A, it is far from clear that the WWTS has been adequately sized for the amount of dewatering water that will enter the system. In the absence of an adequately sized system – and accurate projections of dewatering water – MPCA must assume that the WWTS will not work perfectly. Modifications to the WWTS should occur now, not after mine operations begin, as the ramifications for an improperly functioning WWTS are significant contamination to groundwater and surface water. MPCA attempts to correct the fact that the WWTS and engineering controls will likely fail by pointing to future adaptive management and mitigation strategies. 173 But “it is not enough to invoke ‘adaptive management’ as an answer to scientific uncertainty.” 174 Especially where the evidence before the agency shows there will be noncompliance with water quality standards. 175 Thus, MPCA has a legal obligation to deny the Permit when faced with record evidence that water quality standards will be violated. 176

As described above in Line 716 and 716-A, the permit defines the requirements the permittee must meet and does not rely on adaptive management to fill a gap in scientific uncertainty. If the WWTS needs to expand, it has the physical capacity to do so. The MPCA believes the conditions are achievable and will result in compliance with water quality standards.

This comment raises a factual issue, not a factual issue. Because the comment raises a legal issue, a contested case hearing is not appropriate for this comment. Minn. R. 7000.1900, subp. 1(A).

Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

But even assuming adaptive management could fix the high likelihood that the WWTS and engineering controls will fail, the Permit does not incorporate any particular adaptive management plan. Instead, MPCA primarily relies on Applicant to develop adaptive management plans in the future—after a problem has already occurred. 178 By relying on Applicant to develop adaptive management plans in the future, the public is deprived of a meaningful opportunity to review those plans to assess—during the one and only permitting proceeding—whether they are sufficient and enforceable. Such a procedure contravenes the law, which is intended to ensure that the public has a meaningful opportunity to participate; therefore, a contested case hearing is not appropriate on that issue. Minn. R. 7000.1900, subp. 1(A). The comment did not introduce any new facts to suggest the adaptive management is inadequate. The MPCA adequately considered the need for adaptive management and the conditions for the permit. Therefore a contested case hearing is not appropriate. See Red Wing; Amendment No. 4; cf. City of Owatonna.
And upon review of MPCA’s website, the only adaptive management plan MPCA considered was dated in July 2016.180 That adaptive management plan is wholly outdated, relying on an old configuration of the engineering controls and wastewater treatment.181 MPCA cannot rely on the plan set forth in 2016 to avoid known uncertainties in the newly proposed WWTS and engineering controls.

The proposed treatment components of the reconfigured WWTS are the same as originally proposed. The location of the proposed mine site treatment system is the only thing that has changed. The MPCA has determined the change in location of treatment does not affect the adaptive management.

This raises a legal issue regarding the authority to include adaptive management and the adequacy of public participation. The comment raises a factual issue regarding adequacy of the plan, but identifies no new facts that would be introduced at a hearing and provides no reasonable basis for the dispute. As a result, a contested case hearing is not appropriate and would not aid the commissioner. Minn. R. 7000.1900, subp. 11(a), (c); see Red Wing, Amendment No. 4.

Finally, Petitioners acknowledge that Applicant submitted an updated Adaptive Water Management Plan in December 2017 to DNR.182 While the Adaptive Water Management Plan does provide some details regarding adaptive management for the WWTS and Category 1 Stockpile,183 Petitioners question whether the strategies are so overly implemented in the face of inadequate monitoring and likely leaks into groundwater and surface water.185

But even more importantly, the Adaptive Water Management Plan is extremely limited. As articulated by DNR’s expert, the “Adaptive Water Management Plan”...is probably the most important of all the documents/appendixes” but it “only refers to the two water treatment plants and the Cat 1 stockpile, and nothing else.”186 DNR’s expert further explained that the expert mistakenly believed the Adaptive Water Management Plan “referred to anything that might need fixing” if the original design didn’t work” and that he “couldn’t have been more wrong.”187 Thus, DNR’s expert disarmingly observed “I wonder why the title committee’s adaptive.”188 For example, the Adaptive Water Management Plan regarding the Flotation Tailing Basin (“FTB”) is nothing but a vague statement of good intentions. The Permit provides that the FTB will be constructed to ensure “there will be no direct discharge” of “any running water.”189 Part of the design is “[a] bentonite amended layer [that] will be placed on exterior sides of the FTB rails to limit oxidation of the tailings.”190 But the use of bentonite amended layer is, at best, a “Yad Mary.”191 Thus, to ensure there is no direct discharge to surface water, the Permit relies on an unproven technology and assumptions which the consultants characterize as “wishful thinking.”192 Stated simply, Applicant proposes using bentonite, a type of clay with low hydraulic conductivity, to protect the tailings in the FTB from oxygen infiltration. But Applicant provides “no evidence demonstrating that bentonite-amended tailings...will be effective as an oxygen barrier.”193 And experts opine that the use of a bentonite-amended layer to minimize oxidations of the tailings is “an unproven and untested approach.”194 Yet, the Adaptive Water Management Plan provides “no evidence demonstrating that bentonite-amended tailings...will be effective as an oxygen barrier.”195 Thus, the Adaptive Water Management Plan does not sufficiently provide alternatives for the possibility that the bentonite does not prevent FTB oxygen infiltration.

For these reasons, MPCA cannot issue the Permit until scientific uncertainties are determined and an adequate adaptive management plan is made a condition of the Permit. If MPCA diagnoses and finds the assumptions underlying the effectiveness of the WWTS and engineering controls are supported by the record and the Permit requires an adequate adaptive management plan, Petitioners request a contested case hearing on the adequacy of the WWTS, engineering controls, and adaptive management plan.

As described above in response to Comments 710 through 712-B, the MPCA determined the proposed monitoring network identified in the draft permit is adequate. The draft permit requires water quality and/or water level monitoring at a total of 167 monitoring stations at the Mine Site and Plant Site.

The draft permit requires an Annual Comprehensive Performance Evaluation Report, which includes an annual evaluation of monitoring and performance data as well as engineering controls at the Mine Site and Plant Site. The requirements of the NPDES permit may not be entirely satisfied by the Adaptive Water Management Plan.

The annual evaluation of the engineering controls along with the evaluation of relevant monitoring and performance data, which includes waste stream monitoring results, surface water monitoring results, and internal operational data, will provide early identification of potential impacts from the project and will help determine the need for adaptive management, corrective actions, or mitigation to prevent potential impacts to the groundwater and surface waters. If the evaluation of the facility indicates the engineering controls are not operating as intended or are not providing a sufficient level of controls, the Performance Report must describe in detail the adaptive management or corrective actions that are being done, or be done to correct the problem, including a schedule for their implementation.

XI. THE PERMIT FAILS TO ADHERE TO APPLICABLE LEGAL STANDARDS UNDER THE CLEAN WATER ACT AND MINNESOTA LAW.

The Permit also suffers from legal infirmities such that it fails to adhere to the applicable legal standards in the Clean Water Act and Minnesota law. To understand these legal infirmities, some factual context is important.

Applicant proposes a new direct discharge of pollutants to groundwater and surface water in the St. Louis Watershed. Initially, Applicant proposes to discharge treated effluent from the WWTS to the headwaters portions of Second Creek, Trimbble Creek, and Unnamed Creek.196 These headwater segments are low flow, with a 7Q10 flow rate of 0.0 CFS, which means that MPCA may “not allow for dilution when analyzing for reasonable potential to cause or contribute to a violation of water quality standards.”197 During the first phase of the Project, Applicant proposes to treat the long list of pollutants that will be present in its discharge (including aluminum, antimony, arsenic, beryllium, bicarbonate, boron, cadmium, chloride, chromium cobalt, copper, fluoride, iron, lead, manganese, mercury, selenium, sodium, sulfide, thallium and zinc) at a WWTS. Following mine closure, Applicant eventually plans to stop operation of the WWTS and move to some form of passive treatment system. That future passive treatment system will likely discharge more pollution that the WWTS and impact rivers and streams that were previously not impacted by direct surface discharges. Applicant has not identified the exact levels of each pollutant it anticipates discharging from its passive treatment system, except to say that these treatment systems will be designed with the goal of meeting applicable water quality standards.

NPDES permits have a five-year term, but the issue the comment raises might occur at some time after facility closure. The MPCA has added language to the permit to require construction of the WWTS component as proposed in the application. The permit does not authorize a discharge from a passive treatment system.

This comment does not raise a factual issue or provide any new facts. To the extent the comment interprets the applicability of antidegradation, it raises legal issues. Because the comment raises legal and not factual issues, and does not raise new facts to reasonable support a dispute, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 11(a); see Red Wing, Amendment No. 4.
The Permit, as currently drafted, contains operating limits, technology based effluent limits ("TBEUs"), and monitoring requirements for the laundry list of pollutants anticipated to be present in the effluent discharged from the facility. These TBEUs "represent the minimum level of control that must be imposed in a NPDES permit" and are not designed to, and cannot, ensure the Project does not discharge pollution that will cause or contribute to a violation of water quality standards in the waters impacted by Applicant’s effluent discharge.198 The Permit lacks any water quality based effluent limits ("WQBELs") that would restrict Applicant from discharging pollutants at levels that will violate water quality standards.199 While the Permit does contain effluent limits equal to the water quality standards for sulfate and copper, MPCA insists that these limits are neither TBEUs, nor WQBELs.200 While "Plymouth voluntarily committed to treating is discharge to 10 mg/L sulfate,"201 the 9.3 ug/L copper limit is included in the permit "to provide assurance" that the WWTS is removing all other pollutants in the discharge to levels below the water quality standard.202 The following table summarizes water quality standards applicable to the Project, projected effluent quality, and the effluent limits in the Permit. Applicant projects that the technology it proposes to meet the voluntary operational 10 mg/L sulfate limit will significantly reduce levels of all pollutants in the discharge to levels below the applicable water quality standards.203 It is the voluntary sulfate limit that forms the sole justification for MPCA’s determination that no WQBELs are needed to control the variety of pollutants that will be discharged to the wetlands and rivers surrounding the Project.204 MPCA relies solely on these two operating limits to "indicate[that] the chronic aquatic life standards for other metals will be met" in the effluent discharges from the PolyMet Project.205

The MPCA believes the comment misinterprets the permit. During the EIS process, PolyMet offered to resolve outstanding issues related to sulfite and wild rice by incorporating advanced wastewater treatment into the project design. While PolyMet volunteered to do this, compliance with the permit Operating Limit for sulfate is not voluntary. The Operating Limits for both sulfate and copper are enforceable permit limits; if they are exceeded, it will be a violation of the permit. The modeling and pilot testing demonstrated that concentrations of other parameters in the effluent would be far below the water quality standards when the sulfate Operating Limit is met.

Federal and state rules require permit effluent limits to be determined by weighing whether a discharge has the reasonable potential to exceed water quality standards. 40 C.F.R. § 122.44(d). The method to conduct the evaluation is a policy matter. The analysis can use existing and receiving water data and modeling techniques, or using a non-quantitative approach. If effluent data are not available, then effluent data are not available, a reasonable potential analysis can be conducted using available information such as modeling and pilot testing data. The EPA MPCA Permit Writers Manual suggests reasonable potential can be determined through a qualitative process where facility-specific effluent monitoring data is not available.

The PolyMet facility has not been built, and therefore has no actual operating data. The MPCA considered the following available information in conducting the HP analysis:

1. Estimated effluent quality as reported in the 2017 permit application on EPA Form 2D.
2. WWTS design model outputs as described in Attachment H to the WWTS Design & Operation Report v2, October 2013, cited as a reference in the Minnesota Environmental Summit "Wastewater Treatment System (WWTS) Discharge Treatment Targets" Fact Table 3.2 "Average Daily Value" of the permit application. The values provided in the application indicate the project will meet the operating limits proposed in the draft permit.
3. Final Pilot Testing Report, included as Attachment K to the WWTS Report.

Information available on EPA Form 2D indicates the source of the values provided for "maximum daily value" and "average daily value" of the estimates from engineering studies and the "Wastewater Treatment System (WWTS) Discharge Treatment Targets" Fact Table 3.2 "Average Daily Value" of the permit application. The values provided in the application indicate the project will meet the operating limits proposed in the draft permit.

The design modeling provided in the permit application accounted for variability in the volume and quality of the wastewater that are expected to occur as the Project progresses from Mine Year 1 into later years. It demonstrated the proposed design can be optimized so the discharge will meet the sulfate and copper Operating Limits proposed in the draft permit.

To demonstrate that membrane treatment technologies were capable of meeting treatment targets, the company conducted a 6-month pilot testing program using sewage water from the existing tailings basins. For a portion of the test, additional metals were added to the test influent to more closely simulate projected project effluent quality. Results of the pilot testing were used in the MPCA’s reasonable potential analysis, and MPCA again determined the proposed design is capable of meeting the Operating Limits for sulfite and copper in the draft permit. In addition, the modeling and pilot testing demonstrated that concentrations of other parameters in the effluent would be far below the water quality standards when the project is in operation.

This comment raises policy and legal issues; it does not present any new facts. Because this comment raises policy and legal issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A). The information before the agency shows that the permit will protect water quality standards. The comment does not identify facts that provide a reasonable basis for a dispute. Therefore, a contested case hearing is not appropriate on this issue. Minn. R. 7000.1900, subp. 1(C).

As discussed in response to Comment 718-A, the MPCA did consider reasonable potential for other parameters and determined, based on review of available information, that there is no reasonable potential for the facility to cause or contribute to an excursion above a water quality criterion. This comment does not raise a factual issue, but interprets the language of the permit. This is a legal issue for which a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A). In addition, the comment identifies no new facts for the MPCA to consider that would provide a reasonable basis for a dispute. See Red Wing; Amendment No. 4. Therefore, a contested case hearing is not appropriate on this issue. Minn. R. 7000.1900, subp. 1(C).

Federal and state rules require permit effluent limits to be determined by weighing whether a discharge has the reasonable potential to exceed water quality standards. 40 C.F.R. § 122.44(d). The method to conduct the evaluation is a policy matter. The analysis can use existing and receiving water data and modeling techniques, or using a non-quantitative approach. If effluent data are not available, then effluent data are not available, a reasonable potential analysis can be conducted using available information such as modeling and pilot testing data. The EPA MPCA Permit Writers Manual suggests reasonable potential can be determined through a qualitative process where facility-specific effluent monitoring data is not available.

The PolyMet facility has not been built, and therefore has no actual operating data. The MPCA considered the following available information in conducting the HP analysis:

1. Estimated effluent quality as reported in the 2017 permit application on EPA Form 2D.
2. WWTS design model outputs as described in Attachment H to the WWTS Design & Operation Report v2, October 2013, cited as a reference in the Minnesota Environmental Summit "Wastewater Treatment System (WWTS) Discharge Treatment Targets" Fact Table 3.2 "Average Daily Value" of the permit application. The values provided in the application indicate the project will meet the operating limits proposed in the draft permit.
3. Final Pilot Testing Report, included as Attachment K to the WWTS Report.

Information available on EPA Form 2D indicates the source of the values provided for "maximum daily value" and "average daily value" of the estimates from engineering studies and the "Wastewater Treatment System (WWTS) Discharge Treatment Targets" Fact Table 3.2 "Average Daily Value" of the permit application. The values provided in the application indicate the project will meet the operating limits proposed in the draft permit.

The design modeling provided in the permit application accounted for variability in the volume and quality of the wastewater that are expected to occur as the Project progresses from Mine Year 1 into later years. It demonstrated the proposed design can be optimized so the discharge will meet the sulfate and copper Operating Limits proposed in the draft permit.

To demonstrate that membrane treatment technologies were capable of meeting treatment targets, the company conducted a 6-month pilot testing program using sewage water from the existing tailings basins. For a portion of the test, additional metals were added to the test influent to more closely simulate projected project effluent quality. Results of the pilot testing were used in the MPCA’s reasonable potential analysis, and MPCA again determined the proposed design is capable of meeting the Operating Limits for sulfite and copper in the draft permit. In addition, the modeling and pilot testing demonstrated that concentrations of other parameters in the effluent would be far below the water quality standards when the project is in operation.

This comment raises policy and legal issues; it does not present any new facts. Because this comment raises policy and legal issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A). The information before the agency shows that the permit will protect water quality standards. The comment does not identify facts that provide a reasonable basis for a dispute. Therefore, a contested case hearing is not appropriate on this issue. Minn. R. 7000.1900, subp. 1(C).

As discussed in response to Comment 718-A, the MPCA did consider reasonable potential for other parameters and determined, based on review of available information, that there is no reasonable potential for the facility to cause or contribute to an excursion above a water quality criterion. This comment does not raise a factual issue, but interprets the language of the permit. This is a legal issue for which a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A). In addition, the comment identifies no new facts for the MPCA to consider that would provide a reasonable basis for a dispute. See Red Wing; Amendment No. 4. Therefore, a contested case hearing is not appropriate on this issue. Minn. R. 7000.1900, subp. 1(C).
719 Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

A. The TBELs and “Operating Limits” Will Not Ensure Long-Term Protection of the Water Quality Standards or Prevent Degradation and WQBELs Are Mandated. Federal law requires MPCA to impose effluent limitations necessary to achieve water quality standards.208 No permit may be issued by MPCA “[w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.”209 NPDES permits must include WQBELs necessary to achieve water quality standards applicable to waters impacted by the discharge to ensure that the discharge from the facility complies with all applicable water quality standards.210 These “more stringent effluent limitations and conditions, such as WQBELs, are imposed when TBELs are not sufficient to protect water quality.”211 WQBELs in NPDES permits are required when a pollutant “may be discharged at a level which will cause, have a reasonable potential to cause, or contribute to an excursion above State water quality criteria.”212 Here, the Permit contains no such WQBELs or other controls calculated to ensure the discharge does not, as required by federal regulations at 40 C.F.R. § 122.44, cause or contribute to a violation of water quality standards.213 And the TBELs in the Permit are not sufficient to protect water quality.214

The MPCA modified the draft permit to add operating limits for additional parameters and a prohibition against discharges that violate water quality standards. The permit requires monitoring for a variety of parameters, which will serve to verify compliance with the requirement. For more detailed responses, see 719-A through 720-F.

This comment raises a legal issue regarding legal applicability of water quality-based effluent limits. A contested case hearing is not appropriate on the legal issue. Minn. R. 7000.1900, subp. 1(A).

To the extent this questions the method the MPCA used to conduct a reasonable potential analysis, the comment raises a policy issue. Policy issues are not subject to a contested case hearing. Minn. R. 7000.1900, subp. 1(C). Moreover, the comments did not identify any new facts or provide a reasonable basis for the dispute that would meet the criteria for a contested case hearing. Minn. R. 7000.1900, subp. 1(C). MPCA’s detailed responses below further demonstrate that a contested case hearing would not aid the commissioner on this issue.

719-A Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

1. The Lack of Water Quality Based Effluent Limits in the Permit Shield Polymet From Citizen Suit Enforcement. According to MPCA’s analysis, no WQBELs are needed in the Permit to protect water quality from pollution discharged from the WWTS because the technology the facility currently proposes to use will be subject to two “operating limits” imposed on an internal waste stream upstream from the discharge points. Based on MPCA’s analysis, if those operating limits, one of which is voluntary, are met, the remainder of the pollutants in the discharge from the WWTS will not exceed water quality standards applicable to the receiving waters.

By failing to include WQBELs on all pollutants that will be discharged from the facility and impact water quality, MPCA has created a broad enforcement shield for Applicant, that insulates Applicant from enforcement should its discharge exceed water quality standards for those pollutants that are not limited by WQBELs in the Permit. Under the “permit shield” provided under 33 U.S.C. § 1342(b), compliance with a NPDES permit is deemed compliance for Clean Water Act purposes. The permit shield “insulates[s] permit holders from changes in various regulations during the period of a permit to relieve[5] them of having to litigate in an enforcement action the question whether their permits are sufficiently strict.”216 But the “permit shield” is broader than the permit. Under the Clean Water Act permit shield, “all discharges adequately disclosed to the permitting authority are within the scope of the permit’s protection” even if a limit on the discharge of that pollutant is not included in the NPDES permit.217 As a result, the Permit would exempt the Applicant from any enforcement actions, even those brought by impacted individuals under the Citizen Suit provision of the Clean Water Act. If any of a large number of pollutants—including aluminum, antimony, arsenic, boron, cadmium, chromium, cobalt, iron, lead, nickel, selenium, silver, thallium, zinc, and mercury—reach levels that may contribute to a violation of the water quality standards. MPCA must revise the Permit to include WQBELs that protect water quality for all pollutants in its discharge. Because Applicant is already required to monitor the amount of each of those pollutants in its discharge, inclusion of those limits in the Permit would impose no additional requirements on Applicant.

As noted above, the Operating Limits in the permit are enforceable limits and conditions of the permit. If the discharge exceeds a limit, the permittee can be subject to an enforcement action. In addition, the permit now contains a prohibition against discharges that violate water quality standards. See Permit at 5.119.1. This comment raises a legal issue regarding applicability of a permit shield.

Because this comment raises a legal issue, and the MPCA has adequately addressed the issue, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); cf. City of Owatonna .
**719-B Elise Larson**  
Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness  

2. The Operating Limits Elude Anti-Backsliding Restrictions. Under the Clean Water Act, a permit may not be renewed, reissued or modified ... subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.219 This Clean Water Act requirement is called "anti-backsliding." Because the 10 mg/L sulfate operating limit in the Permit is neither a TBEL nor a WQBEL, the Clean Water Act anti-backsliding provision will not ensure a sulfate limit at least this stringent remains in effect beyond the five-year term of the Permit if the underlying wild rice sulfate standard is changed.

Anti-backsliding applies to particular types of effluent limitations, including water quality-based effluent limits. 33 U.S.C. § 1342(c)(1). This comment raises a legal issue, not a factual issue. The comment takes the position that the permit should be revised so that limits could not be modified in the future. As described above in response to Comment 718-A, the MPCA found that there was no reasonable potential to exceed a water quality standard, so no WQBEL is required by law. The permit imposes limits to ensure proper operation of the facility and prohibits discharges that violate a water quality standard.

This comment raises a legal issue, not a factual issue, and therefore a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A). In addition, the comment on future permit contents is outside the jurisdiction of the MPCA commissioner's authority in this action. Minn. R. 7000.1900, subp. 1(B).

---

**719-C Elise Larson**  
Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness  

Likewise, the anti-backsliding provision also will not prevent removal of the 9.3 ug/L copper limit, that provides assurance that the treatment system is removing pollutants, in future permits. Courts have held that performance based limits, such as the "operating limit" proposed for sulfate and copper in the Permit are not comparable to WQBELs for purposes of anti-backsliding, and therefore anti-backsliding is not specifically applicable to these limits.220 For example, an effluent limit that requires treatment to remove copper discharged to area wetlands, streams, and rivers, would be anti-backsliding. However, an effluent limit that requires treatment to remove copper from the WWTS would not be anti-backsliding.221 Because the operating limits for copper and sulfate limit are the most important factor dictating levels of all other pollutants discharged to area wetlands, streams, and rivers, MPCA must revise the Permit to ensure those limits remain in effect in future permits.

As described above in response to Comment 718-A, the MPCA found that there was no reasonable potential to exceed a water quality standard, so no WQBEL is required. The permit imposes operating limits to ensure proper operation of the facility and prohibits discharges that violate a water quality standard. Thus, the permit shield does not apply to any discharge that violates a water quality standard.

This comment raises a legal issue of Clean Water Act interpretation, not a factual issue. Because the comment raises legal and not factual issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A). In addition, the comment on future permit contents is outside the jurisdiction of the MPCA commissioner's authority in this action. Minn. R. 7000.1900, subp. 1(B).

---

**719-D Elise Larson**  
Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness  

3. Without WQBELs There Will Be No Future Antidegradation Trigger Forcing Applicant to Consider the Least-Degrading Alternative. Antidegradation review of new facilities is integral to achieving the water quality goals of the Clean Water Act, and is needed to prevent projects that will impose unnecessary burdens on the people that use Minnesota's valuable water resources. More specifically, antidegradation review is needed to ensure that "degradation of high water quality shall be minimized and allowed only to the extent necessary to accommodate important or social development."223 Minnesota's antidegradation regulations only allow approval of projects that implement available prudent and feasible prevention, treatment, or loading offsets to avoid degradation.224 Where degradation cannot be avoided, the degradation may only be approved if it is prudently and feasibly minimized or the NPDES permit prudently and feasibly minimizes any net increase in loading or other causes of degradation.225 In no instance may MPCA approve an NPDES permit or approve a proposed activity "when existing uses and the level of water quality necessary to protect existing uses are maintained and protected."226 In Minnesota, the triggers for antidegradation review are based on the amount of pollution authorized by limits in permits.227 According to MPCA: the pollutant limit in a NPDES permit reflects the level of degradation the agency approved when it issued the permit.228 Hence antidegradation review will not be triggered during future permit reissuances unless the pollutant loads exceed that authorized level of degradation allowed by current and anticipated discharges authorized by the Permit.229 Here for example, MPCA has included an effluent limit in the Permit authorizing the Applicant to discharge 500 mg/L arsenic. This is the level of pollution that the Permit authorizes.230 Hence, antidegradation review will not be triggered in the future unless the Applicant’s discharge exceeds this level. But MPCA’s antidegradation review is based on an assumed, but not required, effluent discharge level of 0.004 ug/L arsenic from the Applicant’s WWTS.231 To prevent Applicant from future degradation of water quality without antidegradation review, MPCA must include effluent limits on all parameters equal to the level of degradation it is currently authorizing – in this case 0.004 ug/L.232 Without these limits, MPCA’s ability in the future to force Applicant to consider alternatives that will avoid or minimize the degradation caused by its future discharges will be limited.

The commentinterprets the antidegradation rules, but does not include any consideration of the Operating Limits in the permit. The permit imposes enforceable Operating Limits for several parameters, including sulfate. Any change in treatment method would affect sulfate loading. Any increase to the Operating Limits would affect the loading authorized by the permit, and an antidegradation review would be necessary. See Minn. R. 7050.0280 subp. 1.

The comment addresses the legal triggers for an antidegradation review. Because the comment raises legal and not factual issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).
4. MPCA's Anti-Degradation Analysis Fails to Consider Future Phases of the Project. The MPCA conducted an antidegradation review to address the discharges that would be authorized by the draft permit. In addition, the mine year 10 discharges used in the analysis represent the highest discharges projected from the facility.

This comment does not raise a factual issue or identify any new facts. To the extent the comment interprets the applicability of antidegradation review, it raises legal issues. Because the comment raises legal and not factual issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).

II Second, MPCA has not performed an antidegradation assessment of the planned discharge to Partridge Creek watershed from the Mine Site that will occur as the Applicant moves to passive treatment. Because the discharge is part of the overall project and treatment of this wastewater is inevitable in future years MPCA must determine that the technologies and treatment it proposes for future phases of this project will avoid or minimize degradation.234

This comment does not raise a factual issue. To the extent the comment interprets the applicability of antidegradation, it raises legal issues. Because the comment raises legal and not factual issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).

II Third, neither Applicant nor MPCA have provided a reliable assessment of the quantifiable changes to water quality that will occur when the facility moves to passive treatment of pollution generated at the Mine Site and Plant Site.235

This comment does not raise a factual issue or provide any new facts. To the extent the comment interprets the applicability of antidegradation, it raises legal issues. Because the comment raises legal and not factual issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).

II Fourth, models are inherently imperfect and the Permit does not limit pollution from the WWTS to the levels of pollution identified by the model. As described in the antidegradation review, the MPCA found the design model to be the most reliable prediction of effluent quality. The sulfate Operating Limit in the draft permit is enforceable, and the MPCA revised the permit to include additional operating limits for all parameters for which influent is expected to exceed water quality standards. The MPCA found that there was no reasonable potential for other pollutants to exceed water quality standards and therefore did not impose effluent limits on those pollutants. The MPCA's review concluded that to meet the sulfate limit, other parameters would be consistent with model outputs.

This comment does not raise a factual issue or provide any new facts. To the extent the comment interprets the applicability of antidegradation, it raises legal issues. Because the comment raises legal and not factual issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).
720-E Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

MPCA's Anti-Degradation Analysis Did Not Consider Alternatives to Reduce Discharges in the Long-Term. Applicant asserted that the use of the WWTS to treat effluent prior to discharge from the facility is the most prudent and feasible alternative to minimize degradation. However, this conclusion is based on the presumption that the discharge of treated wastewater is a fundamental, inherent aspect of the Project.238 But there are less degrading alternatives that MPCA and Applicant have altogether failed to assess, including feasible and prudent alternatives that prevent and minimize near term and long-term degradation of high quality waters, such as dry stack tailings and filtered tailings.239 These alternatives must either be required to avoid degradation or the Permit must be revised to include enforceable limits that will require achievement of the highest effluent quality that could be achieved via these feasible and prudent alternatives. MPCA may neither ignore acknowledged degradation that will occur in future phases of the Project nor ignore alternatives that will eliminate the need for perpetual treatment of wastewater from the Plant Site, FTB, and Mine Site.240 Applicant proposes a Project that will inevitably, and by design, discharge polluted effluent to nearby streams in perpetuity. Applicant's documentation does not assess the degradation to high quality waters that is likely to occur as the mine phases out the WWTS and moves to passive treatment, except to say that the discharge will meet water quality standards.241 But MPCA's antidegradation analysis is based on predicted levels of pollution from the WWTS that are much lower than water quality standards.242 Neither Applicant nor MPCA have established that future phases of this project will continue to achieve the low levels of pollution Applicant believes are achievable at the WWTS, nor that it is reasonable to expect perpetual treatment after income producing activities have ceased. None of the Permit documentation indicates that the future perpetual discharge will not degrade high quality beyond the level of degradation modeled in Mine Year 10.

MPCA must either revise the Permit to require compliance with the low levels of pollution it is authorizing from the WWTS or provide reasons why prudent and feasible alternatives to preventing and minimizing pollution in the future, namely dry stack tailings and filtered tailings, are not required.

The MPCA also reviewed alternatives and found that among the prudent and feasible alternatives, the proposed treatment alternative minimized degradation. MPCA looked at alternative project designs, including the designs that were considered during the EIS (see 815 section 3.2.3). The comment presumes the treatment will change at some future point, but the permit does not authorize any such change in discharge. Possible changes in future permits are beyond the scope of the antidegradation review required by law. Minn. R. 7000.0280, 7050.0365.

721 Elise Larson Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

B. The Draft Permit Must Include Whole Effluent Toxicity Requirements Needed to Ensure Minnesota's Water Quality Standards.

The Permit requires Applicant to conduct Whole Effluent Toxicity ("WET") Testing, but does make an exceedance of levels a violation of the Permit.243 Instead, the WET limit in the Permit, is identified as an "intervention limit" that triggers additional WET testing and analysis, and may ultimately result in permit modification to include an enforceable WET limit. The Permit must make exceedance of the 1.0 TUc threshold value an enforceable limit. State law prohibits chronic toxicity from exceeding the chronic standard or criterion, or 1.0 TUc for WET.244 In addition, Minnesota's narrative water quality standards prohibit conditions that endanger fish.245 Violation of WET test results must constitute a violation of the permit. State agencies may not issue NPDES permits when the conditions of the permit do not provide for compliance with the applicable requirements of CWA, or regulations promulgated under CWA . . . or when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.246 MPCA must revise the Permit to include enforceable limits that prevent exceedances of the WET 1.0 TUc threshold and prevent degradation.247

This comment raises a legal issue regarding adequacy of meeting antidegradation procedures. A contested case hearing on legal issues is not appropriate. Minn. R. 7000.1900, subp. 1(A). To the extent it does raise a factual issue regarding adequacy of the alternatives evaluated, the MPCA adequately addressed the issue and a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); cf. City of Owatonna. Because the MPCA has adequately addressed the comment and there is no longer a dispute of fact, a contested case hearing is inappropriate. Minn. R. 7000.1900, subp. 1(A); cf. City of Owatonna.
The Permit Allows Applicant to Discharge Mercury at Levels Not Authorized by the Clean Water Act. The Clean Water Act prohibits Applicant from discharging additional mercury to the mercury impaired watersheds impacted by the new discharge from NorthMet Mine Project’s, unless, or until, there a concrete plan is being implemented to bring the waters into compliance with water quality standards. The Clean Water Act prevents issuance of a NPDES permit: (1) To a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet these standards even after the application of the effluent limitations required by sections 301(b)(1)(a) and 301(b)(3)(B) of CWA, and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that: (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and (2) The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards. The Director may waive the submission of information by the new source or new discharger required by paragraph (f) of this section if the Director determines that the Director already has adequate information to evaluate the request. An explanation of the development of limitations to meet the criteria of this paragraph (i)(2) is to be included in the fact sheet to the permit under §124.56(b)(1) of this chapter. 248 This provision bans new discharges to impaired waters, even those that are offset by claimed reductions from other sources, unless “a TMDL has been performed and the [permittee] demonstrates that before the close of the comment period two conditions are met, which will assure that the impaired waters will be brought into compliance with the applicable water quality standards.”249 These two conditions require MPCA to show that there is sufficient remaining pollutant load allocations to allow for the discharge and that the existing dischargers are subject to “compliance schedules designed to bring the segment into compliance with water quality standards.”250 In other words the new discharge can only be permitted if it “can demonstrate that, under the TMDL, the plan is designed to bring the waters into compliance with applicable water quality standards.”

C. The Permit Allows Applicant to Discharge Mercury into Watersheds Impaired under TMDLs. The Permit authorizes Applicant to discharge mercury limit up to 1000 ng/L, without the threat of enforcement. Even if the Permit were revised to include a new mercury effluent limit of 1.3 ug/L, Applicant’s new discharge of mercury cannot be permitted because the discharge will impact several waters that currently exceed mercury water quality standards, including: The Embarrass River exceeds the mercury water quality standards for mercury in fish tissue and mercury in water column, and is covered by MPCA’s Statewide Mercury TMDL.252 MPCA has not explained in the fact sheet whether there is sufficient remaining pollutant load in the Embarrass River TMDL, nor does the fact sheet include an explanation of how the 1000 ng/L limit in the draft permit meets the criteria of 40 C.F.R. § 122.4(i)(2). 253 Both the St. Louis and the Partridge rivers are listed on MPCA’s Impaired Waters List as impaired for mercury in fish tissue and mercury in the water column, but are awaiting development of a TMDL.

2. MPCA has not done a commercial fishery survey but has performed some limited sampling, which indicates that the existing discharges to the watersheds are below water quality standards. 254 This comment interprets federal regulation as applied to the facility. The MPCA conducted a reasonable potential analysis for mercury while reviewing the permit application and determined there is no reasonable potential for the discharge to cause or contribute to an exceedance of the mercury water quality standard. In fact, the MPCA expects the project to lead to a net reduction in mercury load exported from the facility because of the capture and treatment system. Because the discharge will not cause or contribute to a violation of water quality standards, it does not violate 122.4(i).

As described above in response to line 722, the discharge will not cause or contribute to a violation of water quality standards, and 122.4(i)(2) does not apply. Because the comment raises legal and not factual issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).

The Permit Allows Applicant to Discharge Mercury at Levels Not Authorized by the Clean Water Act. The Clean Water Act prohibits Applicant from discharging additional mercury to the mercury impaired watersheds impacted by the new discharge from NorthMet Mine Project’s, unless, or until, there a concrete plan is being implemented to bring the waters into compliance with water quality standards. The Clean Water Act prevents issuance of a NPDES permit: (1) To a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet these standards even after the application of the effluent limitations required by sections 301(b)(1)(a) and 301(b)(3)(B) of CWA, and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that: (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and (2) The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards. The Director may waive the submission of information by the new source or new discharger required by paragraph (f) of this section if the Director determines that the Director already has adequate information to evaluate the request. An explanation of the development of limitations to meet the criteria of this paragraph (i)(2) is to be included in the fact sheet to the permit under §124.56(b)(1) of this chapter. 248 This provision bans new discharges to impaired waters, even those that are offset by claimed reductions from other sources, unless “a TMDL has been performed and the [permittee] demonstrates that before the close of the comment period two conditions are met, which will assure that the impaired waters will be brought into compliance with the applicable water quality standards.”249 These two conditions require MPCA to show that there is sufficient remaining pollutant load allocations to allow for the discharge and that the existing dischargers are subject to “compliance schedules designed to bring the segment into compliance with water quality standards.”250 In other words the new discharge can only be permitted if it “can demonstrate that, under the TMDL, the plan is designed to bring the waters into compliance with applicable water quality standards.”

The Permit Allows Applicant to Discharge Mercury into Watersheds Impaired under TMDLs. The Permit authorizes Applicant to discharge mercury limit up to 1000 ng/L, without the threat of enforcement. Even if the Permit were revised to include a new mercury effluent limit of 1.3 ug/L, Applicant’s new discharge of mercury cannot be permitted because the discharge will impact several waters that currently exceed mercury water quality standards, including: The Embarrass River exceeds the mercury water quality standards for mercury in fish tissue and mercury in water column, and is covered by MPCA’s Statewide Mercury TMDL.252 MPCA has not explained in the fact sheet whether there is sufficient remaining pollutant load in the Embarrass River TMDL, nor does the fact sheet include an explanation of how the 1000 ng/L limit in the draft permit meets the criteria of 40 C.F.R. § 122.4(i)(2). 253 Both the St. Louis and the Partridge rivers are listed on MPCA’s Impaired Waters List as impaired for mercury in fish tissue and mercury in the water column, but are awaiting development of a TMDL.

Nearly all the remaining rivers, lakes, and wetlands, that will be impacted by Applicant’s new mercury discharge (except Second Creek), are currently exceeding the water quality standard for mercury, but are not identified as impaired on Minnesota’s 303(d) Impaired Waters List. 255 MPCA and Applicant estimate that the NorthMet Mine Project’s new mercury discharges will not increase mercury concentrations in any of these impaired receiving waters (except in the unnamed creek, where Applicant admits there will a small increase in mercury concentration in Mine Year 10) because this new discharge will be offset.256 However, there is nothing in the Clean Water Act “that provides an exception for an offset when the waters remain impaired and the new source is discharging pollution into that impaired water.”257 Applicant’s analysis is flawed, and its new discharge of mercury is not allowed because its conclusion, showing no increased concentration of mercury will be present in Mine Year 10, is based on projected offsets. For this reason, MPCA must deny the Permit unless and until Applicant meets the conditions in 40 C.F.R. § 122.4(i).

This comment interprets federal regulation as applied to the facility. The MPCA conducted a reasonable potential analysis for mercury while reviewing the permit application and determined there is no reasonable potential for the discharge to cause or contribute to an exceedance of the mercury water quality standard. In fact, the MPCA expects the project to lead to a net reduction in mercury load exported from the facility because of the capture and treatment system. Because the discharge will not cause or contribute to a violation of water quality standards, it does not violate 122.4(i).
The Permit Fails to Limit or Prevent Discharges of Pollutants to Surface Water Via Hydrologically-Connected Groundwater. MPCA failed to include conditions or limitations in the Permit that prevent pollutants discharged to surface water via hydrologically connected groundwater, as required by the Clean Water Act. Here, the various groundwater containment systems, basins, ponds, mine water collection systems, and stormwater management systems that collect and discharge pollutants to groundwater at the Mine Site and Plant Site are considered point sources under the Clean Water Act. The Environmental Protection Agency has recognized the need to regulate pollutants from point source discharges to surface waters via groundwater or other subsurface flow. Court agreements the Clean Water Act covers indirect discharges of pollutants that are fairly traceable from these point sources to a navigable waters.

Applicant and MPCA acknowledge that these various point sources will discharge to groundwater and that the discharges will impacts surface water. MPCA has even established a groundwater monitoring network to assess whether there is a discharge to surface water and to “identify the potential for impacts for surface water far enough in advance to allow implementation of adaptive management or mitigation actions that would prevent the impacts from occurring.”

The permit includes specific authorized discharge points. It does not authorize any other point source discharge and in fact prohibits direct discharge to surface waters from the mine site and plant site. The Annual Groundwater Evaluation Report required by the permit specifically requires an annual assessment of the current and future potential and timeframe for migration of groundwater towards surface water from the mine site and plant site. Also, the Annual Comprehensive Evaluation specifically requires that the performance of engineering controls be assessed for any impact to groundwater. Together, these annual reports provide early warning before impacted groundwater would reach surface water such that adaptive management can be implemented before impact to surface water occurs. As a result, the MPCA does not anticipate that groundwater affected by mine operations would pollute surface water.

This comment raises a factual issue regarding dam construction, but that activity is not within the scope of this permit or within the commissioner’s jurisdiction. The adequacy of the dam safety requirements is within the jurisdiction of the DNR. Minn. Stat. §§ 103B.501-561. The DNR has issued dam safety permits for the project and “concluded that any hazards to the health, safety, and welfare of the public and the environment that would potentially be associated with the HRF and FTB Dams, including any arising from probable future development, are not likely to be significant.” Dam Safety Findings of Fact at ¶285. The comment does not present a basis to disagree with this conclusion.

Because this is outside the MPCA’s jurisdiction, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(B). In addition, the comment does not raise any new facts that would merit a contested case hearing; all the cited information was provided to the DNR directly. See Red Wing; Amendment No. 4.
Elise Larson
Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

F. MPCA's antidegradation and Nondegradation Analyses

Elise Larson

Minnesota Center for Environmental Advocacy, the Center for Biological Diversity, and the Friends of the Boundary Waters Wilderness

This assumption that forms the central premise of both the antidegradation and nondegradation analysis, however, is incorrect. If the NorthMet project does not proceed for any reason, it is not the case that no future activities will occur to remediate water contamination issues from the LTVSMC tailings basin. Applicant has a Legacy Closure Plan that covers LTVSMC Legacy Properties to which it will receive fee title from Cliffs Erie, LLC, including the existing tailings basin. The purpose of Applicant's Legacy Closure Plan is to ensure that the continuing reclamation obligations under [Minn. Stat. § 93.49] will be met with respect to the former ferrous LTVSMC taconite facilities if the NorthMet Project (Project) were not to commence operations for any reason.283 The Legacy Closure Plan is not discretionary, but is a condition to closing on Applicant's purchase of the former LTVSMC processing plant and tailings basin.284

This comment raises a legal issue, not a factual issue. The comment interprets the state antidegradation rule as applied to the facility. The comment relies on various facts, but there was no dispute of the facts provided. Because the comment raises a legal and not factual dispute, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(a).
The NorthMet Mine Project as currently proposed does not conform with state and federal laws protecting clean water, and cannot be permitted as currently designed. For the foregoing reasons, Petitioners request that the MPCA order a contested case hearing to resolve the identified material issues of disputed fact pertaining to the NPDES/SDS Application for the NorthMet Mine Project. In the alternative, should the MPCA choose to forego a contested case hearing on the foregoing issues of disputed fact, Petitioners request that the Application for a NPDES/SDS for the NorthMet Mine Project be denied as noncompliant with lawful requirements.

For reasons described in the responses above, the MPCA disagrees with the legal conclusion in the comment.

This comment states a legal conclusion, not a factual issue. The comment interprets law as applied to the facility. Because the comment raises legal and not factual issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).
I. Statement of Interest and Actions the Commissioner Should Take

The Band is a federally recognized Indian tribe and a member band of the Minnesota Chippewa Tribe ("MCT"). The Band was a cooperating agency on the Project during the National Environmental Policy Act review process, along with the Grand Portage and Bois Forte Bands. All the Bands involved retain hunting, fishing, and other usufructuary rights that extend throughout the entire northeastern portion of the state of Minnesota under the 1854 Treaty of LaPointe1 (the "Ceded Territory"). Band members rely on those rights to hunt, fish and gather natural resources in the Ceded Territory for subsistence, cultural and religious purposes, and the Bands accordingly have a legal interest in protecting natural resources on which those rights depend. In addition, the Fond du Lac Band holds and occupies a Reservation established as the Band’s permanent home by Treaty with the United States and which lies directly downstream from the Project. The Band provides governmental services to Band members and other qualifying persons. The Band accordingly has rights and interests in ensuring that its reservation lands and waters and the natural resources on which Band members depend are not adversely affected by the Project. For that reason, it constitutes an "interested person" under the Minnesota Administrative Rules.

2 PolyMet has applied for a state National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) permit for its proposed NorthMet mine project. The NPDES/SDS permit is intended to control discharges to surface waters and provide groundwater protection in the project area. PolyMet applied for a permit authorizing only a single discharge point (SD001) that splits flow to three small streams near the Flotation Tailings Basin (FTB) at the plant site. Other conditions in the permit are intended to protect groundwater resources under state standards, Minn. R. 7060.0100-.0900.

I. Legal Standards for Approval of NPDES Permit

In Minnesota, with exceptions not relevant here, "no person may discharge a pollutant from a point source into the waters of the state without obtaining a national pollutant discharge elimination system ["NPDES"] permit" from the MPCA. The Minnesota Administrative Rules governing NPDES permits provide that "[e]ach draft and final permit must contain conditions necessary for the permittee to achieve compliance with applicable Minnesota or federal statutes or rules, including . . . any conditions that the agency determines to be necessary to protect human health and the environment." These conditions are described in Minn. R. 7001.1080.5 They include effluent limitations, standards, and prohibitions, when feasible, for each pollutant to be discharged from each outfall or discharge point of the permitted facility. When establishing these effluent standards, the MPCA Commissioner must "consider . . . effluent standard or limitations applicable to the permittee" under the CWA and its implementing regulations, as well as the Minnesota water quality standards. Permits must also include monitoring requirements to ensure compliance with permit limitations.

The MPCA cannot issue a final NPDES permit unless it determines that "the proposed permittee . . . will, with respect to the facility or activity to be permitted, comply or will undertake a schedule of compliance to achieve compliance with all applicable state and federal pollution control statutes and rules administered by the agency, and conditions of the permit and that all applicable requirements of Minnesota Statutes, chapter 116D, and the rules adopted under Minnesota Statutes, chapter 116D, have been fulfilled." Chapter 116D of the Minnesota Statutes require state agencies to interpret and administer the laws of the State to, among other things, "utilize a systematic, interdisciplinary approach that will insure the integrated use of the natural and social sciences and the environmental arts in planning and in decision making which may have an impact on the environment . . . "11 MPCA is justified in denying a permit if the proposed permittee "will not comply with all applicable state and federal pollution control statutes and rules administered by the agency." If "the permittee has failed to disclose fully all facts relevant to the facility or activity to be permitted," or if "the permitted facility or activity endangers human health or the environment and that the danger cannot be removed by a modification of the conditions of the permit . . . "12
The permit application pertains to the first five years of mine construction and operations, although in some sections it describes the mine plan for eleven years, and
in other sections refers to closure. The application defines eleven sources of wastewater generated by the project:

- Mine water: water collected by the mine water management systems, which includes runoff and groundwater from the mine site. Ostensibly, this is only water that
  has contacted mine sources, such as pit wall, waste rock, or ore, and has been collected from the pit sumps or various collection systems on the mine site.
- Treated mine water: water routed from the mine site to the plant site, after collection and treatment at the mine site water treatment facility. Process water: water
  used in beneficiation or hydrometallurgical processes.
- Sewage: water from sanitary facilities.
- Tailings basin water: water in the tailings basins or the pores of the tailings, which includes process water, treated mine water, process waters, and precipitation on the tailings.
- Tailings basin seepage: tailings basin water that infiltrates through the tailings basins.
- Hydrogeological reservoir facility (HRF) water: water collected and stored within the HRF.
- Plant reservoir water: water stored in the plant reservoir, including makeup water from Colby Lake and precipitation on the plant reservoir.
- Industrial stormwater
- Non-contact stormwater
- Non-contact stormwater

Under existing conditions, runoff from the northernmost area of the Mine Site generally drains south into One Hundred Mile Swamp and associated wetlands along
Yelp Creek and the Partridge River. These wetlands form the headwaters of the Partridge River, which meanders around the east end of the Mine Site before turning
southwest. Basaltic from the majority of the Mine Site naturally drains to the north through culverts under Dunka Road and the adjacent rail line, into the Partridge
River downstream of the Dunka Road crossing. The Partridge River hydraulics is affected by periodic and variable drawdown of the Peter Mitchell Pit operated by the
Northshore Mining Company near the headwaters of the Partridge River, upstream of the proposed Mine Site.13

The majority of the Plant Site is located in the Embarrass River watershed, upstream of the Embarrass River chain of lakes. A small portion of the Plant Site, including
stormwater from the Process Plant Area, and Areas 1 and 2 Shops, drains south to Second Creek. Under existing conditions, groundwater and surface water seepage
from the existing LTVSMC tailings basin drains towards Unnamed (Mud Lake) Creek to the north, Tredell Creek to the northwestern, and Unnamed Creek to the west.

The infrastructure corridors for roads, rail lines, and pipelines connecting the Mine Site and Plant Site cross Wetlegs Creek, Longnose Creek, and Wyman Creek.15

This comment appears to be a restatement of the content of a portion of the permit application and the 401 Certification Fact Sheet. There is no specific comment
offered regarding the content of the NPDES/SDS permit.

As stated in the NPDES/SDS Fact Sheet, MPCA has determined that the Project as designed does not have reasonable
potential to cause or contribute to any violations of any applicable water quality standards in waters of the state. These standards include numeric and narrative water quality criteria, antidegradation standards for surface water, nondegradation standards for groundwater, and beneficial use designations. The draft permit includes extensive
requirements to ensure that the Project will comply with all applicable water quality standards. The draft permit also
includes requirements to ensure the Project will be constructed and operated consistent with the design reviewed in
the final environmental impact statement (FEIS).16

The NPDES/SDS permit is one of the most critical regulatory control documents for this project, and as such, the Band
has been awaiting this opportunity to learn specifically how the state proposes to protect surface and groundwater
resources given our reasonable trepidation about the likelihood of adverse impacts despite PolyMet’s universally
optimistic predictions during environmental review.
| 731-A Nancy Schuldt Fond du Lac Band | There are many disputed issues of material fact, however, that are common to both the draft Permit to Mine and the draft NPDES/SDS Permit, and the Band incorporates our recently submitted comments to the MNDNR on the draft Permit to Mine with our comments on this permit, including:  
- The ability for the PolyMet project to comply with Clean Water Act requirements and meet MN water quality standards is predicated on the agencies’ unsupported faith in seepage capture systems at the Mine Site and Plant Site working flawlessly for centuries.  
- The draft NPDES/SDS permit completely fails to regulate any pollution seeping from groundwater and welling up in adjacent wetlands and streams, apparently disregarding the strong and repeated recommendations from the EPA throughout the course of the EIS and developing the draft permit. The MPCA’s draft permit sets no limits on surface water contamination resulting from this toxic seepage.17 • The draft NPDES/SDS permit fails to require monitoring of water quality in wetlands and streams near PolyMet’s mine pits, tailings basin or concentrated waste storage facilities. 18 Without targeted surface water monitoring, even if PolyMet pollution violates Minnesota standards, it could be decades before the contamination of nearby waters is detected.  
- PolyMet’s Final EIS committed to upgrading seepage collection on the south side of the existing LTV tailings basin to have zero discharge to either surface or groundwater.19 However, the NPDES/SDS permit contains no such requirements.20 The draft permit fails to disclose whether the existing seepage capture system will protect downstream water, or allow polluted discharge into groundwater where it surfaces into Minnesota streams.  
- Contaminant modeling by PolyMet does not consider important flow path details near the mine site or the tailings basin, leading to inaccurate analysis of pathways for contaminants to reach the Partridge and Embarrass Rivers.  
- Proposed surface and groundwater monitoring is grossly insufficient to ensure the environmental controls are protecting downstream water resources, detecting exceedances, or identifying problematic hydrologic conditions.  
- PolyMet’s application, and the draft permit, have not considered evidence that shows that mercury discharges will likely violate water quality standards.  

This comment provides a summary of comments that are provided in more detail below. Each of these will be addressed in detailed responses below. |
| 731-B Nancy Schuldt Fond du Lac Band | But perhaps most disturbing, the draft NPDES/SDS permit does not reflect the EPA’s clearly and consistently conveyed recommendations throughout the environmental review period, including during the supplemental EIS phase when EPA became a cooperating agency. For instance, EPA summarized its NPDES permitting concerns in a 2015 email to the MPCA21, noting that the MPCA had requested that “specific responses to our comments on NPDES related issues be deferred to the permitting phase of the project rather than during the EIS development phase.” EPA had accommodated that request, but was seeking a “shared understanding of the issues and documentation of decisions and approaches we agreed upon.” EPA wanted to verify their understanding of MPCA’s expected permitting approach, and explained again, for the record, EPA’s position regarding the applicability of NPDES permit requirements for point source discharges of pollutants to surface waters, including those that occur via subsurface flow. EPA noted that because they had deferred settling these issues with MPCA until permitting, they did not anticipate that the information in the EIS would necessarily be sufficient to address the concerns they had raised. Further, EPA stated: Discharges are proposed for the NorthMet site which require NPDES permit coverage in order to be in compliance with the CWA. The project proponent has a duty to submit an NPDES permit application to seek coverage for all proposed pollutant discharges, so that the permit can be in place when the proposed pollutant discharges occur. The MPCA is responsible for issuing an NPDES permit, where appropriate, that contains conditions and limits which assure compliance with all applicable requirements of the CWA and regulations, including limitations controlling all pollutants which are determined to cause or have reasonable potential to cause or contribute to an excursion from any state WQS. The enclosure highlights the more significant issues that we have identified to date for this facility and that must be addressed during the NPDES permitting process. 22 |

The MPCA considered the previously submitted EPA comments in its development of the permit. The permit complies with Clean Water Act requirements identified by EPA, including permit coverage for all pollutant discharges expected from the facility.
Those issues in the enclosure included:

- MPCA’s apparent disagreement with EPA’s interpretation of the CWA as it applies to discharges of pollutants from a point source to surface water, specifically those via hydrologically connected groundwater.
- MPCA’s rationale for deferring NPDES permit issuance at the Mine Site until “a point source water discharge adds pollutants to waters of the US.” EPA comments on the SDEIS had earlier raised concerns about PolyMet’s modeling approach and that the Partridge River would not be the first receiving water of mine site discharges (adjacent wetlands would be).
- MPCA had not been clear about how they would apply potential future NPDES permitting authorities to mine site discharges, based upon monitoring associated with the SDS permit that was intended to cover the mine site. Uncertainties regarding timely detection of pollutants that could trigger NPDES permit development did not provide assurance that PolyMet could avoid noncompliance. Simply applying for a permit does not provide the coverage needed to authorize discharges of pollutants to surface waters under the CWA.
- An NPDES permit for discharges of pollutants would need numeric and/or narrative effluent limitations necessary to protect WQS of the receiving waters, as well as any limitations necessary to ensure that downstream WQS are protected. 40 CFR § 122.44(d).
- As a “new source,” as defined in 40 CFR § 122.2, the PolyMet facility must be able to meet standards at the time of permit issuance; it would not be eligible for variances or schedules of compliance.
- If PolyMet did not have NPDES permit coverage for identified pollutant discharges prior to pollutants reaching surface waters, then the company will be discharging without a permit in violation of the CWA – and there is no minimum threshold of predicted pollutant load needed to trigger the requirement to submit a permit application.

The MPCA considered the previously submitted EPA comments in its development of the permit. The permit complies with Clean Water Act requirements identified by EPA. See responses to Comments 723 (groundwater hydrologically connected to surface water), 703 and 717 (authorized discharge points), 712 (monitoring to ensure no unauthorized discharge), 718-A (limitations to protect water quality standards), and 716 (engineering controls preventing impacts).

Additionally, at the plant site, MPCA’s criteria for assessing “permittability” of the tailings basin, as outlined in a memo to MNDNR, included that groundwater seepage from the tailings basin should not exceed 500 gallons/acre/day, which they considered equivalent to an engineered lined system. For PolyMet, this could translate to over two million gallons/day, yet the tailings basin would not be subject to NPDES requirements. “Excess” wastewater from the tailings basin (that discharges to the Embarrass River) during operations must meet effluent limits based upon the 10 mg/l wild rice sulfate standard, but MPCA further explained that they would “seek evidence the facility will not have a statistically significant impact on sulfate in receiving waters...groundwater quality standards can be met at the property boundary, and all applicable surface water quality standards can be met in surface waters at the facility.”

EPA also warned MPCA that the CWA does not include exemptions that would limit NPDES permit coverage to only “excess” wastewater discharges that are deemed to have a “statistically significant” impact on receiving waters at the property boundary. There is no exclusion or exemption for discharges from facilities based on technology or engineering controls, and again, failure to obtain NPDES coverage for discharges of pollutants to waters of the US would put PolyMet at risk of violating the CWA. EPA expressed bewilderment that the MPCA did not clearly understand these issues after substantial interagency discussions over several years, and in fact believed it had been understood and agreed to by both parties some time ago.
And now, the MPCA is asking for public comments on a draft NPDES/SDS permit that defies EPA’s clear recommendations and warnings that MPCA’s approach for regulating water quality impacts from the proposed PolyMet project is not consistent with the CWA, and leaves surface and groundwater resources at risk. Given what we know about the MPCA’s track record in regulating hard rock mining in Minnesota, this does not come as a surprise. But it is entirely unacceptable for the agency to offer this water quality permitting scheme for the first of potentially many other copper-nickel mines, and profess that they are protecting northeastern Minnesota’s irreplaceable water resources. The Band submits the following additional specific comments relevant to major environmental concerns that we have consistently raised throughout our engagement in the environmental review process. As we show below, PolyMet’s proposed mining project relies on remediation and containment designs that are untested, have not yet been finished, or that will not function properly to prevent the discharge of pollutants into the waters of the State in violation of the State’s water quality standards and the CWA. We do not believe that the draft NPDES/SDS permit sufficiently dispels those concerns, nor does it comply with the Clean Water Act or Minnesota rules intended to protect the waters of the State; rules that we also rely upon to protect vital treaty resources. It should be denied as currently written, and the Commissioner should take action to resolve these issues – consistent with EPA’s recommendations - so that when a revised NPDES/SDS permit is issued, it is based on proper scientific and engineering analyses, and subject to clear limits and conditions that ensure the project complies with the law.

The Band’s comments, and the specific reasons supporting them, are as follows.

I. The Band’s Comments and Reasons Supporting Them

The Band submitted extensive comments to the MNDNR on the draft permit to mine, summarizing our concerns that no evidence has been presented to demonstrate that the predicted rate of seepage capture was feasible. Among our comments:

- Compliance with permit unrealistically assumes unsupportable seepage capture rates

The issuance of the NPDES/SDS permit relies upon a finding that the Applicant will comply with conditions established in the permit, including the condition requiring recapture of the contaminated groundwater leaving the tailings basins, the hydrogeological Review Facility (HRF) and Category 1 waste-rock storage piles, in order to maintain compliance with applicable water quality standards. This perspective was confirmed in a consultation meeting between MPCA and tribes on March 1, 2018.

The Band submitted extensive comments to the NREIR on the draft permit to mine, summarizing our concerns that no evidence has been presented to demonstrate that the predicted rate of seepage capture was feasible. Among our comments:

- Compliance with permit unrealistically assumes unsupportable seepage capture rates

The PolyMet FEIS claimed that, during mine operations, 3,800 gallons per minute (gpm) of the total 5,880 gpm of seepage modeled would be collected from the unlined, permanent FTB. This represents a nearly perfect collection rate of 99.5%. It estimated a similar collection rate of 98.8% during long-term maintenance.

In order to assess the outcome of this conclusion, the FEIS first assumed that all but 200 gpm (5%) of total NorthMet tailings seepage will be “surface seepage.” 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,31 and that 100% of the surface seepage and 90% of seepage retained in groundwater would be captured at the north, northwest and west toes of the tailings storage facility.32

Verification of this prediction is fundamental for determining whether this project can even be permitted (both the permit to mine and the NPDES/SDS permit). The MPCA disagrees with the comment’s general characterization of the permit’s compliance with federal law. Responses to specific issues related to this topic are detailed below.

The permit has been revised to include greater detail regarding required facility design of the FTB Seepage Containment System, Category 1 Waste Rock Stockpile Groundwater Containment System, and the Wastewater Treatment System. See permit at 5.175.14, 5.175.19, 5.181.166. Regarding the collection rate, see response to Comment 711, which describes why the MPCA does not anticipate release through the FTB and Category 1 seepage containment systems.

The Modflow modeling conducted for the EIS indicated that the capture efficiency for both the seepage capture systems would be in excess of 90% and the subsequent GoldSim modeling indicated that degree of capture would be sufficient to protect downstream surface and groundwater quality. See FEIS at 5.7.

As stated in response to Comment 711, the draft permit requires that 13 pairs of groundwater monitoring devices (wells and piezometers) at each of the systems be monitored on a monthly basis to ensure that the necessary inward gradient is being maintained. The system consists of one of the pairs located just inward of the hydraulic barrier and one just outward of the barrier. The primary purpose of the paired devices is to monitor for the presence and maintenance of an inward hydraulic gradient across the barrier which is accomplished by simultaneous measuring of the water table elevation of the two devices. If there is an inward hydraulic gradient, flow will not move out through the barrier. If an inward gradient is not maintained, the Permittee is required to take corrective actions immediately to restore the inward gradient. If the inward gradient is not restored within 14 days, it is considered a violation of the permit. The draft permit further requires that the performance of the capture containment systems and the adequacy of the monitoring network be assessed on an annual basis.

The Band presented extensive comments to the MNDNR on the draft permit to mine, summarizing our concerns that no evidence has been presented to demonstrate that the predicted rate of seepage capture was feasible. Among our comments:

- Compliance with permit unrealistically assumes unsupportable seepage capture rates

The issuance of the NPDES/SDS permit relies upon a finding that the Applicant will comply with conditions established in the permit, including the condition requiring recapture of the contaminated groundwater leaving the tailings basins, the hydrogeological Review Facility (HRF) and Category 1 waste-rock storage piles, in order to maintain compliance with applicable water quality standards. This perspective was confirmed in a consultation meeting between MPCA and tribes on March 1, 2018.
Despite its promises in the FEIS, in its permit to mine application, PolyMet walks back from its promises in the FEIS that more than 99.5% of total tailings facility seepage will be contained by its seepage capture system. Instead PolyMet states, "Tailings basin seepage will be collected to the extent practical by the FTB seepage capture systems." This change is substantial and effectively eliminates performance standards.

PolyMet states that it will build various segments of a seepage containment system on the west, north, and part of the east sides of the tailings storage facility, but the draft special conditions do not specify any performance standards for this system. PolyMet proposes to furnish criteria, such as containment system trench wall thickness, conductivity and depth "prior to system construction." 37 Despite more than a decade of project planning, revisions and refinements, PolyMet seeks a Permit to Mine based upon a "conceptual" layout and cross-section of the tailings facility seepage containment system.38 Consistent with its obligations under the Administrative Rules, MNDNR should establish in the special conditions the design and performance criteria that PolyMet must meet in order for this seepage containment system to function as described in the FEIS. Otherwise, Minnesota water quality standards simply cannot be met at the Plant Site.

The NPDES/SDS permit has been revised to include greater detail regarding required facility design of the FTB Seepage Containment Systems and the Category 1 Waste Rock Stockpile Groundwater Containment System. See response to Comment 735.

Parts S.175.51 and S.175.52 address unauthorized discharges at the plant site by prohibiting direct discharges to surface water from the FTB pond, the FTB seepage containment system or the south seepage management system. All water collected by the containment systems must either be pumped back to the FTB or routed to the WWTS for treatment. As noted in the comment, the intent of the existing pumpback is to meet permit limits, not eliminate discharges.

The MPCA has modified language in Item S.175.75 of the draft permit regarding unauthorized discharges from the mine site, which prohibits the Permittee from directly discharging any mine water or other process wastewater from the Mine Site to surface waters under this permit. All mine water or other process wastewater from the Mine Site must be routed to the Equalization Basins and pumped to the Plant Site for treatment.

Permits contain requirements applicable to the permittee. Statutes and rules define the scope of enforcement authority available to the permitting agency. Enforcement actions are determined at the time of discovery and range in seriousness based on the severity of the violation. If there is an unauthorized discharge, it will be considered a violation of the permit and the MPCA will determine appropriate enforcement action at that time.
2. The draft permit assumes, without scientific support or enforceable conditions, that the contaminated groundwater containment systems at both the flotation tailings basin and the waste rock stockpiles will maintain an inward hydrologic gradient at all times. As the Band stated in its comments and objections to the draft permit to mine, the assumption that the contaminated groundwater containment systems at both the flotation tailings basin and waste rock stockpiles will maintain an inward hydrologic gradient at all times, is not supported by any scientific analysis or enforceable conditions. This problem, and our comments on it, are equally applicable to the draft NPDES/SDS permit, as MPCA staff explicitly stated to the tribes during consultation that their confidence in PolyMet’s capture system was based upon the maintenance of an inward hydraulic gradient, unlike similar capture systems at U.S. Steel Minntac and the existing system at SDO26 managed now by CIPs under Consent Decree.

In PolyMet’s modeling for the FEIS, the contaminated groundwater containment systems at both the Flotation Tailings Basin (FTB) and the waste rock stockpiles, including the Category 1 Waste Rock Stockpile were assumed to collect ninety percent of groundwater moving out of these facilities. 42 Here too, despite numerous requests to the co-lead agencies, we have not been provided with any evidence that this level of effectiveness has ever been achieved before for a cut-off wall, drain, and pump type of system. The co-lead agencies accepted PolyMet’s assumption of ninety percent efficiency solely on the presumption that the systems are designed to maintain an inward hydraulic gradient. Under those conditions, any breach in the containment wall would result in water flowing into the tailings basin side of the wall, rather than water escaping from the tailings basin into the surrounding environment.

But that assumption of ninety percent efficiency presumes that the inward hydraulic gradient would be maintained at all times. The FEIS never discusses any scenarios or any percentage of the year during which the inward gradient might be compromised. The Permit to Mine application maintains this unrealistic assumption. The application states:

The FEIS never discusses any scenarios or any percentage of the year during which the inward gradient might be compromised. The Permit to Mine application maintains this unrealistic assumption. The application states:

The F TB Seepage Containment System will draw down the water table on the Tailings Basin side of the cutoff wall, maintaining an inward gradient and mitigating the potential for tailings basin seepage to pass through the cutoff wall (i.e., any seepage through the cutoff wall would be inward into the F TB Seepage Containment System).43

As to the Category 1 Stockpile, the application states:

The groundwater containment system will collect stockpile drainage and draw down the water table on the stockpile side of the cutoff wall, thereby maintaining an inward gradient along the cutoff wall and eliminating the potential for stockpile drainage passing through the cutoff wall. Potential leakage through the cutoff wall, if it occurs, will be inward into the groundwater containment system.44

However, when seeking to find any enforceable requirements of the systems, the only reference for operational requirements that could be found in the Permit to Mine application is the statement that “Proposed performance monitoring for the F TB Seepage Containment System is described in Appendix C of Reference (4).”45 This cited document is PolyMet’s NPDES/SDS permit application.

The Modflow modeling conducted for the EIS indicated that the capture efficiency for both systems would be in excess of 90% and the subsequent GoldSim modeling indicated that degree of capture would be sufficient to protect downgradient surface and groundwater quality. See FEIS at 5.7.

As described in response to Comments 713 and 715, the draft permit requires that 13 pairs of groundwater monitoring devices (wells and piezometers) at each of the containment systems be monitored on a monthly basis to ensure that the necessary inward gradient is being maintained. The system consists of one of the pair located just inward of the hydraulic barrier and one just outward of the barrier. The primary purpose of the paired devices is to monitor for the presence and maintenance of an inward hydraulic gradient across the barrier which is accomplished by simultaneous measuring of the water table elevation of the two devices. If there is an inward hydraulic gradient, flow will not move out through the barrier. The draft permit further requires that the performance of the capture containment systems and the adequacy of the monitoring network be assessed on an annual basis. If an inward gradient is not maintained, the Permittee is required to take corrective actions immediately to restore the inward gradient. If the inward gradient is not restored within 14 days, it is considered a violation of the permit.

Appendix C states: Successful containment system performance will be defined by: maintenance of an inward hydraulic gradient during average annual conditions; and consistent pumping rates, with changes attributable to weather. “Average annual conditions” is not defined. And although it downplays the risk for reversing the gradient, the permit application does admit:

As a Category 1 Stockpile, the application states:

The groundwater containment system will collect stockpile drainage and draw down the water table on the stockpile side of the cutoff wall, thereby maintaining an inward gradient along the cutoff wall and eliminating the potential for stockpile drainage passing through the cutoff wall. Potential leakage through the cutoff wall, if it occurs, will be inward into the groundwater containment system.44

However, when seeking to find any enforceable requirements of the systems, the only reference for operational requirements that could be found in the Permit to Mine application is the statement that “Proposed performance monitoring for the F TB Seepage Containment System is described in Appendix C of Reference (4).”45 This cited document is PolyMet’s NPDES/SDS permit application.
The draft NPDES/SDS permit also states:

The Permittee shall maintain an inward hydraulic gradient across the Category 1 Waste Rock Stockpile Groundwater Containment System as determined by comparing water level measurements from the paired monitoring wells and piezometers taking into account temporary conditions that may result from short-term precipitation or snowmelt events. Short-term precipitation or snowmelt events on the stockpile side of the low-permeability hydraulic barrier must not cause overtopping of the barrier.

There are no clear or specific criteria for “taking into account temporary conditions that may result from short-term precipitation or snowmelt events”. This vague language does not ensure that PolyMet must maintain an inward hydraulic gradient at all times, as had been assumed in the modeling for the FEIS. Both state permitting agencies seem to be ignoring the potential for cracks or other breaches in the containment wall, or for water flowing under the bottom of the wall. The permit to mine assumes that these systems will operate flawlessly for hundreds of years, yet visual inspections are not possible, nor does the permit include any specific conditions under which a detailed investigation would be required. These deficiencies in the design make it impossible to ensure that PolyMet will meet the conditions of the permit, and these deficiencies must be addressed before the permit can be issued.

At the tailings basin, FEIS modeling suggested that any contaminated water escaping the system would escape through the bedrock aquifer, and would not surface until miles downstream. But if the hydraulic gradient were reversed for a period of weeks during snowmelt conditions or heavy rain events, the result would be contaminated water escaping through the surficial aquifer and surfacing quickly in the wetlands and headwaters of Embarrass River tributaries, where the impact on water quality would be significant.

The MPCA has removed the "temporary conditions" language and has revised the language of the permit in light of the comment. As described in response to Comment 735, the permit states that if an inward gradient is not reestablished within 14 days of detection, it is a violation of the permit. The permit also requires monitoring of the Category 1 stockpile paired wells/piezometers weekly following a 100-year storm event to ensure that monitoring and any necessary preventative maintenance occur promptly.

737. Nancy Schuldt Fond du Lac Band
The draft NPDES/SDS permit also states:

The FEIS conclusion that no groundwater would escape the containment system on the east side of the tailings basin is particularly dubious. The FEIS completely omitted any explanation for why the co-lead agencies assumed that PolyMet could collect 100 percent of seepage in this location, but that assumption is highly unlikely if an inward hydraulic gradient is not maintained at all times. The area immediately below the toe of the dam on the east side is a wetland that receives overflow from the Spring Mine Creek headwaters.48 Along with Yelp Creek and Second Creek, the FEIS provided no predictions for potential water quality impacts to this waterbody, which would become the headwaters of Mud Lake Creek after the east side of the tailings basin is built up to a higher elevation. This information must be made available for public review before a permit to mine – or, for that matter, an NPDES/SDS permit – can be issued.

The Permittee shall maintain an inward hydraulic gradient across the Category 1 Waste Rock Stockpile Groundwater Containment System to prevent the scenario raised in the comment.

As described in response to Comment Multiple-543-BN, the MPCA evaluated the annual reports required by the permit specifically requires an annual assessment of the current and future potential and timeframe for migration of groundwater towards surface water from the mine site and plant site. Also, as described in response to Comment 711-A above, the Annual Comprehensive Performance Evaluation specifically requires that the performance of engineering controls be assessed for any impact to groundwater. Together, these annual reports provide early warning before impacted groundwater would reach surface water such that adaptive management can be implemented before impact to surface water occurs. As a result, the MPCA does not anticipate that groundwater would pollute surface water.

737-A Nancy Schuldt Fond du Lac Band
These unsupported and unsupportable assumptions apply equally to the waste rock stockpile liners, and in particular, the Category 1 stockpile, as it will remain a permanent post-closure feature generating reactive mine waste for centuries. The FEIS assumed that all water escaping the collection system would exit via the bedrock aquifer, and virtually all of that water would flow into the mine pits. However, water escaping north of the stockpile, because of a reversal in the hydraulic gradient from mine pit pumping, would likely flow through the surficial aquifer to nearby Yelp Creek. No analysis of this potential groundwater flow path or water quality impacts on Yelp Creek and the uppermost reaches of the Partridge River has been done – but must be, before permitting can proceed.

The MPCA has removed the "temporary conditions" language and has revised the language of the permit in light of the comment. As described in response to Comment 735, the permit states that if an inward gradient is not reestablished within 14 days of detection, it is a violation of the permit. The permit also requires monitoring of the Category 1 stockpile paired wells/piezometers weekly following a 100-year storm event to ensure that monitoring and any necessary preventative maintenance occur promptly.

737-B Nancy Schuldt Fond du Lac Band
As described in response to Comment Multiple-543-BN, the MPCA evaluated the monitoring needed at the facility, including that needed to ascertain whether a north flow may occur in the future, in the development of the permit.

The Annual Groundwater Evaluation Report required by the permit specifically requires an annual assessment of the current and future potential and timeframe for migration of groundwater towards surface water from the mine site and plant site. Also, as described in response to Comment 711-A above, the Annual Comprehensive Performance Evaluation specifically requires that the performance of engineering controls be assessed for any impact to groundwater. Together, these annual reports provide early warning before impacted groundwater would reach surface water such that adaptive management can be implemented before impact to surface water occurs. As a result, the MPCA does not anticipate that groundwater would pollute surface water.
In both the draft Permit to Mine and the draft NPDES/SDS permits, the state regulatory agencies are relying exclusively on monitoring to not only demonstrate performance of the containment systems but also to reveal any failures and contaminant release to nearby surface and groundwater. But proposed monitoring wells are spaced far apart to reliably detect groundwater plumes escaping the containment systems. As described by Dr. Myers, the primary problem with the design's location of the monitoring wells is that the well monitors can only detect contaminants in groundwater that flows directly past them.49 But the monitoring wells are in very close proximity to the stockpiles and the tailings basins, such that “detailed modeling of the mine site and the plant site showed that contaminant plumes would miss much of the proposed monitoring.”50 This despite the fact that Minnesota law requires NPDES permits to include monitoring requirements that will ensure compliance with water quality standards.

As described in those responses, the MPCA determined the proposed monitoring network identified in the draft permit is adequate. The draft permit requires water quality and/or water level monitoring at a total of 169 monitoring stations at the Mine Site and Plant Site. The draft permit also requires an Annual Comprehensive Performance Evaluation Report, which includes an annual evaluation of monitoring and performance data as well as engineering controls at the Mine Site and Plant Site.

As described in response to Comment 716, the annual evaluation of the engineering controls along with the evaluation of relevant monitoring and performance data, which includes waste stream monitoring results, surface water monitoring results, and internal operational data, will provide early identification of potential impacts from the project and help determine the need for adaptive management, corrective actions, or mitigation to prevent potential impacts to the groundwater and surface waters. If the evaluation of the facility indicates the engineering controls are not operating as intended or are not providing a sufficient level of controls, the Performance Report must describe in detail the adaptive management or corrective actions that are being done, or will be done to correct the problem, including a schedule for their implementation.

If the MPCA determines in the future that the monitoring well or surface water monitoring network is insufficient, the agency has authority under Minnesota Rule part 701.0170 to modify the permit, and authority under part 701.0150 to require sufficient monitoring to determine compliance.

In short, studies that addresses these issues, and absent the imposition of clear conditions in the permit that would require PolyMet to meet specific performance standards, the permit to mine violates Minnesota law. Compliance with Minnesota law clearly relies upon an ‘engineered design’ that will prevent violations of the State’s water quality standards of the State and a monitoring design that will ensure compliance with the permit. The necessary studies must be done and any permit to mine must be amended to include such conditions.

3. Changes to WWTS at mine site do not ensure protection of Forthridge River watershed

As described in PolyMet’s application for the permit to mine, incorporated into MNDNR’s draft permit to mine, PolyMet has changed how it plans to undertake waste water treatment at the mine and plant sites. As the Band described in its comments to the MNDNR on the PolyMet draft permit to mine:

Throughout the entirety of environmental review – in the draft EIS, supplemental draft EIS and the final EIS – PolyMet’s operating plan has included a mine site (Waste Water Treatment Facility (“WWTF”)). Beginning with the release of the supplement draft EIS, PolyMet has assured that their project would protect water quality in the Forthridge River watershed by upgrading the mine site WWTF during closure to provide reverse osmosis treatment of discharge and collected seepage.51 In the final EIS, the WWTF is as essential part of the company’s plans to protect water quality at the mine site during operations, closure and post closure, and provides flexibility for adaptive engineering and contingency mitigation. The WWTF is referred to hundreds of times in the final EIS, and if EIS modeling of state breaks in mine site surficial aquifer and surface water indicated treatment at the WWTF is a fundamental assumption.52

However, PolyMet has now eliminated the previously proposed WWTF at the mine site, and replaced it in place plans with a single Waste Water Treatment System (WWTS) at the plant site. A single WWTS cannot handle the volume of water from mine site and plant site, as shown by the Water Management Plan and Water Appropriations Permit. Elimination of the WWTF appears to be part of a strategy to avoid issuing an NPDES/SDS permit in the Forthridge River watershed, even though there will be contaminated discharges that must be regulated.

As described in those responses, the MPCA determined the proposed monitoring network identified in the draft permit is adequate. The draft permit requires water quality and/or water level monitoring at a total of 169 monitoring stations at the Mine Site and Plant Site. The draft permit also requires an Annual Comprehensive Performance Evaluation Report, which includes an annual evaluation of monitoring and performance data as well as engineering controls at the Mine Site and Plant Site.

The proposed treatment components of the reconfigured WWTS are the same as originally proposed. Anticipated flow volumes from the Mine Site to the reconfigured WWTS will remain the same as originally proposed. The location of the proposed mine site treatment system is the only thing that has changed.

The equalization basins must have a composite liner system including a clay layer overlain by a synthetic liner. See permit at § 178.116. In addition, the permit ensures they will not overflow because they must maintain at least three feet of freeboard. See permit at § 178.125. Thus, the permit restricts leakage to groundwater and prevents discharges to surface water from the equalization basins.

The DNR’s Permit to Mine specifically addresses the design of the high concentration Mine to Plant Pipeline. Special condition 93 of the Permit to Mine requires this pipeline to be upgraded from the original design. Specifically, the first 25% of the pipeline, where operating pressure is highest, is being upgraded from SDR11 HDPE pipe to SDR9 HDPE pipe. This results in an increased safety factor of 1.25 along the entire pipeline based on operating pressure and a safety factor greater than 2 for surge pressures if the pipe was exposed. Because the pipe is buried (to protect from freezing and physical damage) and will not be exposed to solar radiation, actual safety factors are higher. The Annual Comprehensive Performance Evaluation Report required by the NPDES/SDS permit requires that the Mine to Plant Pipeline be part of the annual performance assessment.

---

738-C Nancy Schuldt Fond du Lac Band

In short, absent studies that addresses these issues, and absent the imposition of clear conditions in the permit that would require PolyMet to meet specific performance standards, the permit to mine violates Minnesota law. Compliance with Minnesota law clearly relies upon an ‘engineered design’ that will prevent violations of the State’s water quality standards of the State and a monitoring design that will ensure compliance with the permit. The necessary studies must be done and any permit to mine must be amended to include such conditions.

3. Elimination of WWTF at mine site does not ensure protection of Forthridge River watershed

As described in PolyMet’s application for the permit to mine, incorporated into MNDNR’s draft permit to mine, PolyMet has changed how it plans to undertake waste water treatment at the mine and plant sites. As the Band described in its comments to the MNDNR on the PolyMet draft permit to mine:

Throughout the entirety of environmental review – in the draft EIS, supplemental draft EIS and the final EIS – PolyMet’s operating plan has included a mine site (Waste Water Treatment Facility (“WWTF”)). Beginning with the release of the supplement draft EIS, PolyMet has assured that their project would protect water quality in the Forthridge River watershed by upgrading the mine site WWTF during closure to provide reverse osmosis treatment of discharge and collected seepage.51 In the final EIS, the WWTF is as essential part of the company’s plans to protect water quality at the mine site during operations, closure and post closure, and provides flexibility for adaptive engineering and contingency mitigation. The WWTF is referred to hundreds of times in the final EIS, and if EIS modeling of state breaks in mine site surficial aquifer and surface water indicated treatment at the WWTF is a fundamental assumption.52

However, PolyMet has now eliminated the previously proposed WWTF at the mine site, and replaced it in place plans with a single Waste Water Treatment System (WWTS) at the plant site. A single WWTS cannot handle the volume of water from mine site and plant site, as shown by the Water Management Plan and Water Appropriations Permit. Elimination of the WWTF appears to be part of a strategy to avoid issuing an NPDES/SDS permit in the Forthridge River watershed, even though there will be contaminated discharges that must be regulated.

As described in those responses, the MPCA determined the proposed monitoring network identified in the draft permit is adequate. The draft permit requires water quality and/or water level monitoring at a total of 169 monitoring stations at the Mine Site and Plant Site. The draft permit also requires an Annual Comprehensive Performance Evaluation Report, which includes an annual evaluation of monitoring and performance data as well as engineering controls at the Mine Site and Plant Site.

As described in response to Comment 716, the annual evaluation of the engineering controls along with the evaluation of relevant monitoring and performance data, which includes waste stream monitoring results, surface water monitoring results, and internal operational data, will provide early identification of potential impacts from the project and help determine the need for adaptive management, corrective actions, or mitigation to prevent potential impacts to the groundwater and surface waters. If the evaluation of the facility indicates the engineering controls are not operating as intended or are not providing a sufficient level of controls, the Performance Report must describe in detail the adaptive management or corrective actions that are being done, or will be done to correct the problem, including a schedule for their implementation.

If the MPCA determines in the future that the monitoring well or surface water monitoring network is insufficient, the agency has authority under Minnesota Rule part 701.0170 to modify the permit, and authority under part 701.0150 to require sufficient monitoring to determine compliance.
These concerns are supported by the Myers technical memorandum:
The mine site would not intentionally discharge directly to surface water, but waste rock stockpiles, mine ponds, and open pits are potential sources of contamination to groundwater, as the following subsections describe. There are also sources throughout the mine site. Runoff from stockpiles could contaminate shallow groundwater. Mine ponds are potential sources of contaminants to groundwater if they are not lined or if the liners leak. Each time they fill, ground water seepage will cause a plume to enter groundwater. This includes stormwater ponds if runoff from dumps will enter stormwater ditches and flow to a pond.

There are many examples of how the mine site could be a source of groundwater and surface water degradation. For example, if water reaches the ditch on the north side of the Category 2/3 dump, it will reach the stormwater pond from which it could seep into groundwater. The pond on the NE corner of the Category 1 dump collects runoff from all along the NE and NW side of the dump, essentially half of the dump. Vol II Sheet SW-008 shows no liner on Pond A and sheet SW-017 shows no liner for the North Perimeter Stormwater Ditch. There is also no liner for the ditch on the north side of the Category 2/3 stockpile. The ditches would carry mine-impacted water and the pond would contain mine-impacted water at least until the dump is reclaimed. The ditch essentially overlies the cutoff ditch, so that seepage would be into the one-inch rock filling the cutoff trench. GIS-050 shows the cutoff trench and stormwater ditch do not coincide. On the north side, the stormwater ditch, unlined, lies outside of the perimeter of the dump and cutoff trench. On the south, there is no stormwater ditch and the cutoff is between the dump and the pit lake. The combination of unlined ditches, cutoffs, and ponds could lead to a significant contaminant source not prevented by the NPDES/SDS permit.

In summary, not having a treatment plant at the mine site is not the equivalent of no discharges; it just means that the inevitable discharges to the Partridge River watershed from multiple sources will not be controlled or regulated. This is unacceptable, from a permitting standpoint and for protecting natural resources proximal to the mine site.56 But it also leaves PolyMet at substantial risk for significant liabilities for unauthorized discharges, for instance if/when the Equalization Basins overtop or stormwater collection systems around waste rock stockpiles are overwhelmed and pollutants enter the State's waters.57

The proposed treatment components of the reconfigured WWTS are the same as originally proposed. Anticipated flow volumes from the Mine Site to the reconfigured WWTS will remain the same as originally proposed. The location of the proposed mine site treatment system is the only thing that has changed. Regarding potential pollution from mine site sources, see responses to Comments 736 through 738 and 707 through 708-B.
The Clean Water Act requires protection of surface water from pollution released through connected groundwater. Yet, there do not appear to be any enforceable requirements anywhere in the draft NPDES/SDS permit for the treatment of mine and plant seepage. PolyMet has admitted that more than 5,250,000 gallons of contaminated wastewater from the mine site and over 10,500,000 gallons of contaminated wastewater from the tailings site would be released without treatment into Minnesota groundwater.

Additionally, the MPCA failed to perform a reasonable potential analysis for any mine site or plant site discharge to surface water via hydrologically connected groundwater. As a result, the draft MPCA wastewater permit fails to control or even to monitor the effects of polluted seepage on adjacent wetlands and streams. All of these issues must be addressed before a permit may be issued. Without a clear statement of prohibition, the Draft NPDES/SDS Permit appears to actually allow PolyMet to discharge untreated water from its tailings facility to surface waters via hydrologically connected groundwater. The Draft Permit only conditions that there will be "no direct discharge from the FTB (Flotation Tailings Basin) Pond to any receiving waters" and that "Direct discharge to surface waters from the FTB Seepage Containment System is prohibited." Nowhere is groundwater addressed.

The MPCA Fact Sheet appears to sidestep the issue by stating that, "based on typical defect size and frequency, expected hydraulic head, and measured hydraulic conductivity of system components" for the hydrometallurgical residue facility ("HRF"), "no leakage is expected through the lower composite liner." But this does not address the issue, because as the Band described in its comments on the draft Permit to Mine, the proposed HRF site is located on wetlands, which are inherently unsuitable for a toxic waste storage facility because they are structurally unstable. As described by MDNR's consultants, "The soft ground beneath the proposed residue facility consists of up to 30 feet of slimes, peat and tailings concentrates. This will not be an adequate foundation for the 80 foot high basin. . . . The 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." PolyMet has proposed compressing the wetlands before building the HRF to avoid this problem, but this engineering approach did not work as intended under similar conditions at a recent Superfund remedial site in the St. Louis River Area of Concern. If the liner fails, leakage will occur. Although PolyMet has proposed some leakage capture for HRF maintenance post-closure, that maintenance will "eventually cease once the [HRF] cover system has been completed, once vegetation has become established, and once it is confirmed that there are no areas where surface runoff is becoming channelized and causing erosion of the facility dams.

Despite the risk of failure and inadequate capture plan, which create a real and unacceptable risk of seepage into groundwater that is hydrologically connected to surface water, the Draft NPDES/SDS Permit establishes no limit on discharge of HRF pollutants through groundwater. The Draft Permit simply says, "Direct discharge from the HRF Pond and/or the HRF Leakage Collection system to surface waters or to the FTB is prohibited." The Draft Permit describes a lengthy investigation work plan that MPCA will require for a preload design and liners, but includes no conditions that would revoke the authority being granted in the permit that the "HRF is permitted to receive hydrometallurgical residue and process water." Both the MDNR and the MPCA propose to issue permits for the HRF, although neither agency nor permit has resolved concerns regarding the site, stability and potential leakage from the HRF.
Recommendation: The SDEIS should consider surface water criteria applicable to the Partridge River as evaluation criteria for the contaminated groundwater entering the Partridge River due to activities at the mine, in addition to the groundwater criteria used in the PSDEIS. According to EPA's ATTAINS database, none of the receiving waters immediately adjacent to the Mine Site, including the Partridge River, Yelp Creek, Unnamed Creek, have been assessed. Biological data consists of measuring community health by sampling and characterizing macroinvertebrates and fish. Minnesota does not have numeric water quality standards based on aquatic life for parameters known to be present in the discharge for many mining and mining related operations. However, the state does have a narrative water quality standard of no toxics in toxic amounts. 

Recommendation: The SDEIS should acknowledge that the narrative water quality standard- no toxics in toxic amounts - is relevant to NPDES permitting for the NorthMet project and its receiving waters, and that how to address that narrative standard will be considered in the PSDEIS permitting process. EPA will consult with MPCA in the context of permitting regarding approaches to protecting aquatic life and habitat in receiving waters.

740-C Nancy Schuldt Fond du Lac Band

The EPA has been providing clear and consistent recommendations to MPCA since early in the environmental review process regarding how the proposed PolyMet project should be regulated under the CWA to protect surface and groundwater resources, although apparently, they were not necessarily valued. For example, in their agency comments on the Preliminary SDEIS, EPA states: 72

Recommendation: The SDEIS should consider surface water criteria applicable to the Partridge River as evaluation criteria for the contaminated groundwater entering the Partridge River due to activities at the mine, in addition to the groundwater criteria used in the PSDEIS. According to EPA's ATTAINS database, none of the receiving waters immediately adjacent to the Mine Site, including the Partridge River, Yelp Creek, Unnamed Creek, have been assessed. Biological data consists of measuring community health by sampling and characterizing macroinvertebrates and fish. Minnesota does not have numeric water quality standards based on aquatic life for parameters known to be present in the discharge for many mining and mining related operations. However, the state does have a narrative water quality standard of no toxics in toxic amounts.

Recommendation: The SDEIS should acknowledge that the narrative water quality standard- no toxics in toxic amounts - is relevant to NPDES permitting for the NorthMet project and its receiving waters, and that how to address that narrative standard will be considered in the PSDEIS permitting process. EPA will consult with MPCA in the context of permitting regarding approaches to protecting aquatic life and habitat in receiving waters.

This comment is primarily a quote from EPA in a letter during the EIS process. The MPCA considered the previously submitted EPA comments in its development of the permit. The permit complies with Clean Water Act requirements identified by EPA, including permit coverage for all pollutant discharges expected from the facility.

741 Nancy Schuldt Fond du Lac Band

Implementation of Effluent Limitations Guidelines (ELGs): Discharges from the Mine Site which impact surface waters would be subject to effluent limitation guidelines (ELGs) found at 40 CFR 440 Subparts G, J, and K. These ELGs apply to discharges from mine drainage. Mine drainage is defined at 40 CFR 440.132 as "any water drained, pumped, or siphoned from a mine." A mine is defined as "an active mining area, including all land and property placed under, or above the surface of such land, used in or resulting from the work of extracting metal ore or minerals from their natural deposits by any means or method, including secondary recovery of metal ore from refuse or other storage piles, wastes, or rock dumps and mill tailings derived from the mining, cleaning or concentration of metals ores." Based on these definitions, all drainage from the Mine Site collected as stormwater is subject to these ELGs. It is expected that the ELGs will be implemented in an individual NPDES permit for the Mine Site.

This comment, as delineated, is a continuation of the EPA quote started in comment 740-C above.

The EPA has been providing clear and consistent recommendations to MPCA since early in the environmental review process regarding how the proposed PolyMet project should be regulated under the CWA to protect surface and groundwater resources, although apparently, they were not necessarily valued. For example, in their agency comments on the Preliminary SDEIS, EPA states: 72

"The MPCA considered the previously submitted EPA comments in its development of the permit. The permit complies with Clean Water Act requirements identified by EPA, including permit coverage for all pollutant discharges expected from the facility. The permit contains limits consistent with 40 CFR part 440. This comment is primarily a quote from EPA in a letter during the EIS process. The EPA, including permit coverage for all pollutant discharges expected from the facility.

742 Nancy Schuldt Fond du Lac Band

Implementation of water quality standards: Section 303 of the CWA prohibits point source discharge to surface waters, either directly or via directly connected ground water, unless the discharge complies with a NPDES permit. Section 502(12)(A) of CWA defines "discharge of a pollutant" as any addition of any pollutant to navigable waters from any point source. Further, at CWA § 502(7), "navigable waters" are defined as "the waters of the United States, including the territorial seas." The definition of "Waters of the United States" includes lakes, rivers, streams, creeks, and wetlands, etc., and applies to all surface waters on the NorthMet Project site. See 40 CFR 122.2.

The PSDEIS seems to anticipate that there will be discharges from the Mine Site to the Partridge River as well as other surface waters such as the West Pit Outlet (aka Unnamed Creek), and on-site and off-site wetlands, but does not conclude that the Mine Site will require an individual NPDES permit. Based on currently available information we believe that an NPDES permit is required at both the Mine and Plant Sites, with limits and monitoring requirements applied at the points of discharge. To comply with the CWA, the permit will need to have been issued when the discharge occurs. WQBEL's must be developed based on water quality standards, including downstream standards, and standards applicable to wetlands. WQBEL's must be calculated based on low flow (7Q10) conditions in the receiving waters.

Although Yelp Creek is in close proximity to the Category I stockpile we have not found any discussion in the PSDEIS of whether there will be a discharge from Mine Site Features to Yelp Creek (taking into account measures to prevent discharge from the Category 1 stockpile).

Recommendation: Identify whether there will be discharges to Yelp Creek; and if so indicate that these discharges will be addressed through NPDES permitting

This comment, as delineated, is the conclusion of the EPA quote started in comment 740-C above.

The EPA has been providing clear and consistent recommendations to MPCA since early in the environmental review process regarding how the proposed PolyMet project should be regulated under the CWA to protect surface and groundwater resources, although apparently, they were not necessarily valued. For example, in their agency comments on the Preliminary SDEIS, EPA states: 72

The permit includes specific authorized discharge points. It does not authorize any other point source discharge and in fact prohibits direct discharge to surface waters, including Yelp Creek, from the mine site and plant site except as authorized through discharge SD001.

The MPCA considered the previously submitted EPA comments in its development of the permit. The permit complies with Clean Water Act requirements identified by EPA, including permit coverage for all pollutant discharges expected from the facility.
Upon publication of the SDEIS, EPA submitted additional comments, including:

Comment 7. The SDEIS anticipates that pollutants will be discharged from mine site features, travel via groundwater pathways and reach the Partridge River several years following the start of the mining project. See SDEIS Table 5.2.2-26. However, as EPA has stated previously, the pollutants originating from mine site features may discharge to jurisdictional wetlands and tributaries prior to reaching the Partridge River. CWA Section 301 prohibits any point source discharge of pollutants to waters of the United States, either directly or via directly connected ground water, unless the discharge complies with a NPDES permit. Waters of the United States include jurisdictional wetlands and tributaries. See 40 CFR 122.2.

Finally, in a communication to MPCA regarding PolyMet’s NPDES Permit Application, EPA related the results of their focused review of the application, specifically new industrial discharges but also describing other deficiencies they noted in the application materials. They again called attention to the lack of request by the applicant for NPDES permit coverage for discharges at the mine site, as identified in the FEIS:

EPA’s position, as we explained previously during the development of the FEIS, is that the incorporation of the FEIS into the Application without ensuring that NPDES permit coverage is fully consistent with the information presented in the FEIS could create potential enforcement and permit shield issued under Section 402(k) of the Clean Water Act (CWA). If the application is not revised to either request NPDES permit coverage for the specific discharges proposed in the FEIS or to remove all references to the FEIS and supporting documentation, then any draft permit must include a prohibition on discharges from mine site point sources to surface waters including those discharges that occur via a direct hydrologic connection, as documented in the FEIS.

The draft NPDES/SDS permit fails to address these issues, and an NPDES/SDS permit cannot be issued until these matters are fully addressed.

Even the proposed special conditions for the draft permit are inadequate:

Special Permit Requirements – No Unauthorized Discharge

 Permit conditions to ensure there are no unauthorized discharges from the Mine Site and Plant Site:

• Permit conditions specifically prohibiting discharge to surface waters from the Mine Site and from the FTB Seepage Containment System and the HRF Leachate Collection Systems at the Plant Site.

• Requirement for all water collected by the groundwater containment systems at the Category 1 Waste Rock Stockpile and the FTB seepage capture systems to be routed to the WWTS or pumped to the FTB.

• Requirement for the facility to maintain an inward gradient at Category 1 Waste Rock Stockpile and the FTB Seepage Containment System and mitigation requirements to begin in the event inward gradients are not maintained.

• Requirement to conduct regularly scheduled inspections of the FTB Seepage Containment System and HRF Leachate Collection System

Glaringly absent from this list of special permit requirements is an explicit prohibition from discharges to surface waters via hydrologically connected groundwater. Without this condition, PolyMet will be able to discharge their mine site and plant site wastes and not be considered in violation of their permit. MPCA must establish this prohibition; otherwise, it will be clear that the agency is seeking to protect PolyMet, not the public or the environment.

The MPCA considered the previously submitted EPA comments in its development of the permit. The permit complies with Clean Water Act requirements identified by EPA, including permit coverage for all pollutant discharges expected from the facility. The permit specifically prohibits a discharge that violates water quality standards. See permit at 5.119.1.

Even the proposed special conditions for the draft permit are inadequate:

Special Permit Requirements – No Unauthorized Discharge

 Permit conditions to ensure there are no unauthorized discharges from the Mine Site and Plant Site:

• Permit conditions specifically prohibiting discharge to surface waters from the Mine Site and from the FTB Seepage Containment System and the HRF Leachate Collection Systems at the Plant Site.

• Requirement for all water collected by the groundwater containment systems at the Category 1 Waste Rock Stockpile and the FTB seepage capture systems to be routed to the WWTS or pumped to the FTB.

• Requirement for the facility to maintain an inward gradient at Category 1 Waste Rock Stockpile and the FTB Seepage Containment System and mitigation requirements to begin in the event inward gradients are not maintained.

• Requirement to conduct regularly scheduled inspections of the FTB Seepage Containment System and HRF Leachate Collection System

Glaringly absent from this list of special permit requirements is an explicit prohibition from discharges to surface waters via hydrologically connected groundwater. Without this condition, PolyMet will be able to discharge their mine site and plant site wastes and not be considered in violation of their permit. MPCA must establish this prohibition; otherwise, it will be clear that the agency is seeking to protect PolyMet, not the public or the environment.
Nancy Schuldt  
Fond du Lac Band

6. The draft permit does not have sufficient monitoring of surface and groundwater resources to determine compliance with permit conditions and applicable law. The Band does not find that proposed surface and groundwater monitoring system associated with the NPDES/SDS permit is adequate to detect issues at either the mine site or the plant site so that corrective actions can be taken in a meaningful time period. Additionally, in some cases the permit allows improper or insufficient monitoring limits. See responses to Comments 710 through 711-B, regarding monitoring, and Comment 735 through 737-C, regarding the basis for MPCA’s determination that the seepage capture system will prevent releases. Regarding the ability to ensure corrective actions can be taken, see response to Comment 716-E.

If the MPCA determines in the future that the operating well or surface water monitoring network is insufficient, the agency has authority under Minnesota Rule part 7001.0170 to modify the permit, and authority under part 7001.0150 to require sufficient monitoring to determine compliance.

Nancy Schuldt  
Fond du Lac Band

Insufficient Discharge Limits

In reviewing the draft Fact Sheet for the NPDES/SDS permit and attachments, the Band notes that the discharge at SD001 (which monitors the WWTS) has a mercury limit of 2,000 ng/l (daily max) and 1,000 ng/l (calendar monthly average).76 While this is one of the required federal limits (technology based effluent limit or TBL) for new industrial sources (taconite), it is not the controlling limit for mercury in the Lake Superior Basin. The Great Lakes Initiative (“GLI”) chronic wildlife criterion of 1.3 ng/l is the applicable standard for this discharge, 77 and this is particularly critical for a new or expanded discharge to a watershed that is already impaired for mercury yet does not have a TMDL in place. The draft permit must be modified to use the GLI criterion.

The Band has reconsidered the permit conditions and added an operating limit for mercury, additional dissolved mercury monitoring and a requirement to submit a Mercury Minimization Plan in accordance with the Agency’s mercury strategy. The MPCA determined that weekly monitoring for mercury in the effluent to the WWTS and the inclusion of a 1.3 ng/l operating limit for the WWTS effluent is sufficient.

Nancy Schuldt  
Fond du Lac Band

Background Site Discharges

Although EPA has established that any mine site discharge to surface water via hydrologically connected groundwater would be a permit violation under the Clean Water Act, mine site surface water quality monitoring actually seems to be designed to avoid detection of such a violation. For example, it appears that MPCA is proposing to monitor as “background” sites that may in fact be impacted by the PolyMet project.

From the draft Fact Sheet:

Monitoring of the upstream background monitoring stations will be used to establish background/baseline conditions at the Mine Site against which downstream monitoring can be compared. Monitoring of the upstream stations will be required monthly for Group B parameters and twice per year for Group A parameters,79

Background Surface Water Monitoring

A total of four surface water monitoring stations will be located upstream of the Mine Site:

- Portage River – upstream of the Mine Site at SW002
- Wyman Creek – upstream of the Transportation and Utility Corridors at PM-6
- Longnose Creek – upstream of the Transportation and Utility Corridors at LN-2
- Heritile Creek – upstream of the Transportation and Utility Corridors at HL-3

Downtown Surface Water Monitoring

A total of four surface water monitoring stations will be located downstream of the Mine Site:

- Portage River – downstream of the Mine Site at SW002
- Wyman Creek – downstream of the Transportation and Utility Corridors at PM-5
- Longnose Creek – downstream of the Transportation and Utility Corridors at LN-1
- Heritile Creek – downstream of the Transportation and Utility Corridors at HL-3

The Band is concerned that if groundwater contours and likely flowpaths of pollutants through the surficial aquifer are closely examined, the sites designated as “background” may actually be downstream of PolyMet groundwater seepage from either the mine site or tailings site, and would reflect mine-influenced conditions rather than unimpacted or reference conditions. Such a closer evaluation should be made to verify this is not the case, and should also consider the pattern of the mapped features, which generally flow from northeast to southwest.

The MPCA conducted a reasonable potential analysis on various parameters while reviewing the permit application and determined there is potential to cause or contribute to an exceedance of water quality standards. However, to address the commenter’s concerns, a WET limit of 1.0 TC is applicable to station SD001 has been added to the permit. In addition, a provision has been added to the permit to state the discharge of treated wastewater from the WWTS must not violate state water quality standards. The 1.0 TC limit addresses the narrative standard against toxicity in the discharge.

Nancy Schuldt  
Fond du Lac Band

Monitoring Will Not Detect Mine Site Discharges

The MPCA reviewed the locations of the surface water monitoring stations and believes the identification of whether they are upstream or downstream locations is accurate. A location the comment appears to be concerned about is upstream station SW002, which is located northeast of the East Pit. The project is not expected to affect this location during at least the first decade of operation because the East Pit will be dewatered and will be at a lower elevation than the river. During later periods of operation and during closure when the East Pit is backfilled, the monitoring data at this location can be assessed against previous data to help determine whether is being affected by the project. (Other groundwater monitoring in this same general area can aid this assessment.) Even if this location was affected, it would still serve as a relative comparison against points further downstream to assess the potential for overall impacts from the mine site.

The surface water monitoring stations located along the railroad corridor have the primary intent of monitoring for potential effects of ore spillage along the railroad, and for this purpose they are independent of mine site activities. A direct comparison of water quality from the upstream location of these “paired” sampling points against the water of the downstream location will accomplish this intent.
The draft permit’s requirements for internal waste stream monitoring at the mine site, pit dewatering, waste rock stockpiles, surcharge piles, and Overburden Storage and Laydown Area (OSLA), unreasonably assure complete capture of all seepage associated with these reactive mine waste sources. For the OSLA and Construction Mine Water Basin, even fewer monitoring requirements are imposed. As summarized in the draft NPDES Fact Sheet:

*Overburden Storage & Laydown Area (OSLA) and Construction Mine Water Basin: Monitoring of runoff collected at the OSLA will be monitored for Group A parameters once per month. Because the OSLA and Construction Mine Water Basin will store materials that are not expected to release harmful constituents, a reduction in the parameter list from what is monitored at other stockpile locations is appropriate.[80]

The draft NPDES Fact Sheet also states:

*The OSLA runoff is expected to be of sufficient water quality so as not to require treatment beyond settling to remove suspended solids prior to pumping to the FTB. Any mercury that may be released from the stored peat will be removed with the settled solids in the collection pond and/or via filtration and adsorption by tailings particles at the FTB.

*Groundwater downgradient of the OSLA will be monitored using one monitoring well screened in the surficial aquifer. This well (GW411) will be monitored quarterly for a focused set of key parameters and annually for a wider set of parameters.[81]

Since these are unlined mine wastewater storage features, and dissolved pollutants can migrate quickly through shallow groundwater to downgradient surface water features (wetlands and Partridge River), there should be a mercury limit (1.3 ng/l) associated with these monitoring locations.

MPCA reviewed the monitoring requirements related to the OSLA and determined they are sufficient. The OSLA is primarily used for the storage of excavated peat and saturated overburden and is unlikely but has a low-permeability compacted base layer that reduces infiltration and promotes runoff to the OSLA pond. Monitoring of the OSLA pond includes mercury and sulfate. In combination with monitoring of downgradient groundwater, the pond monitoring will be sufficient to determine compliance with state and federal requirements. In addition, the permit requires an annual evaluation of the overall suitability of the existing groundwater monitoring network, including its ability to detect a potential future groundwater impact to any surface water.

The Band’s submitted comments on the MNDNR draft permit to mine addressed this issue, and noted that the MPCA also bore regulatory leverage to deny or condition the PolyMet permit to mine. The MNDNR’s draft special conditions simply recite that:

¶66. Prior to blasting within any mine pit footprint, the Permittee must submit a report and supporting data assessing the potential for current and future northward groundwater flow at the Mine Site. If the DNR concludes that northward flow path wells is to monitor the hydrogeologic conditions such that it can be accomplished by monitoring current and future groundwater elevations along the potential north flow paths; monitoring of groundwater quality is not needed to accomplish this purpose.

The Draft permit should be revised to do this.

North-Flow Path Bedrock Aquifer Monitoring Is Insufficient to Capture Plumes

During the preparation of the FEIS, Dr. John Coleman with the Great Lakes Indian Fish and Wildlife Commission provided the co-lead agencies compelling evidence that groundwater from the Mine Site could potentially flow north into the Rainy River Basin via the Northshore Mining Company’s Peter Mitchell Pit (Northshore Mine) at mine closure.[83]

The Go-Lead Agencies considered this possibility, and concluded that such northward flow was possible, but not reasonably foreseeable. Following publication of the FEIS, additional comments were submitted regarding the possibility of northward flow. DNR’s adequacy decision concluded that even if northward flow were to occur, it would be possible to detect and prevent effects within the Rainy River Basin. The USFS similarly concluded that northward flow from the Rainy River Basin was unlikely, and that any potential northward flow could be detected and prevented. A monitoring plan for assessing hydrogeologic conditions in the area between the NorthMet pits and the Northshore Mine has been submitted to the DNR and Minnesota Pollution Control Agency (MPCA) separate from this Application (Reference [10]).[84]

The Band submitted comments on the MNDNR draft permit to mine addressed this issue, and noted that the MPCA also bore regulatory oversight through their permitting and monitoring responsibilities. Excerpt from these comments:

*Neither PolyMet in its revised application nor the MNDNR in its draft special conditions address EPA’s position on what needed to be done to address the northward flow. In its comments on the PolyMet FEIS, the EPA agreed with experts that “a northward flow path is a possibility.” The EPA stated that “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.”[85] The EPA recommended:

**Recommendation: 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.[86]

But rather than follow EPA’s recommendations and resolve this controversial issue by including as part of the permitting process, specific conditions to prevent northward flow, the MNDNR would allow PolyMet to defer analysis just long enough to avoid scrutiny and reduce its own leverage to deny or condition the PolyMet permit to mine. The MNDNR’s draft special conditions simply recite that:

¶65. Prior to blasting within any mine pit footprint, the Permittee must submit a report and supporting data assessing the potential for current and future northward groundwater flow at the Mine Site. If the DNR concludes that this report, or other monitoring data, indicates a reasonable likelihood of northward groundwater flow at the Mine Site, then the DNR will require adaptive management or mitigation. The DNR concludes that this report, or other monitoring data, indicates a reasonable likelihood of northward groundwater flow at the Mine Site, then the DNR will require adaptive management or mitigation.

¶67. Any required management or mitigation must be approved by the DNR.

The Band believes these MNDNR draft Conditions are vague, unenforceable, andshield PolyMet from their obligation to demonstrate that their proposed mine project will meet legal requirements. The draft Permit is deficient because the MNDNR has not specified their authority to...
But rather than follow EPA’s recommendations and resolve this controversial issue by including as part of the permitting process, specific conditions to prevent northward flow, the MNDNR would allow PolyMet to defer analysis just long enough to avoid scrutiny and reduce its own leverage to deny or condition the PolyMet permit to mine. The MNDNR’s draft special conditions simply recite that:

¶66. Prior to blasting within any mine pit footprint, the Permittee must submit a report and supporting data assessing the potential for current and future northward groundwater flow at the Mine Site. If the DNR concludes that this report, or other monitoring data, indicates a reasonable likelihood of northward groundwater flow at the Mine Site, then the DNR will require adaptive management or mitigation.

¶67. Any required management or mitigation must be approved by the DNR.87

The Band believes these MNDNR draft Conditions are vague, unenforceable, and shield PolyMet from their obligation to demonstrate that their proposed mine project will meet legal requirements. The draft Permit is deficient because the MNDNR has not specified their authority to review and approve the report, and because the way that “adaptive management or mitigation” will be implemented under the Permit is not clear. The Permit should establish the required content for the report, and define the agency’s criteria for approval of the mitigation plan, and provide for a process under which the approved plan will be incorporated into the permit as an amendment.

Given the nature of this disputed issue, the MNDNR should require that these reports be submitted to the MPCA as well for its review and approval, and that plans should be incorporated into the Permit to Mine and NPDES/SDS permit through formal amendments.

748 Nancy Schuldt Fond du Lac Band

No Limits at Mine Site Surface Water Monitoring Stations

According to the draft NPDES/SDS Fact Sheet, the only allowable discharges from the Mine Site are those authorized by Minnesota’s Industrial Stormwater General Permit and Construction Stormwater General Permit. The draft permit explicitly prohibits any discharge of wastewater to surface waters from the Mine Site. All mine-related wastewaters will be collected in various sumps and collection systems, routed to equalization ponds at the Mine Site, and then pumped via pipeline to the Plant Site for treatment and discharge at that location.

The draft permit envisions that each of the Mine Site features will be constructed and managed such that there is no point source discharge to surface waters nor a discernable impact to surface waters or groundwater. To that end, the draft permit requires monitoring of the performance of the Mine Site engineering controls and the groundwater quality downgradient of the Mine Site features.

But both the limited number of monitoring sites proposed for baseline conditions and those proposed to identify surface water impacts are insufficient to detect performance failures of the engineering controls. Similarly, the sites on Longnose Creek and Wyman Creek are intended to monitor impacts of any spills or leakage from the railway and pipeline corridor between the mine site and the plant site.88 Yet only a single surface water site (identified on the map as SW004c) is proposed to monitor impacts from discharge via groundwater to surface water from the entire mine site.

This lone monitoring site, located on the Partridge River approximately a mile south of the mine site,89 simply cannot be expected to capture evidence of systems performance failure for the entire mine site.

The PolyMet Draft NPDES/SDS permit must be revised to include additional surface water monitoring sites at the mine site, and in wetlands and streams in proximity to mine site sources of contamination in order to ensure that PolyMet is complying with the draft permit’s prohibition of the discharge of pollutants into surface water.
Insufficient Hydrology, Water Quality Monitoring and Lack of Protective Thresholds in Partridge River Watershed

The MPRA proposes to include a condition requiring the stream hydrology monitoring required by the DNR Water Appropriation permits for the Project. If monitoring indicates an annual average change in hydrology of greater than 20% from existing conditions at the Plant Site—that is, conditions before the implementation of the tailings basin management plans, which are short-term mitigation measures as part of the DRI/EPA Consent Decrees—in Trimble Creek, Unnamed (Mud Lake) Creek, or Second Creek at the Plant Site, the certification requires the permittee submit to the MPRA the stream hydrology data, along with an analysis of whether existing and beneficial uses of the stream(s) have been affected. The certification also requires a proposal for adaptive management, including possible mitigation, as appropriate, to address any loss of existing uses.

But no such conditions are proposed to protect hydrology in the Partridge River watershed. In 2008, Barr Engineering provided (DRS) Natural Resources with a Long Range Hydrology Study (LRHS) for the NorthShore Mine Pechet 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 6.4 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 northeast flowpath of contaminated groundwater from the mine pits at close-in Mill Water quality evaluation points have apparently been negotiated with the regulatory agencies with minimal input from the public. Inexplicably, the EIS does not include any model evaluation or monitoring points for the first three mile (or longer) section of the Partridge River that may be impacted. It appears that the model evaluation and monitoring points for the Partridge River were chosen to minimize the potential impacts from the mine project that are shown by modeling or monitoring.

Impacts to the Partridge River would presumably be greatest along the primary groundwater recharge zone closest to mine operations. Based on predicted pathways for discharges to the river from mine features, monitoring and evaluation points are more than three miles downstream from the point and are just below the discharge point in a creek. Selection of those monitoring and evaluation points ensures that the discharges likely to be largest in pollutant concentrations are not caught by monitoring well downstream, having been diluted by presumably clean groundwater and by surface water from an area less likely to be affected by mine operations.

The failure to monitor surface water at the actual point of contact with groundwater and surface water closest to the mine is directly contrary to GLI requirements and standards to ensure that water quality will not be lowered for impaired waters. The FEIS methodology fails to evaluate the receiving water nearest the actual mine operations. The failure to monitor surface water at the actual point of contact with groundwater and surface water closest to the mine is directly contrary to GLI requirements and standards to ensure that water quality will not be lowered for impaired waters. The FEIS methodology fails to evaluate the receiving water nearest the actual point of contact with groundwater and surface water closest to the mine.

But no such conditions are proposed to protect hydrology in the Partridge River watershed. In 2008, Barr Engineering provided (DRS) Natural Resources with a Long Range Hydrology Study (LRHS) for the NorthShore Mine Pechet 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 6.4 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 northeast flowpath of contaminated groundwater from the mine pits at close-in Mill Water quality evaluation points have apparently been negotiated with the regulatory agencies with minimal input from the public. Inexplicably, the EIS does not include any model evaluation or monitoring points for the first three mile (or longer) section of the Partridge River that may be impacted. It appears that the model evaluation and monitoring points for the Partridge River were chosen to minimize the potential impacts from the mine project that are shown by modeling or monitoring.

Insufficient Hydrology, Water Quality Monitoring and Lack of Protective Thresholds in Partridge River Watershed

The failure to monitor surface water at the actual point of contact with groundwater and surface water closest to the mine is directly contrary to GLI requirements and standards to ensure that water quality will not be lowered for impaired waters. The FEIS methodology fails to evaluate the receiving water nearest the actual point of contact with groundwater and surface water closest to the mine.

MPRA evaluated locations for surface water monitoring downstream of the tailings basin during permit development and determined that, given the dispersed nature of the treated discharge to headwater wetlands via outfalls SD0002 through SD010, the locations in the permit are appropriate. Also see response to comment 748.

Insufficient Seepage Containment System Groundwater Monitoring Stations: at the HRF

According to the NPDES/SDS Fact Sheet, the Hydrometallurgical Residue Facility (HRF) is a closed-loop system that will not have a discharge. Water is recirculated through the facility and reused in the hydrometallurgical process. The draft permit requires monthly monitoring of the HRF Pond water at WS004 and any leachate collected by the HRF Leachate Collection System at WS005 for Group B parameters and annual monitoring for Group C parameters.

The Draft NPDES/SDS permit requires monthly inspection of HRF pond and HRF leakage collection system to evaluate the effectiveness of the liner and Leachate Leakage Collection System.95 Yet, although there are monitors for internal waste streams at the HRF, there are zero monitoring sites that could actually detect liner leakage at the HRF: no bedrock groundwater monitoring sites, no surficial aquifer monitoring sites and no surface water quality monitoring sites.96 This despite the fact, as discussed above, that the location of the HRF invites liner failure and subsequent seepage.

The issue raised in the comment pertaining to site suitability for the HRF is addressed in the permit by requirements of the Preload Design Investigation Work Plan (which includes a component addressing additional subsurface investigation), the HRF Preload Design Plan (which is designed to address issues related to foundation variability/stability) and the HRF Liner Plan. The HRF Liner Plan includes a requirement for a lysimeter under the sump or other suitable device and the permit has been revised to require the HRF Liner Plan to also include an analysis of the suitability of the proposed monitoring to detect leakage from the HRF. Until the final design of the HRF is known (after completion of the required investigations and studies), it is premature to specify the exact type, number and placement of monitoring.
751-A Nancy Schuldt Fond du Lac Band

All monitoring results from the PolyMet project should be immediately made available online so that members of the public will have timely and transparent information as to PolyMet’s compliance with Minnesota water quality standards and the requirements of the federal Clean Water Act.

All monitoring data is reported to the MPCA on monthly Discharge Monitoring Reports (DMRs) which is posted online on the MPCA website (available at https://www.pca.state.mn.us/quick-links/ksa-surface-water-data). Monitoring data and report submittals are also available by request to the agency.

751-B Nancy Schuldt Fond du Lac Band

Surface water monitoring sites located in wetlands should also specifically measure sulfate, mercury, methylmercury and water fluctuations, to address concerns about increased mercury contamination resulting from the PolyMet project.

Comment noted. This comment relates to monitoring required by conditions in the 401 certification, not the NPDES/SDS permit.

752 Nancy Schuldt Fond du Lac Band

Effluent Limits at Monitoring Locations are not Sufficiently Protective

Federal regulations require that any new copper mine must comply with new source performance standards which provide technology-based effluent limitations (TBELs). The only effluent limits contained in the Draft NPDES/SDS Permit for the PolyMet copper-nickel mine project are set at SD001, the monitoring station for surface discharge from the plant site wastewater treatment system (WWTS); those limits are based on TBELs specified for copper mining. Therefore, no Water Quality Based Effluent Limits (WQBELs) are required in the permit. Further discussion regarding MPCA’s reasonable potential analysis is contained in response to Comment 718-A. However, to ensure that the discharge from the WWTS does not exceed water quality standards, the MPCA included Operating Limits for sulfate, copper, arsenic, cobalt, lead, nickel and mercury at or below their respective water quality standards. The permit also includes Technology Based Effluent Limits (TBELs) in accordance with 40 CFR part 440 (even though these values are higher than the aforementioned Operating Limits). The Operating Limits and TBELs in the permit are enforceable and an exceedance of either the TBEL or Operating Limit is a violation of the permit.

To address concerns regarding the permit being protective of water quality, the MPCA has also added language to the permit stating the discharge of treated wastewater from the WWTS must not violate state water quality standards.

753 Nancy Schuldt Fond du Lac Band

Annual Assessment to Ensure no Unauthorized Discharges from the Mine Site and Plant Site Lacks Enforcement Mechanism

The draft permit contains special requirements for both an Annual Groundwater Evaluation Report and an Annual Comprehensive Performance Evaluation Report in addition to the permit conditions mentioned above. The purpose of these reports is, in part, to utilize all available monitoring and operating data (including groundwater quality, groundwater elevation, waste stream monitoring and pumping records) to fully evaluate facility performance on an annual basis and to assess whether there is, or is not the potential for a discharge to surface waters. The annual evaluations will provide a comprehensive assessment of the facility engineering controls at the Mine Site and Plant Site in minimizing impacts to water resources downstream of the facility and will be an assessment of potential mitigation options or adaptive management is needed if the potential for an unauthorized discharge to surface waters exists. The Annual Groundwater Evaluation Report and the Annual Comprehensive Performance Evaluation Report are further discussed in the sub-section of the same name below.

Permits contain requirements applicable to the permittee. Statutes and rules define the scope of enforcement authority available to the permitting agency. Enforcement actions are determined at the time of discovery and range in seriousness based on the severity of the violation. If there is an unauthorized discharge, it will be considered a violation of the permit and the MPCA will determine appropriate enforcement action at that time. In addition, the MPCA has modified language in Item 5.175.75 of the draft permit regarding unauthorized discharges from the mine site, which prohibits the Permittee from directly discharging any mine water or other process wastewater from the Mine Site to surface waters under this permit. All mine water or other process wastewater from the Mine Site must be routed to the Equalization Basins and pumped to the Plant Site for treatment. Parts 5.175.51 and 5.175.52 address unauthorized discharges at the plant site by prohibiting direct discharges to surface water from the FTB pond, the FTB seepage containment system or the south seepage management system. All water collected by the containment systems must either be pumped back to the FTB or routed to the WWTS for treatment.
754 Nancy Schuldt Fond du Lac Band

7. The Draft Permit Does Not Sufficiently Address Mercury Impacts

The MPCA's NPS/GES Fact Sheet states that a reasonable potential analysis for mercury was conducted as part of the permit application review and the Agency determined there is no reasonable potential for concentrations of mercury to cause or contribute to an exceedance of water quality standards. The Band is entirely unpersuaded by the arguments put forward by PolyMet and apparently adopted by the MPCA, that mercury impacts from the project will be insignificant. If the Band described in its comments and objections as the MPCA draft permit to mine:

"Throughout its PTM Application, PolyMet has failed to include mercury in its characterization of wastes or water quality. As noted above, two of the areas where mercury is of greatest concern are not characterized at all -- the TH in which 344 pounds of mercury will be disposed each year and the unique USA, where mercury containing coal will be stored. We have found multiple tables in PolyMet’s Water Management Plans and draft permit to mine that estimate water quality in various locations where water contacts waste, from the toe of the FTB mine pits and waste rock seepage. But none of these tables estimate levels of mercury in the seepage or wastewater, even though all of the receiving waters for the proposed PolyMet project (the Pigeon River and Embarrass River, Embarrass, Sides, Wheyn, Osquagoga and Colbs Lakes, the Whitefish River Reservoir and numerous downstream segments of the St. Louis River) are all listed by MPCA under the Clean Water Act 303(d) as impaired due to mercury. MPCA should require PolyMet to revise its permit application to analyze and disclose mercury concentrations in all project wastes and in all water quality associated with mine site or plant waste or one before a permit to mine can be issued.

PolyMet continues to overlook mercury impacts. PolyMet's NPS/GES Application does not assure any level of mercury removal efficacy for its proposed treatment. PolyMet states, "Some mercury removal is expected across the greensand filter. However, the influent concentration of mercury to the tailings basin seepage treatment train is expected to be below the WWTS discharge treatment target." To support this, PolyMet relies on a "bench-scale study" of the effectiveness of flotation tailings for removing mercury and concludes that the concentration of future FTB seepage "is expected to be similar to the concentrations in the seepage from the existing LTVSMC tailings basin, which is approximately 1.0 ng/L." This conclusion is entirely unsupported; PolyMet's WWTS under the NSPS for mercury (even though this value is higher than the aforementioned Operating Limit).

As stated in the comment, the MPCA conducted a reasonable potential analysis for the discharge from the WWTS and determined there is no reasonable potential for the discharge to cause or contribute to an exceedance of the water quality standard for mercury. Therefore, no Water Quality Based Effluent Limit (WQBEL) is required in the permit. Further discussion on reasonable potential is in response to Comment 718-A. However, to ensure that the discharge from the WWTS does not exceed the 1.3 ng/L mercury standard, the permit has been revised to include an enforceable Operating Limit for mercury (set at 1.3 ng/L) at internal monitoring point W5074 prior to discharge. In accordance with 40 CFR part 440, the permit also includes a Technology Based Effluent Limit (TBLE) for mercury (even though this value is even further above the aforementioned Operating Limit).

The EIS concluded that the demonstrated ability of the NorthMet tailings to adsorb mercury, in combination with the previously documented mercury removal capabilities of the underlying taconite tailings, would be expected to result in an overall increase in mercury adsorption and subsequently lower concentrations of mercury in the FTB seepage. (MPCA notes that this is an existing taconite facility.)

Thus, the influent to the WWTS is expected to be at a mercury water quality standard of 1.3 ng/L. The MPCA expects further removal by the Greensand Filtration and reverse osmosis components of the WWTS. MPCA discussed this information in conjunction with the results of the pilot testing and the design modeling in the reasonable potential analysis. Further discussion on this is in response to Comment Multiple-543-BX.

754-A Nancy Schuldt Fond du Lac Band

Mercury

A Reasonable Potential analysis for mercury was conducted as part of the permit application review. Based on its review, the Agency has determined there is no reasonable potential for concentrations of mercury to cause or contribute to an exceedance of water quality standards. The MPCA expects no measurable change in mercury concentrations downstream in the St. Louis River at Forbes or below. The draft permit requires weekly monitoring of the effluent at SD001 for total mercury using analytical method 1631 and clean-sampling method 1669. The applicable TBEL under the NSPS for mercury is a daily maximum of 0.002 mg/L and a monthly average of 0.001 mg/L.[109]

The Band has already identified this error in the applicable mercury permit limit. The draft permit should not be issued until mercury impacts can be properly assessed in light of the bench-scales study and monitoring data from the existing LTVSMC tailings basin, which indicate that mercury concentrations will not comply with applicable standards.

See response to comment 754.

754-B Nancy Schuldt Fond du Lac Band

More broadly, the Band has consistently challenged the conclusion that the NorthMet Project Proposed Action would increase mercury loadings in the Embarrass River but decrease mercury loadings in the Partridge River, with the net effect of an overall reduction in mercury loadings to the downstream St. Louis River. 110 We provide additional extensive comments on uneasured, unmodeled, yet predictable mercury impacts from the PolyMet project in our comments on the draft §401 certification, also submitted today. The Band is convinced that the PolyMet project, when examined holistically for its direct and indirect impacts to surrounding watersheds and waterways, will contribute to mercury exceedances in downstream and downstream waters, and will contribute to existing wildlife and human health impairments.

The subject of mercury loadings from the project was addressed in the EIS and the EIS was deemed adequate. No information the MPCA has received would undermine that conclusion. The MPCA considered the potential mercury loading and determined there was no reasonable potential to exceed the water quality standard for mercury. See responses to Comments 722 through 722-B for additional discussion.

To ensure the discharge from the WWTS complies with the 1.3 ng/L water quality standard the permit was revised to include an enforceable operating limit of 1.3 ng/L for the discharge.

Comments submitted on the draft §401 certification are addressed separately in the response to comments for that document.
The comment primarily addresses conditions for an existing facility that is regulated under a separate, existing NPDES/SDS permit.

To the extent the comment addresses the effectiveness of augmenting downgradient waters via the discharge of treated wastewater, the hydrologic effects were evaluated in the EIS and the water quality effects were addressed within the NPDES permitting process. The permittee conservatively calculated that it would take up to 18 months to attenuate (defined in the calculations as a 90% mix of treated water to legacy seepage) the effects of the existing seepage upon construction of the seepage containment system and the discharge of treated wastewater. It should be noted that prior to full attenuation, concentrations in receiving and downstream waters would be reduced to levels below water quality standards.

To the extent the comment addresses seepage capture system efficiency, the MPCA did not rely on 100% seepage capture efficiency (nor did the EIS in its effects analysis). Modeling conducted during the EIS indicated that capture efficiencies greater than 90% were likely and MPCA relied on the conservative assumption used in the EIS of a 90% capture efficiency.

The comment primarily addresses a closure scenario in the absence of the NorMet project that is regulated under a separate NPDES/SDS permit. The comment does not address the NorthMet NPDES/SDS permit.

**8. The Resolution of Legacy Contamination is Uncertain under the Draft Permit**

MPCA’s Fact Sheet for the draft permit includes a section referencing how the agency expects to see legacy contamination issues from the former LTVSMC facility addressed if the PolyMet project is permitted and the company acquires and facilities currently subject to a Consent Decree. Again, the agency bases its determination that the legacy contamination will be attenuated as the PolyMet project can achieve compliance with these conditions by assuming a seepage capture rate of 90% at the tailings basin and that the project will comply with Long Term Plan for testing and implementing active and passive water treatment.

"...the project will comply with the Clean Water Act, and the seepage containment system will also not contribute to the hydrology of the downstream wetlands and creeks. To obtain the benefits of the seepage capture system without the time mitigation of the functional hydrology of these downstream waters, the collected seepage will be replaced with treated water from the Waste Water Treatment System (WHTS). The treated water, which will meet all the surface water quality standards, will be discharged as a dispersed manner to the headwaters wetlands immediately downstream of the capture system in the Trimble and Unnamed Creek watersheds."...

The MPCA’s assumption that augmenting the three affected streams with treated water will completely disperse the legacy contaminants is, again, based upon the conservative assumption of 100% seepage capture at the tailings basin, which, as the Band has already described, is implausible. The Fact Sheet goes on to state:

"...the project will comply with the Clean Water Act, and the seepage containment system will also not contribute to the hydrology of the downstream wetlands and creeks. To obtain the benefits of the seepage capture system without the time mitigation of the functional hydrology of these downstream waters, the collected seepage will be replaced with treated water from the Waste Water Treatment System (WHTS). The treated water, which will meet all the surface water quality standards, will be discharged as a dispersed manner to the headwaters wetlands immediately downstream of the capture system in the Trimble and Unnamed Creek watersheds."...

The MPCA’s assumption that augmenting the three affected streams with treated water will completely disperse the legacy contaminants is, again, based upon the conservative assumption of 100% seepage capture at the tailings basin, which, as the Band has already described, is implausible. The Fact Sheet goes on to state:

"...the project will comply with the Clean Water Act, and the seepage containment system will also not contribute to the hydrology of the downstream wetlands and creeks. To obtain the benefits of the seepage capture system without the time mitigation of the functional hydrology of these downstream waters, the collected seepage will be replaced with treated water from the Waste Water Treatment System (WHTS). The treated water, which will meet all the surface water quality standards, will be discharged as a dispersed manner to the headwaters wetlands immediately downstream of the capture system in the Trimble and Unnamed Creek watersheds."...

The MPCA’s assumption that augmenting the three affected streams with treated water will completely disperse the legacy contaminants is, again, based upon the conservative assumption of 100% seepage capture at the tailings basin, which, as the Band has already described, is implausible. The Fact Sheet goes on to state:

"...the project will comply with the Clean Water Act, and the seepage containment system will also not contribute to the hydrology of the downstream wetlands and creeks. To obtain the benefits of the seepage capture system without the time mitigation of the functional hydrology of these downstream waters, the collected seepage will be replaced with treated water from the Waste Water Treatment System (WHTS). The treated water, which will meet all the surface water quality standards, will be discharged as a dispersed manner to the headwaters wetlands immediately downstream of the capture system in the Trimble and Unnamed Creek watersheds."...
PolyMet will violate the zero-discharge standard in two ways. First, tailings seepage not captured by the collection system will violate the standard, regardless of the effect on groundwater quality. PolyMet plans to effectively meet the zero discharge by planning to collect and recycle all tailings water that seeps beneath the facility (Vol. III, § 5.2) even if the collected seepage would be treated and later discharged to surface streams. But, seepage that escapes the tailings seepage collection system will violate the zero-discharge standard because it will not be part of the combined waste stream and will reach the Embarrass River or tributaries. If PolyMet's assumption regarding seepage collection does not manifest, PolyMet will violate its permit. Second, mine dewatering water would violate the standard if dedicated dewatering wells become necessary. As discussed in the NPDES modeling section, there is a substantial chance that the dewatering requirements will exceed the predicted rates. If dewatering needs exceed the predicted rates, and PolyMet requires dedicated dewatering wells, PolyMet will violate the permit. Both of these deficiencies must be addressed before the permit can be issued.

The zero discharge standard (at 40 C.F.R. part 440) applies to direct discharges of process wastewater to surface water. Direct discharge to surface water from both seepage containment systems is prohibited by this permit.

Mine dewatering wells are not currently being proposed - the commenter is speculating on their use. In any event, mine dewatering water (whether from direct pumping or from dewatering wells) is considered mine drainage in the context of applying the "allowable discharge" requirements of 40 CFR 440.104(b)(2)(i) and is not part of the restricted allowable discharge. In addition, the permit has been revised to include a numeric maximum allowable discharge limit in accordance with the above regulation.

The Antidegradation Evaluation and MPCA's subsequent review demonstrate that water quality degradation caused by the proposed Project cannot be avoided, but will be prudently and feasibly minimized, existing and beneficial uses will be protected, and the proposed activity is necessary to accommodate important economic or social changes in the geographic area in which degradation of existing high water quality is expected. The proposed Project will implement the best technology in practice and treatment. Therefore, the MPCA has made a preliminary determination that the Project will satisfy antidegradation standards in Minnesota Rules 7050.0265, 7052.0300, and 7052.0330. (NPDES Fact Sheet)
Comment noted. This comment quotes from MPCA's draft permit Fact Sheet that was placed on public notice with the draft permit; it does not include a new comment on the draft permit.

Comment noted. This comment is a summary statement for the comment letter. See individually delineated comments above for specific responses.

Comment noted. This comment quotes from MPCA's draft permit Fact Sheet that was placed on public notice with the draft permit; it does not include a new comment on the draft permit.

Comment noted. This comment is a summary statement for the comment letter. See individually delineated comments above for specific responses.
Do not issue a 401 certification, air, or wastewater discharge permit to PolyMet Mining Company. No one has
seen the potential effects of acid mine drainage. Discharge of acid drainage into waterways is a threat to
living organisms and ultimately to the human population. Do not allow this mining company to dump
its toxic industrial waste into our Great Lakes.

Annie Suzanne Tillemans, Citizen

This permit proposes to monitor discharges in the Laurentian area from this project's coppersulfide mining of low grade
copper ore in an extremely water-dependent area of the world at the headwaters of the Great Lakes and the St Lawrence
Seaway. Infrastructure including rails and roads will be required for the North Met Project. Among the facilities
referenced in the draft permit, the following:
- A beneficiation plant
- A hydrometallurgical plant
- A flotation tailings basin (FTB) including Seepage Capture Systems
- A hydrometallurgical residue facility (HRF)
- A waste water treatment system (WWTS) - discharge of which will be routed through pipes to maintain flows in Trimble Creek, Second Creek, and Unnamed Creek, with some being recycled directly to FTB pond.
- Other ancillary facilities (eg Colby Lake water pipeline) including:
  - Mine water filtration train
  - Tailings basin seepage treatment train
  - Wastewater treatment of solids/byproducts: from the tailings basin seepage treatment train including waste from filters and membrane cleaning and concentrate, which will be routed to FTB pond and mine water chemical precipitation treatment train.

Can we rely on a for-profit corporation to monitor itself? The permittee, Polymet, is expected to report all data from the
required monitoring stations, whether favorable or not. If reported accurately and standards are not met, then
Polymet will be required to monitor again until standards are met. What worthy and worthwhile actions will be taken at the "end of the day"? If the unfathomable number of reports (essentially required just to monitor the discharge from this mining operation) are maintained accurately with regularity, consistency and competency, what truly effective actions can be taken when standards are exceeded? What of the monitoring stations that have no set standards as guidelines? What of those that are not enforceable? See response to Comment 144.

Annie Suzanne Tillemans, Citizen

What actions are possible that will return the water to its base levels when the degradation becomes apparent to us all? What amount of money in the form of fees or financial guarantees can reclaim what is lost?

Annie Suzanne Tillemans, Citizen
Anita Suzanne Tilliemans  
Citizen  
In addition, there is little that anyone can do to prevent natural processes and disasters from occurring, or human error whether knowingly or not; and so, by any standard, this mine will degrade our water resources in Minnesota and beyond. Can any permit for such a mine adequately address these issues?

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Anita Suzanne Tilliemans  
Citizen  
Once copper mining has run its course in the Arrowhead by setting precedent with PolyMet, the first of many to come, what will remain and what can truly be reclaimed? "Downstream," the St Louis River estuary and Lake Superior, the largest body of fresh water in the world? "Downstream," the BWCA, and the Rainy River Watershed, the Superior National Forest and Voyaguers, the most pristine wilderness areas on the planet? Can we afford this mine?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Anita Suzanne Tilliemans  
Citizen  
There are hundreds of pages listed (in this water permit draft and other permits) of essential equipment and gauges required just to monitor pollution from the proposed NorthMet Project (copper mine) on a continuing basis daily, monthly and/or annually through the life of this mine and beyond. This alone speaks for itself and cannot be reconciled with the safety of our greatest natural resource. I respectfully request that MFCA deny this permit to pollute and to mine the waters of the St Louis River watershed in a land that has no equal on earth in a water dependent ecosystem at the headwaters of the Great Lakes and the St Lawrence Seaway. How long will such beauties last in a copper mining scenario?

Comment noted. Monitoring data considered in the development of the draft permit and required by the draft permit documents are publicly available. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Arnie and Cindy Whiting  
Citizen  
We respectfully request that you deny the NorthMet Mining Project Water Quality Permit for the following reasons:

• As stated by the Environmental Protection Agency, sulfide mining is the most toxic industry and creates a much greater risk than iron ore mining.

• It is well-documented fact that sulfide mining has never been done without a breach. Never.

• The Environmental Impact Statement provided by PolyMet concedes that water treatment from this mining proposal would be required for 200 years and the overall site for 500 years. Are we, as constituents of the MN DNR and homeowners near this proposed mine, to believe that PolyMet will continue to pay for this for the entire 500 years??? We think not!

• According to the Minnesota Voter's Environmental Priorities Survey in February 2017, 74% of those polled oppose sulfide mining and nearly half are very concerned about rollbacks in environmental laws.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Arnie and Cindy Whiting  
Citizen  
This draft permit proposes the same wet slurry storage method that caused a catastrophic collapse in the Mount Polley mine project in British Columbia, Canada in 2014 and the Samarco project in Brazil.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Arnie and Cindy Whiting  
Citizen  
This draft permit would allow PolyMet to use billions of gallons of water per year that would drain into the headwaters of the Lake Superior Water Basin without adequate protection.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Arnie and Cindy Whiting  
Citizen  
The Environmental Impact Statement provided by PolyMet concedes that water treatment from this mining proposal would be required for 200 years and the overall site for 500 years. Are we, as constituents of the MN DNR and homeowners near this proposed mine, to believe that PolyMet will continue to pay for this for the entire 500 years??? We think not!

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Arnie and Cindy Whiting  
Citizen  
According to the Minnesota Voter's Environmental Priorities Survey in February 2017, 74% of those polled oppose sulfide mining and nearly half are very concerned about rollbacks in environmental laws.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
I have standing in this matter based on being a downstream water consumer who has been engaged in recreation with the PolyMet land exchange site, and viewing the area as the view exists from the skibo, mn viewing site at that roadside rest.

This comments states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

781 Dennis Szymialis Citizen

I have been opposing the PolyMet mining project and others that will be utilizing the PolyMet processing plant now for more than 12 years. The processing plant is being built to 3 times the capacity of the mine. I have read hundreds of articles on sulfide mining and spent more than 4 weeks at the rate of about 35 hours per week analyzing and commenting on the PolyMet SDES. I have attended conferences on mining in South Dakota, Minnesota, Michigan, Wisconsin, and Arizona. These conferences had mining engineers and other professionals lecturing.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Not only is PolyMet a moral issue it is an economic issue. Mining exploration devalues the tax base, and in redistributing the tax burden to other business inhibits economic development and economic prosperity. A ten percent allocation of electrical rates to PolyMet as a future subsidy at the expense of consumers and businesses is also having an adverse economic impact on the Minnesota rate payers in the Minnesota power rate payer district that extends from Little Falls to Silver Bay Minnesota. Pollution from PolyMet will have an adverse impact on the tourism economy in Minnesota and Wisconsin from water pollution. Businesses in Minnesota and Wisconsin other than mining will be hurt by increased health care costs from arsenic, mercury, and other heavy metals. PolyMet and its supporters venture to enslave the people and businesses of northeastern Minnesota to the subservience of mining. What business would want to locate in this economic environment? More is on the way. There are projects other than PolyMet on the drawing board as the Minnesota Legislature works to repeal the federal Clean Water Act for the benefit of mining companies. Future mining is a clear job and people killer. Other subsidies include the loss in taxes from devalued land and the homes served by tainted water, decreased standard of living from destroyed recreational opportunities, higher health care costs, etc. Basically, destroying the desirability for other economic development. It is a mining make work project with horrible consequences.

The power rate subsidy for PolyMet can only be imagined. It is a mine right in the middle of a geological formation known as the hundred mile swamp on the inside bend of a horseshoe shape of the partridge river. The amount of water that will need to be pumped much less treated from this open pit will be incredible with the electric costs for the pumps etc. being passed on to the Minnesota power rate payer district, much of it rural, that extends from Silver Bay, Minnesota to Little Falls, Minnesota. The amounts of water needing treatment and pumping has been dramatically underestimated in both of the last two projects supervised by PolyMet CEO John Cherry as indicated in the following two articles:


Water in mining became an unexpected problem for John Cherry’s mining company even in the desert. In the Duluth Tribune article titled “Coasters vs. copper” from Sunday, February 25, 20071 John Cherry project manager for PolyMet is quoted as saying regarding the Eagle Project in Michigan, “The mining industry has learned from the mistakes of the past.” Clearly, as evidenced has subsequently happened at that project, they haven’t and he hasn’t as indicated in the article above. Discharges increased from .82 million gallons per day from their tailings basin in their first requested permit to 2.8 million gallons per day and this is for a mine output many times smaller than at PolyMet. Their treatment plant has a capacity of 1.44 million gallons per day. For whatever treatment that is. In addition, PolyMet is expected as indicated in the SDEIS to treat the water infiltration from the mine pit as it gets discharged into the tailings basin. Cherry is quoted by the Duluth News Tribune regarding the Eagle project in Michigan, as saying, “To avoid problems with acidic pollution, he said, all of the ore would be loaded onto trucks and sent to an Ontario smelter.” This didn’t happen and is indicative of the bait and switch tactics that have occurred with the mining companies, government agencies, and their engineering agents. Mr. Cherry is also quoted as saying, “The water will be clean enough we could bottle it and sell it.” The Humboldt mill discharging the above water is not a greensand facility which means that all of the process mercury and arsenic gets discharged.
Dennis Szymialis

The subject matter of H.R. 3115 land exchange involves the exchange of U.S. Superior National Forest Service land and is currently one of the issues in litigation in Minnesota Federal Court. The main parcel of land that is being exchanged for Weeks Act land at the prospective PolyMet mine site is the Hay Lake land near the currently inactive McKinley mine. A dominant portion of the land was previously exchanged by the U.S. Forest Service to a mining company. The pretext for the PolyMet exchange is that they will be getting land that will enable them to consolidate the Superior National Forest. However, in the past it was the judgement of the Forest Service that this land was not necessary. I had to do a title search to find out the true extent. The Forest Service has been secretly conspiring to get access to the PolyMet mine land exchange site for the purpose of attempting to help PolyMet mine for copper and gold standing in Illinois. If they denied them there was no access. Then, we bushwhacked through a Forest Service parcel which forced them to acknowledge access in court. We had to do a title search to find out the true extent. The Forest Service Superior National Forest branch in Duluth Minnesota has been recognising a gate that has been installed on Forest Service road 111c as private property. Again, I was obligated to do a title search to find out the true extent. The Forest Service never provided notice that they intended to have this easement vacated and no notice of vacation has been provided in the public record. More recently I determined that there is a gate on the north end of 111c blocking public access to a public road of record, i.e. the Bunka Road. The claims made by the Forest Service that the land exchange parcels are not legally accessible to the public are just a lie to facilitate their own creation for the benefit of this toxic mining company and their select private interests that conflict with the actual public interest. Soon after entering highway 111c there is an expansive Beaver dam. The PolyMet land exchange site and the surrounding public lands are flush with weaver pop and meso and will trails, and I can call this pop and will trails. It has been growing long to me for a long while the worth the effort I am doing, ironically, that the presence of some endangered wolves and lynx will ultimately cause thousands of people from Duluth, Superior, and Cloquet to be killed. I have been having trouble lately locating arsenic references to the PolyMet deposit lately because of the volume of information. However, my friend, retired from the MPCA, has indicated to me glittering rock walls he observed in the 1970's at the AMAX bulk sampling and now Teck Cominco site to the east of PolyMet and the MPCA, has indicated to me glittering rock walls he observed in the 1970's at the AMAX bulk sampling and now Teck Cominco site to the east of PolyMet indicating a rich presence of pyrite containing arsenic (reference arsenopyrite). The Wetlegs deposit shown on the following map to the West of PolyMet is close to a town on the 4th mile of the Superior National Forest. This deposit indicates that Wetlegs is rich in arsenic: http://www.xeloma.com/Deposit_map.pdf. Furthermore, the United Nations has indicated that sulfides which inhibit the growth of wild rice. Copper mining produces arsenic which rice takes up so the substitution of providing for the growth of wild rice by perhaps using reverse osmosis to remove sulfates is a arsenic toxic crop of wild rice. Furthermore, eventually the wetlands of Duluth Superior to be contaminated with methylated mercury to the extent that it will be unfit for human consumption. This is expected to occur from the combined run off flows all mining even if no future mining occurs. Again, the amount of water running will be used to est the permit application. Two Metals that they would deposit their tailings in the St. Louis River water again as exposure of a dispossessed for human life as these tailings are likely to be caustic to arsenic as the nealy deposit just a few miles to the south west of some of Amidico's deposits that they intend to mine. Protection of human life cannot be deferred. This comment generally states an opinion and does not reference specific sections of the draft permit to Comment 370. The issue of the land exchange between PolyMet and the USFS is not germane to the NPDES permit. See response to Comment 198 on the issue of mercury methylation. See response to Comment 788 regarding arsenic removal and wild rice.
Speaking of third world journalism. Although the EPA regional director indicated guarded approval of the PolyMet project as a result of political pressure she has since resigned as a result of suppressing a report in the Flint, MI case which has gone unreported in Duluth/Superior and her PolyMet report continues to be cited by PolyMet supporters. http://www.clickondetroit.com/news/breaking-epa-regional-administrator-for-flint-resigns

In addition to the dangers of Arsenic questions linger regarding the synergistic effects of heavy metals. In one study it was determined that rats exposed to an amount of mercury that would kill 1% of rats combined with lead that would kill 1% of rats killed 100% of rats. http://amalgam.org/education/scientific-evidenceresearch/synergistic-effects-of-mercury-other-toxic http://amalgam.org/education/scientific-evidenceresearch/synergistic-effects-of-mercury-other-toxicexposures/

A big deal is being made about sulfides inhibiting the growth of wild rice, but if a strain of wild rice is found that will grow in these sulfate waters/arsenic waters they will be poison from an uptake of arsenic. http://www.huffingtonpost.com/2012/09/20/arsenic-rice-toxic-element-inside-grain_n_1900654.html This is the Science indicated above.

The potential uptake of arsenic by wild rice has not been substantiated and no standard or measure related to arsenic and wild rice is available. In any event, the WWTS treatment technology is effective at removing arsenic and an enforceable arsenic operating limit set at the applicable water quality standard has been added to the permit.

There was never a question as to whether there would be a spill affecting our water. That is a given. It will happen, sooner or later.

The only question you asked and demanded answer from PolyMet was "How will you clean up spills when they happen? Prove to us that you have the funds in reserve to do this."

There are no sufficient funds to clean up after such a spill. For how many years would that money provide reverse osmosis treatment to all drinking water for Minnesotans drinking the contaminated water? For how many generations?

There is no question of whether there would be a spill affecting our water. That is a given. It will happen, sooner or later.

The only question you asked and demanded answer from PolyMet was "How will you clean up spills when they happen? Prove to us that you have the funds in reserve to do this."

There are no sufficient funds to clean up after such a spill. For how many years would that money provide reverse osmosis treatment to all drinking water for Minnesotans drinking the contaminated water? For how many generations?


This is the Science indicated above.
HAS IT OCCURRED TO ANY OF YOU that Mn is a co-guardian, with Canada and Wisconsin, of the largest freshwater sink in North America? That PolyMet's proposed aquifer would drain into that precious water? That WATER will be here, and already is in many parts of the world, THE SINGLE MOST ESSENTIAL AND THREATENED HUMAN RESOURCE ON THE PLANET?

Given these facts, and placing them next to MIN PCA's avowed mission vis a vis water protection, I must conclude that there has been collusion and illegal influence on MIN PCA in this matter.

It is not too late to avoid investigation. Listen to the comments of your constituents who understand water and its current overriding value today. Deny the water quality permit draft to PolyMet.

My name is Bethel Anderson. My late husband, Len Anderson, and I have been studying this project for over 12 years. There are several areas of concern for me about the PolyMet project, most notably in the water quality permit.

#1. The use of the old LTV tailings basin, already containing waste rock and adding to that, with it's known seepages into the ground water, should be unacceptable to the MPCA.

#2. Catastrophic waste dam failure must be considered, especially with climate change and the frequency of adverse weather events. Dam failure would imperil the St. Louis River watershed, it's people, and Lake Superior.

#3. The increase in sulfate and subsequent methylation of mercury in the St. Louis River watershed is already a problem. My concern here is allowing PolyMet to operate using "adaptive management". Past experience for over 20 years with Minn Tac and it's discharges, makes me wonder how this would be managed. If PolyMet operates with a variance for 20 years like Minn Tac has, the life of the mine would end with only a variance agreement in place for the entire time.

#4. The Health Risk Assessment, which has been requested by Minnesota doctors and nurses, has not been done. We cannot afford to add more methylation of mercury from sulfates to already existing high levels in our fish and subsequently in our future generations.

We cannot afford to add more methylation of mercury from sulfates to already existing high levels in our fish and subsequently in our future generations.

We cannot afford to add more methylation of mercury from sulfates to already existing high levels in our fish and subsequently in our future generations.

Despite the improvements made to the mining permits, I believe it is not safe to operate this sulfide mine in our water-rich environment. I believe the water quality permit should be denied.

#5. The health risk assessment, which has been requested by Minnesota doctors and nurses, has not been done. We need to find out what our new study, the mercury levels of people living near the proposed plant and those downstream.

We need to find out what our new study, the mercury levels of people living near the proposed plant and those downstream.

Despite the improvements made to the mining permits, I believe it is not safe to operate this sulfide mine in our water-rich environment. I believe the water quality permit should be denied.

The comment related to a health impact assessment was addressed as part of the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2).

See response to Comment 198. The control of sulfate in the discharge to less than 10 mg/L will minimize the potential for increased methylation of mercury.

The comment related to a health impact assessment was addressed as part of the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2).

The federal effluent limits are applied at SD001, which is the point of compliance. The effluent is then distributed via SD002-SD011, to maintain flow to various receiving waters. Compliance at SD001 ensures compliance at the distributed outfalls.

The permit contains daily maximum and monthly average effluent limits for these parameters at SD001.

Thank you for opportunity to comment on the draft PolyMet NPDES SD5 permit MN0071 013. The Band is a federally recognized Indian tribe, as one of the member bands of the Minnesota Chippewa Tribe ("MCT"). The Band participated as a cooperating agency in the Environmental review of the PolyMet project, along with other MCT-member Bands, Fond du Lac and 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 (the "Ceded Territory"); in the Ceded Territory, all the Bands have a legal interest in protecting natural resources and all federal agencies share in the federal government's trust responsibility to the Bands to maintain those treaty resources.

The federal effluent limits are applied at SD001, which is the point of compliance. The effluent is then distributed via SD002-SD011, to maintain flow to various receiving waters. Compliance at SD001 ensures compliance at the distributed outfalls.

As a new source, and a copper/nickel mine, the permit must include a daily maximum and monthly average limit for total suspended solids, copper, zinc, lead, mercury, arsenic, and pH for all surface water discharges.
802 Margaret Watkins
Grand Portage Band of Chippewa
If the only permitted discharge will be SDO 1, all other groundwater and surface water monitoring locations at both the plant and mine sites listed in the permit must state that no discharge is authorized under the permit. The permit includes specific authorized discharge points. It does not authorize any other point source discharge and in fact prohibits direct discharge to surface waters from the mine site and plant site except as authorized through discharge SDO01.

803 Margaret Watkins
Grand Portage Band of Chippewa
Lack of Surface and Groundwater Monitoring Locations
Near the mine site there must be additional surface monitoring locations. Above the confluence of Stubble Creek, the Partridge River is in very close proximity to the mine pit. Yet, the nearest monitoring locations are located upstream at SW402 and downstream at SW413 leaving a vast area in close proximity to the mine pit unmonitored. We recommend adding at least one surface water monitoring site on the Partridge River between SW413 and SW402 upstream of Stubble Creek.

See response to Comment 711-B. In addition, the MPCA evaluated the surface water monitoring needed at the facility during the development of the permit, considered the facts presented in the comment, and added a surface water monitoring station (SW414) downstream of the mine site at the West Pit Outlet Creek downstream of the Transportation and Utility Corridor. The MPCA has determined that the proposed surface water monitoring locations, with the addition of SW414, are adequate to evaluate effects from the mine site.

804 Margaret Watkins
Grand Portage Band of Chippewa
Wyman Creek has no surface monitoring locations even though in MN water quality standards it is classified as a drinking water source and trout stream. Wyman Creek has been identified as impaired due to elevated temperature, low dissolved oxygen, and high concentrations of specific conductance, sulfate, total suspended solids, iron and iron precipitate. We recommend requiring a surface water monitoring location on Wyman Creek downstream of the railroad connection track.

See response to Comment 803. The MPCA evaluated the surface water monitoring needed at the facility during the development of the permit, considered the facts presented in the comment, and determined that the proposed surface water monitoring locations on Wyman Creek are adequate to evaluate effects from the Transportation and Utility Corridor.

805 Margaret Watkins
Grand Portage Band of Chippewa
The only surface monitoring location on Second Creek is SDO26. Mitigation of high concentrations of sulfate, TDS, bicarbonate, total hardness, and specific conductance resulting from tailings basin leakage to Second Creek was included in the Cliffs Consent Decree. Second Creek was not one of the streams monitored during the St. Louis River Watershed Intensive monitoring effort that lead to the St. Louis River Stressor Identification report. We recommend one additional surface monitoring location in Second Creek downstream of the Colby Lake Pipeline.

See response to Line 803. The MPCA evaluated the surface water monitoring needed at the facility during the development of the permit, considered the facts presented in the comment, and determined that the proposed surface water monitoring locations are adequate to evaluate effects from the Plant Site.

806 Margaret Watkins
Grand Portage Band of Chippewa
To increase the likelihood of identifying groundwater discharges, additional monitoring wells must be added near the equalization basins at the mine site, the Overburden Storage Layout Area (OSLA), the ore surge piles, north of the mine pits, and around the tailings basin. Parameters including copper, zinc, lead, mercury, arsenic and pH, must be included in addition to water level monitoring.

The MPCA assessed the location of each individual well as dictated by the purpose of each well and how each well fit into the overall monitoring well network. This approach was coupled with the incorporation of existing monitoring wells (with a record of baseline water quality) and practical considerations such as access and potential disturbance to wetlands. The monitoring well network in the permit was developed to meet multiple goals, which includes monitoring the performance of engineering infrastructure; serving as indicators for the early detection of potential project impacts; and determining compliance at downgradient locations closer to the property boundary.

The monitoring well network required by the draft permit is robust and includes 78 wells/piezometers at the mine site and 40 monitoring wells/piezometers at the plant site. The wells monitoring the mine site near the OSLA and EQ Basin are adequate for determining potential project impacts and determining compliance at downgradient locations. The MPCA has considered this comment and in addition to the wells identified in the draft permit, the MPCA will be requiring an additional bedrock well to be located downgradient of the tailings basin.
Reasonable Potential to Exceed

Determination of a reasonable potential to exceed water quality standards for the Lake Superior basin is based on comparing preliminary effluent limitations to projected effluent quality. In all cases, the permitting authority shall use any valid, relevant, representative information to determine if there is a reasonable potential to cause or contribute to an exceedance of water quality standards. Where facility-specific effluent monitoring data is not available, the permitting authority shall specify the project effluent quality as of the distribution of the projected population of daily values of the facility-specific effluent monitoring data projected using a scientifically defensible statistical method that accounts for and captures the long-term daily variability of the effluent quality. Based on this analysis, the permitting authority must then set water quality based effluent limits if the projected effluent quantity exceeds the preliminary effluent limitations to protect aquatic life, human health and wildlife from chronic effects and/or aquatic life from acute effects. However, MPCA, by their own admission and in violation of 40 CFR part 132, did not conduct a "quantitative" reasonable potential to exceed water quality standards analysis, and instead relied on a "qualitative" analysis that only included the projected water quality intentionally discharged from wastewater treatment plant.

PolyMet will be purchasing the plant site from Cliffs. MPCA has provided that "A condition to closing on that purchase is that the NPDES/SDS permit and Consent Decree obligations held by CE for the Basin be assigned to Poly Met or one of its affiliates ("PolyMet")." In clear violation of the Clean Water Act (CWA), MPCA stated "[I]t is important to note that operation of the proposed NorthMet project resolves any legacy water quality issues at the ferrous Basin." Yet, there appears to be no plan to clean-up Spring Mine Creek, nor is there certainty that 95 percent of the seepage from the tailings basin can be collected and treated.

PolyMet’s operation may resolve legacy pollution at the plant site, but this determination cannot be made until PolyMet is operational. Therefore, all pollutants, legacy or otherwise, known to exceed water quality standards must have a limit in the NPDES permit. As described in Response to Comments Line 801, the MPCA did consider reasonable potential for other parameters and determined, based on review of available information, that there is no reasonable potential for the facility to cause or contribute to an excursion above a water quality criterion.

In the same memo, MPCA provides discussion regarding groundwater issues including exceedances of arsenic, barium, aluminum, iron, manganese, and pH. The only groundwater exceedances that are explicitly dismissed are arsenic and barium since "an evaluation of tracer pollutants indicates these exceedances are not due to the Basin." This is in spite of the fact that MPCA has not ruled out stack emissions from the LTVSMC operation as one of the sources of groundwater exceedances of arsenic and barium. The referenced memo reflects current knowledge. The memo focused on groundwater migrating from the basin to surface water and did not further evaluate sources.
Surface water issues surrounding the tailings basin include exceedances of mercury, sulfate, alkalinity, hardness, TDS and specific conductance criteria. To dismiss these issues, MPCA incorporated multiple rationales including high priority rulemaking where proposed revisions could make criteria for alkalinity, hardness, TDS and specific conductance less stringent. 12 No treatment would be required for surface water sulfate exceedances because of the proposed wild rice rule revisions or the possibility of developing site specific criteria. 13 Elevated mercury concentrations are “most likely due to influences from precipitation and background concentration, not from seepage from the existing Basin” and therefore would not be an issue.14 Minnesota surface water criteria have been exceeded in water samples collected near the tailings basin proposed for use by PolyMet.15 All permitted discharges within the vicinity of the tailings basin must have limits on mercury, sulfate, alkalinity, total dissolved solids (TDS), bicarbonates, total hardness, specific conductance, and iron, to ensure that they will not contribute to an existing excursion from water quality standards. The concern in the comment appears to be about legacy pollution, which is regulated by the existing tailings basin permit as described in response to Comment Multiple-543-C. Regarding the MPCA's approach regarding reasonable potential in this permit, see response to Comment 718-A. The MPCA conducted a reasonable potential analysis and determined there is no reasonable potential for these parameters to cause or contribute to the exceedance of a water quality standard. Therefore, WQBELs for these parameters are not required in the permit. The MPCA included TBELs in accordance with 40 CFR part 440. In addition to TBELs, the MPCA included Operating Limits for sulfates, copper, arsenic, cobalt, lead, nickel and mercury. The Operating Limits and TBELs in the permit are enforceable and an exceedance of either the TBELs and/or Operating Limit is a violation of the permit.

To address concerns regarding the permit being protective of water quality, the MPCA has also added language to the permit stating the discharge of treated wastewater from the WWTS must not violate state water quality standards.

Impaired Waters

Waters with known mercury impairments in the vicinity of the project including: the Embarrass and the Partridge Rivers; Embarrass, Sabin, Wynne, Esquagama and Colby Lakes; and, the Whitewater Reservoir. 18 In spite of these impaired waters, neither the PolyMet Water Management Plans nor the draft permit to mine estimate concentrations of mercury in seepage from various locations where water will contact mine waste including the toe of the tailings basin, waste rock storage piles, ore surge piles, or the mine pits. Additionally, there has been no estimate of the amount of mercury that could seep from the lined Overburden Storage Layout Area (OSLA), where mercury-containing pout will be stored. 12 Id. pg.4.

Monitoring for mercury is required at several internal monitoring points including the inlet from the OSLA, HRF Leakage Collection system, and will have no discharge to groundwater or surface waters, or to the FTB/WWTS system. Direct discharges from the HRF Pond and/or the HRF Leakage Collection system are prohibited. The HRF is a double-lined facility, will operate as a closed-loop system, and will have no discharge to groundwater or surface waters, or to the FTB/WWTS system.

In 2003, the Minnesota Department of Natural Resources (MNDNR) reported that taconite tailings appeared to be a sink for mercury in tailings basins in northern Minnesota. The loss of mercury through adsorption to solids in the tailings basin and subsequent burial in the sediments resulted in an overall permanent retention of mercury within the basin and decreases the mercury load released to receiving waters. 19 However, mercury in the existing Co62E pond of the LTVMAC tailings basin has a concentration of 1.4 ng/L of mercury and water collected seeping out of the toe of the tailings basin has a concentration of 4.9 ng/L.20 This contradicts the MNDNR21 by demonstrating that mercury concentrations after seeping through the tailings do not decrease, in fact the concentration more than triples.

Waters with known mercury impairments in the vicinity of the project including: the Embarrass and the Partridge Rivers; Embarrass, Sabin, Wynne, Esquagama and Colby Lakes; and, the Whitewater Reservoir. 18 In spite of these impaired waters, neither the PolyMet Water Management Plans nor the draft permit to mine estimate concentrations of mercury in seepage from various locations where water will contact mine waste including the toe of the tailings basin, waste rock storage piles, ore surge piles, or the mine pits. Additionally, there has been no estimate of the amount of mercury that could seep from the lined Overburden Storage Layout Area (OSLA), where mercury-containing pout will be stored. 12 Id. pg.4.

Monitoring for mercury is required at several internal monitoring points including the influent to the WWTS from the FTB seepage capture system (WS015), mine pit dewatering (WS401-404), combined mine water sources (WS415 & WS416), treatment of the mine water effluent (WS072 & WS073), OSLA runoff (WS413). Mercury is also limited at the internal performance monitoring station (WS074). In addition, the Permittee is required to submit an Annual Comprehensive Performance Report to assess the performance of the facility engineering controls at the Mine Site and Plant Site in minimizing impacts to water resources downstream of the facility. Mercury is required to be evaluated in the annual comprehensive performance report.

In 2003, the Minnesota Department of Natural Resources (MNDNR) reported that taconite tailings appeared to be a sink for mercury in tailings basins in northern Minnesota. The loss of mercury through adsorption to solids in the tailings basin and subsequent burial in the sediments resulted in an overall permanent retention of mercury within the basin and decreases the mercury load released to receiving waters. 19 However, mercury in the existing Co62E pond of the LTVMAC tailings basin has a concentration of 1.4 ng/L of mercury and water collected seeping out of the toe of the tailings basin has a concentration of 4.9 ng/L.20 This contradicts the MNDNR21 by demonstrating that mercury concentrations after seeping through the tailings do not decrease, in fact the concentration more than triples.

Monitoring for mercury is required at several internal monitoring points including the influent to the WWTS from the FTB seepage capture system (WS015), mine pit dewatering (WS401-404), combined mine water sources (WS415 & WS416), treatment of the mine water effluent (WS072 & WS073), OSLA runoff (WS413). Mercury is also limited at the internal performance monitoring station (WS074). In addition, the Permittee is required to submit an Annual Comprehensive Performance Report to assess the performance of the facility engineering controls at the Mine Site and Plant Site in minimizing impacts to water resources downstream of the facility. Mercury is required to be evaluated in the annual comprehensive performance report.

PolyMet estimates that 164 pounds of mercury will be deposited in the Hydrometallurgical Residue Facility (HRF) each year.22 This estimate is accompanied by assumptions that none of the mercury in the HRF will be released into the environment into perpetuity. PolyMet has predicted that the concentration of total sulfide mineral dust deposition could exceed 1,000 milligrams per square meter per year, or four times more than the predicted concentration of the deposition to the "wetland of interest". Yet, this prediction was made for areas at the mine site where water will be draining into the "wetland of interest" without discussing how a particular downstream wetland could legitimately receive just one-quarter of the predicted sulfide mineral dust deposition. The effect from sulfide mineral dust deposition on stormwater mercury methylation was not estimated in this analysis, or the effect that might have on wetlands with high concentrations of sulfate reducing bacteria. Mercury deposition into wetlands, where high sulfur concentrations can greatly increase methylation of mercury should have received more scrutiny.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

See response to Comments 722 through 722-B and 745. The statewide mercury TMDL was calculated to address mercury in the water column, not necessarily fish consumption impairments, but the reductions assigned in the TMDL may achieve fish consumption targets.

See response to Comment Multiple-543-CA.
Mercury releases into the environment go beyond the wastewater discharge, and include deposition of dust contaminated with mercury originating from the Project. Using cross media analysis the spread of dust from the facility was examined to determine the potential for contamination of water and wetlands through deposition?Dust deposition resulting from blasting at the mine site and wind erosion from the Category 1 waste-rock stockpile were excluded from this analysis. Further, MPCA did not consult with their own in-house experts and was unconcerned about the concentrations of mercury in dust. This lack of concern was based on speciation and assumed, without scientific data, that mercury is bound to dust and therefore would not be released into the environment.

Without the estimates of mercury releases from dust, storm water, the OSLA, ore surge piles, waste-rock stockpiles, mine pits, and toe of the tailings basin, the FEIS stated that, based on mercury mass balance analyses, the Project is predicted to result in an overall net decrease of mercury loadings of approximately 1.0 grams per year to the St. Louis River. This is accomplished by a decrease of 1.2 grams per year in the Partridge River and a net increase of 0.2 grams per year in the Embarrass River.

Specific conductance limits are not included in the draft permit. Yet, Spring Mine and Wyman Creeks, and the Embarrass and Partridge Rivers are known to have aquatic life impairments resulting from high concentrations of specific conductance. Therefore, all permitted discharges must have specific conductance limits that comply with Minnesota's 7050 rule.

100 percent of the Tailings Basin’s surface seepage; 100 percent of the groundwater approaching the containment system from the Tailings Basin’s east and south toes; and; 90 percent of the groundwater approaching the containment systems from the Tailings Basin’s north, northwest and west toes (PolyMet 2015d). 27

The comment questions the efficacy of controls of the seepage capture systems required in the NPDES permit at the Mine Site and Plant Site and presumes failure of control systems without justification. See response to Comment 707 through 707-B regarding capture rates and Comment 711 for an explanation of why maintaining an inward gradient ensures capture.
Watkins Band of Chippewa

Met’s claim of seepage capture rates by these means has been provided or has been found. Therefore, no credible support for Poly Met’s claim of seepage capture rates by these means has been provided or has been found.

The cutoff wall was used to isolate the tailings pond from down gradient surface water features including wetlands and the Athabasca River.31 Unfortunately, Environment Canada, a federal agency, published research in 2014 that substantiates that the Athabasca River has been contaminated by toxic chemicals seeping from Alberta’s tar sand tailings ponds in spite of the fact that ditches, cutoff walls, groundwater interception wells, and water pump back systems were used to prevent the seepage pollution from occurring. 32 One of the two leaky tailings ponds studied reportedly seeps toxic wastewater at a rate of approximately 2.65 cubic feet per second, or more than 625 million gallons per year, into the Athabasca River.33 So this example is actually the opposite of “successful seepage containment.”

Other examples of similar proposals show similarly poor results. The Zortman-Landusky Mine in Montana installed containment and pump-back systems to be used in conjunction with a wastewater treatment facility. However, they “did not capture all surface and subsurface drainage.”34 Yet, MPCA has not included any groundwater or surface water discharges beyond the wastewater treatment plant for yet, MPCA has not included any groundwater or surface water discharges beyond the wastewater treatment plant for the project site or the tailings basin.

The same report also indicated that “10% of the containment systems reviewed failed to meet the performance objectives and required corrective action, and 19% of the evaluated facilities did not have sufficient data to conclude whether the containment system was operating successfully or not.”35 In other words, even the Co-Leads’ own authority did not support a 90 percent capture efficiency rate. Further, tailings ponds in Fort Mc Murray, Alberta, Canada, are cited by Poly Met as an example of successful seepage containment:

Yet, MPCA has promoted the idea that as long as groundwater seepage from the tailings basin does not exceed 500 gallons/acre/day (greater than 2 million gallons per day), the basin is permittable because it is “equivalent to an engineered lined system with respect to release of seepage to groundwater.”36 Further, as long as the facility does not leak polluted groundwater at rates higher than 500 gallons/acre/day the tailings basin would not be subject to NPDES/SDS requirements,37 without having to address the hydrologic connection between groundwater and surface water flow at the site. In order to evaluate the need for permit coverage for the facility, MPCA will “seek evidence the facility will not have a statistically significant impact on sulfate in receiving waters ... groundwater quality standards can be met at the facility property boundary, ...and all applicable surface water quality standards can be met in surface waters at the facility.”38 However, no exemptions exist in the CW A that constrain NPDES permit coverage to “excess” wastewater discharges that are estimated to have a “statistically significant” impact on receiving waters at the property boundaries. US EPA has clearly articulated to MPCA and PolyMet that failure to obtain NPDES coverage for discharges of pollutants to waters of the United States would place-the discharger at risk of violating the CWA.39 40 CFR § 122.21(a)(1). “Duty to apply,” requires that “any person who discharges or proposes to discharge pollutants ... and who does not have an effective permit ... must submit a complete application to the Director in accordance with this section and part 124 of this chapter.” 40 CFR § 122.21(a)(1) states that “Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90 or 180 day requirements to avoid delay.” Simply applying for a permit does not provide the coverage needed to authorize discharges of pollutants to surface waters under the CW A. Yet, MPCA has not included any groundwater or surface water discharges beyond the wastewater treatment plant for the plant site or the tailings basin.
MPCA’s groundwater standards prohibit any discharges that could pollute groundwater, limit or preclude using groundwater as a drinking water source. MPCA has conflated polluted tailings basin groundwater with natural background conditions. “Data shows groundwater quality is generally better than applicable groundwater standards at the property line. For aluminum, iron, manganese and pH, natural background exceeds the groundwater criteria. For arsenic and barium, an evaluation of tracer pollutants indicates these exceedances are not due to the Basin.” Even if arsenic and barium concentrations are not due to the Basin, they may be related to stack emissions from LTVSMC and must be addressed along with manganese, aluminum and sulfate. Fourteen residential wells located between the tailings basin and the Embarrass River were identified during the environmental review of the PolyMet project. Minnesota rule 7060.0200 states that “[I]t is the policy of the agency to consider the actual or potential use of the underground waters for potable water supply as constituting the highest priority use and as such to provide maximum protection to all underground waters … For the … prevention of possible health hazards, it is necessary and proper that the agency employ a nondegradation policy to prevent pollution of the underground waters of the state.” Many of the residential wells exceed the Health Risk Limit for manganese. In high concentrations, manganese is a potent toxin that is known to cause Parkinson’s like symptoms. PolyMet’s contaminant transport modeling suggested that the project will cause manganese, aluminum and sulfate to exceed drinking water standards. In the monitoring wells near the tailings basin, pollutants including iron, sulfate, manganese, aluminum, and fluoride already exceed drinking water standards. Therefore, drinking water limits for arsenic, barium, sulfate, manganese, aluminum and fluoride should be included in groundwater monitoring locations between the tailings basin and the residential wells to ensure that further degradation of potable groundwater does not occur.

See response to Comment 710 regarding the basis for groundwater well locations. See response to Comment 723 for an explanation of why the Annual Groundwater Evaluation Report will ensure prevention of groundwater impacts. See response to Comment Multiple-543-EL for discussion of existing exceedances.

Similar to the tailings basin, MPCA and PolyMet contend that there will be no seepage from the mine pits, waste-rock stockpiles, ore surge piles, or OSLA, that will not be captured and treated by the wastewater treatment facility. Because there is no federal minimum seepage requirement that triggers the need for a permit, capturing 95 percent of the seepage from the tailings basin and 99 percent from the mine site simply means Poly Met is planning on violating federal rules, and MPCA is allowing these violations. The draft permit states “[T]here will be no discharge of mine water or other process wastewater to surface waters from the Mine Site.” This statement excludes groundwater seepage that has a direct connection to surface water. In fact, in terms of prohibiting a discharge from the mine site, the draft permit only excludes direct discharges to surface water:

This comment addresses actions not authorized by the permit conditions. The permit includes specific authorized discharge points. It does not authorize any other point source discharge and in fact prohibits direct discharge to surface waters from the mine site and plant site, except as authorized through station SD001. If the Permittee does not comply with the permit, the permittee would be subject to enforcement actions to correct the violations. For any other point to be authorized, the permittee would have to submit an application to modify the permit. The MPCA has modified language in item 5.175.75 of the draft permit regarding unauthorized discharges from the mine site, which prohibits the Permittee from directly discharging any mine water or other process wastewater from the Mine Site to surface waters under this permit. All mine water or other process wastewater from the Mine Site must be routed to the Equalization Basins and pumped to the Plant Site for treatment.
<table>
<thead>
<tr>
<th>Page</th>
<th>Name</th>
<th>Location</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>825</td>
<td>Margaret Watkins</td>
<td>Grand Portage Band of Chippewa</td>
<td>*This p ermit does not authorize the direct discharge to surface waters from the HighConcentration, Low-Concentration and Construction Mine Water Pipelines. 45 This permit does not authorize a direct discharge from the Mine Site Equalization Basins or any other industrial mine water pond system to surface waters. *46 This is a great concern because the FES presented the sulfur concentrations of Project waste rock ranging between 0.01- 5.0% that with an average mass-weighted concentration of 0.15%. The Virginia Formation has the highest concentrations of sulfur, 0.4-5.0%, and the Duluth Complex, 0.13-0.6% sulfur. These concentrations are much higher than in Montana’s Zortman-Landusky Mine waste rock (0.2% sulfur) that has already required perpetual wastewater treatment. And, like the project proponent in Zortman-Landusky, the Project proponent has suggested that &quot;most (70 percent) of the NorthMet waste rock would be the low-sulfur, non-acid-generating&quot; and will never cause acid mine drainage. However, the north wall of the east pit is composed of the Virginia Formation (sulfur concentration 0.4-%) meaning that it will be exposed to both air and water and will likely contribute a substantial load of sulfate and metals to mine pit water. Twenty-feet of pit wall will never be submerged and as such constitutes a perpetual source of mine related contaminants. 49 Poly Met claims bedrock transport of contaminated water is negligible due to the very low bulk hydraulic conductivity of bedrock and that groundwater flow rates in these flowpaths were not large enough to affect water quality at the groundwater and surface water evaluation locations. 50 Modeled projections of the rate and volume of flow of polluted water from the mine pits suggest that it could take 17-34 years after the commencement of mining for pollutants to reach the Partridge River. 5.1 A potential that was not considered was model development for the mine site was the possibility that pollutants may be discharged to wetlands: “close proximity to the mine site. The possibility also exists that pollution from mine features, including the pits, may reach the Partridge River more quickly than predicted because pollutant flow paths may not be exclusively underground, or travel time may be reduced as a result of pressurized fracture flow.</td>
</tr>
<tr>
<td>826</td>
<td>Margaret Watkins</td>
<td>Grand Portage Band of Chippewa</td>
<td>Although the draft permit requires groundwater monitoring for both the mine site and the plant site, there are no permit limits for groundwater. It appears that MPCA will only require Poly Met to apply for NPDES coverage at the mine site if monitoring results indicate that there is, or will be, a discharge of pollutants to surface waters. However, this does not comply with Minnesota rules or the Clean Water Act. A complete NPDES permit application must include information detailing when and where pollutants originating from the mine site will enter surface waters. 52 Even ifPolyMet could ensure that monitoring would detect a potential discharge to surface waters before a discharge occurred this would still violate Minnesota rules.</td>
</tr>
<tr>
<td>827</td>
<td>Margaret Watkins</td>
<td>Grand Portage Band of Chippewa</td>
<td>MPCA has stated that if an unauthorized discharge occurs the agency may pursue enforcement action. 5 3 Further, MPCA put forth two options to address an unauthorized discharge in the permit: * 1) there could be a new permit limit in an adjustment to the permit; or 2) discharge would need to stop.&quot; The option to stop a discharge may not be possible; therefore this is simply not adequate and does not comply with Minnesota rules or the Clean Water Act. If Poly Met insists that there will be no unauthorized discharges to surface water and therefore does not apply for adequate NPDES permit coverage, MPCA must pursue enforcement actions for noncompliance and add new permit limits for all discharge points not previously included in the permit.</td>
</tr>
<tr>
<td>828</td>
<td>Margaret Watkins</td>
<td>Grand Portage Band of Chippewa</td>
<td>Conclusion NPDES permits must include numeric and/or narrative effluent limitations necessary to protect water quality standards of the receiving waters, as well as any limitations necessary to ensure that downstream water quality standards are protected. 5 4 MPCA’s groundwater standards prohibit any discharges that could pollute groundwater, limit or preclude using groundwater as a drinking water source. 55 Therefore, all authorized discharges to groundwater and surface water must have limits that comply with new source performance standards and limit the concentrations of pollutants that are known to exceed water quality standards. Since there is no federal minimum seepage requirement that triggers the need for a permit, capturing most of the seepage from the tailings basin and mine site simply means Poly Met is planning on violating federal rules. By not requiring permit limits at all external monitoring locations, MPCA is sanctioning these violations of federal rules. If after operations begin, it is determined that PolyMet has erroneously concluded there will be no discharges to surface or groundwater, MPCA must swiftly pursue appropriate enforcement actions against the company for violating the CWA. The MPCA notes that the permit includes specific authorized discharge points. (See responses to Comments 802, 824, and 826.) It does not authorize any other point source discharge and in fact prohibits direct discharge to surface waters from the mine site and plant site. If the Permittee does not comply with the permit, the permittee would be subject to enforcement actions to correct violations. For any other point to be authorized, the permittee would have to submit an application to modify the permit.</td>
</tr>
</tbody>
</table>

See response to Comment 824 regarding the possibility of groundwater impacts to surface water. As discussed in that response, the permit prohibits unauthorized discharges. Mine pit water is handled as process water and would be treated by the WWTS before discharge. See response to Comments Multiple-543-A2 and Multiple-543-E1 regarding the MPCA's nondegradation review for groundwater, including potential transport through faults and fractures.
<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margaret</td>
<td>Grand Portage Band of</td>
<td>Although Grand Portage is not specifically requesting a contested case hearing, we reserve the right to participate if a contested case hearing is ordered. Sincerely, Margaret Watkins, Grand Portage Water Quality Specialist.</td>
</tr>
<tr>
<td>Watkins</td>
<td>Chippewa</td>
<td>Comment noted.</td>
</tr>
</tbody>
</table>
"Multiple" Spreadsheet Response to Comments

<table>
<thead>
<tr>
<th>Sort ID</th>
<th>Commenter Name</th>
<th>Commenter Org</th>
<th>Comment Text</th>
<th>Combined Theme and Individual Responses</th>
<th>Contested Case Hearing Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Susan Flygare</td>
<td>Citizen</td>
<td>I really appreciate the fact that the DNR is here to answer our questions. I'm very concerned that the process of mining the copper is so extreme, blasting the rock, releasing heavy metals, and when asking the DNR about that and if their job is to protect our natural resources, the answer that I'm getting consistently is, no, their job isn't to make a judgment about whether this is good or not for Minnesota. Their job is only to review the permit. And I find that distressing, because my sense was that they were also there to help provide some context in judgment around the types of permits that are submitted. And so the fact that this has gotten this far for something that is so egregious in its process and use of water and potential for contaminating our water in Minnesota, I'm very concerned that the DNR is somehow saying that they have to do it because of legislation and statute and whatever and that they don't have a way or a process to bring concerns if they have a moral compass and they have concerns about our natural resources to the forefront. So if nothing else, hopefully this project will at least bring that to light, that there is no vehicle for the DNR to protect our natural resources if they only have to react to statute and the permits that are submitted to them.</td>
<td>Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Elanne Palsch</td>
<td>Citizen</td>
<td>I'm Elanne Palsch, P-a-l-c-h. The potential for pollution of the headwaters on Lake Superior is not in the best interest of the citizens of the state. And the PolyMet permit to mine must be denied. I believe that everyone in this room deep inside knows that the permitting of PolyMet will result in a pollution of our watershed, the sole source of drinking water aquifer of the region. This claim to mining cannot be done in a water rich environment without leaving behind a toxic legacy. The permitting of PolyMet would also open the door for toxic encampments. (Inaudible) creating an industrial mine zone with additional scattered deposits throughout the Arrowhead. The permitting of PolyMet will not save us. And instead, it will destroy all intrinsic value, including the clean water upon which our life depends. The PolyMet science process is derived from the depth of management solutions. Adaptive management is not science. The permit to mine process has weakened environmental protections in order to facilitate PolyMet, a foreign mining company seeking to mine on our federally protected lands. It is too expensive and it's technologically not feasible to control pollution on a scale of such mining operations, including the 99 percent waste rock that will remain. The mining of copper, nickel, and sulfide ores results in matters such as arsenic, mercury, copper, nickel, and manganese into our water and our environment. Those most impacted would be women in child-bearing age, infants, children, and our children's children for the next 20 generations. The permit to mine is a corporate politically controlled process, placing the health risks and burden of cleanup upon our children and our children's children. This is not the way of the future. We must find jobs for our young people that will not destroy the environment for future generations. And I believe that there are people within our agencies who will have the courage to step up and deny the permit to mine. Thank you.</td>
<td>Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process. It also generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). The draft permits were developed according to current state and federal law. No changes were made to the draft permit in response to this comment.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Gary Anderson</td>
<td>City Counselor, City of Duluth</td>
<td>Thank you. Commissioner Landwehr, Assistant Commissioner Naramore, and other folks here tonight and people in the audience, it's a pleasure to be here and an honor to be able to speak with you tonight. As you know, we've been working on building a relationship with you, as a city counselor for the city of Duluth, and I'm grateful for the opportunity to see you here in Duluth tonight and see the support and the trust that the people of this area have in the DNR. I'm not an expert in anything and I'm sorry I can't speak to the technical aspects, but I'll gratefully use my two minutes remaining to say that the draft PolyMet permit to mine does not protect the public interests. The comment goes on to explain the purpose of DNR and how the project could impact resources.</td>
<td>Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Gary Anderson</td>
<td>City Counselor, City of Duluth</td>
<td>DNR Commissioner Landwehr, use your discretion to call for a contested case hearing on the permit to mine prior to approval. Thank you</td>
<td>Comment noted. Requests for a contested case hearing were evaluated according to current state law.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Dave Lislegard Mayor of Aurora</td>
<td></td>
<td>My name is Dave Lislegard, L-i-s-l-e-g-a-r-d, and I am the mayor of Aurora, Minnesota. Let me begin by urging the MPCA and the DNR to grant these permits in a timely manner.</td>
<td>Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Dave Lislegard Mayor of Aurora</td>
<td></td>
<td>As the new mayor of Aurora, I know firsthand that the last 15 years our city has been through much and lost much. But through it all we haven't lost hope. We continue to persevere and support a process that would bring about new job opportunities for our community.</td>
<td>Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
<td></td>
</tr>
</tbody>
</table>
Dave Lislegard  
Mayor of Aurora  

Today's hearing is a part of that process. Tonight and tomorrow you'll hear stories about why the PolyMet project shouldn't move forward. Opponents of this project in a mining community are eager to kill our opportunity at any cost, even when the company proves it meets or exceeds all state and federal regulations required by law. Let me repeat that. Even when the company proves it can meet or exceed all state and federal regulations required by law. We see the delay tactics as a part of their strategy, trying to step outside the established process to destroy the future of the people I represent. Yet the people I represent continue to be polite, kind and courteous throughout this whole process. Let me state for the record, I would not support any project that failed to meet the environmental standards. But PolyMet hasn't failed, they've excelled. And yet, we continue to hear the opposition state that it can't be done safely. The notion that we can't have both jobs and protecting the environment is simply wrong. In the history of mankind we went from no cars to cars to mars. Technology has advanced. I believe the State has been thorough in its permitting process. I trust the science and the findings of State experts, which now show NorthMet project will protect human health and the environment. In closing, let me say, the company has done its job, you have done your job. Please move the process forward so we can do our job. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Robert Bassing  
Business agent of Engineers Local 49  

Hello, my name is Robert Bassing, B-a-s-s-i-n-g. And I'm a senile old retiree from U.S. Steel and I live in Buhl. And I'm here because I do support the idea of mining. I think those that say it has been shown to never have been done safely before could also say, well, man can't fly or man can't go to the moon. We can't be naysayers, we have to be positive and say we can do that which they say cannot be done.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Dan Snidarich  
Business agent of Operating Engineers Local 49  

And I guess we've proven that we can do things right. PolyMet has done the science. Every time somebody comes up and they contest something, they stand tall, they do what they have to do. I just hope that after these meetings that a good decision can be made and maybe this thing can actually go forward so my kids aren't standing here ten years later having these same discussions with a lot of the same people in the same building. I appreciate your time. I'd like to say I -- I think it's the right thing. I think it's time, it's overdue. Give them the opportunity to do what they need to do and let our people have the opportunity so maybe in a short period of time I'm not talking about 529 people that I represent that don't have jobs. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Robert Bassing  Citizen
And I think it’s up to you people in the positions to demand them to go that extra distance to ask why if there’s a liner under Stockpile 2 and there’s a liner under Stockpile 3; why is there no liner under Stockpile 1?
And if it’s not as reactive, why does it have to be capped with an impermeable barrier if it’s not as reactive? And are we handling that Number 1 the way we should, that stockpile?
We can be partners with corporations, we can be partners in progress or we can be partners in crime. And so far there’s plenty of examples that we have been partners in crime with the corporations. We can change that. We can hold their feet to the fire and say we are going to make you do the right thing. Thank you.

Jack Eloranta  Citizen
Thank you. My name is Jack Eloranta, E-l-o-r-a-n-t-a. And I just have a very short message, two points that I want to make. And one is that we’re talking about Minnesota mining. Minnesota is where surface mining was invented. And the mining is done better in Minnesota than anywhere in the world. And the people who are doing it, I’ve worked with most of the people involved. And they’re the most honest, reputable and trustworthy people. And their reputation around the mining world is unmatched.
And I’d like to just say, having said what my two points are is that this isn’t the first mining operation that I’ve seen. I’ve got a degree in geology and I’ve got a degree in mining engineering and my master’s in mining engineering. I spent 22 years in the taconite operations here. I spent 18 years as the international consultant, done work in Senegal, South Africa, Panama, Chile, Peru, Canada, New Zealand, Australia. The notion that it’s being done poorly in Minnesota is laughable. This is where mining was invented and this is where it’s done properly. I also ran a coal mine in Pennsylvania where we treated acid mine drainage.
And people have a tendency to place these all together. This is hard rock mining. This is where – to get that – for sulfates to be leached out of rock is very difficult. The softer coal mining formations are completely different. And we treated that water out of mines that had been worked since the Revolutionary War, very old archaic mining practices.
But you know what? From me to that screen away from our treatment pond, that’s where the trout fishermen were catching trout out of that stream. So, this notion that this is somehow the end of the world coming because of acid mine drainage is just foolish.
So, just to reiterate my two points is, one is that people here know what they’re doing. And maybe I’ll add one other, and that’s, if we’re not going to get our minerals from here, then you’re signing up for getting them from Senegal, from around the world.
And I can tell you the standards there are not anywhere near ours. Thank you very much.

Matt Olsen  Citizen
My name is Matt Olsen from Nashwauk and I’m going to let Brandi speak on my behalf.

Brandi Salmela  Citizen
Hi, I'm Brandi Salmela, B-r-a-n-d-i, S-a-l-m-e-l-a. I'm a student here at Mesabi East High School. Growing up on the Iron Range is different than anywhere else in Minnesota and maybe even the world.
We have a different perspective on what makes this state great. We have an appreciation for the great outdoors and that's important. We have a different view on what makes this area different than anywhere else in Minnesota and maybe even in the world.
I'm from a mining family. My grandpa worked in the mines and my dad works for (inaudible). Mining jobs and the wages they pay support our way of life. I'm proud to be a Ranger. I'm proud of what comes from our mines.
We have been mining for over a hundred years here. I and many others are looking forward to continuing the tradition of mining on the Iron Range for many years to come.
We have a chance to ensure that we produce safe mining industry to supply the metals we use almost every day. PolyMet's copper nickel mine makes the future possible for not only my generation, but the next generation, too. Thank you.

Louflinn Johnson  Citizen
My name is Louflinn Johnson and I live in Hoyt Lakes, Minnesota. And I support PolyMet and I defer my time to Dave Thompson.

Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Thank you very much. I'm David Thompson, a state senator from Chisholm. And I proudly represent the Iron Range in the Minnesota State Senate.

I have six taconite plants in my Senate district. PolyMet processing plant will be in my Senate district and will be refurbishing the former taconite plant on the current brown field. We mine for a living. I'm the son of a miner. We've been mining for 125 years. The environmental quality report card clearly indicates we know how to mine. He have the best water anywhere in the state. Mining has been our livelihood from generation to generation. We want to keep mining for generations to come. So, just like our iron mines were responsible for winning two world wars and building this country, we now want to be part of building our new age economy.

PolyMet could, in fact, contribute to the four and a half tons of copper and nickel used in solar panels. Other precious metals would be part of things like batteries for electric cars or cell phones and computers, critical medical devices. And it's becoming more and more evident that our defense systems need a reliable source of minerals mined right here in our country, not in an unreliable third world country with no American laws, no safety standards for the workers. And not to mention all of the children doing the mining at 50 cents a day.

We want to be and should be a part of the next generation of mining. Good paying jobs done right with safety standards and environmental safeguards in place. And make no mistake about it, we must mine in order to produce things. Those 30-some minerals and microbes don't just magically show up in factories. They are mined. Let's mine them here. Today is a big day. The Iron Range has been waiting for over a decade to get to this point.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

As an elected official and as a Ranger, I cannot be more proud to support this project and encourage the agencies to issue the final permits quickly. It's time to mine, let's get started.

Today is a big day. The Iron Range has been waiting for over a decade to get to this point.

It's another indication of how comprehensive our environmental laws are. When the public comment period closes the letter of the law. What we have here is a gold standard of mining operation in this country. Its significance cannot be understated. Industry experts and scientists have spent thousands of hours studying and restudying the data. Every box has been checked and rechecked, every T crossed and every I dotted. And the reason the draft permit has been issued and the reason we are here today is because PolyMet has met the letter of the law. What have we here is a gold standard of mining operation in this country. Its significance cannot be understated.

We have friends and family to spend time with and we also work nearby.

Minnesota is setting the bar for environmental standards and we should be proud of that. Financial assurance will be assured. We should also be proud that PolyMet put our people to work.

Construction hours alone are like building a Twins stadium on the Range. The next generation of miners will have the opportunity to work in one of the most state-of-the-art mines in the country.

Let me thank our state and federal agencies for the very hard work they put in for more than ten years in this process. It's another indication of how comprehensive our environmental laws are. Once the public comment period closes the fate of this project is out of our hands. After this it's time for state agencies and Governor Dayton to make a final decision. As an elected official and as a Ranger, I cannot be more proud to support this project and encourage the agencies to issue the final permits quickly. Its time to mine, let's get started.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

We have friends and family to spend time with and we also work nearby.

Northern Minnesota is a beautiful area and provides recreational opportunities, beautiful schools with small class sizes and low crime rates.

More families are not planting their roots in our local communities because it's hard to make a decent wage here due to lack of jobs that are needed and have enough spare money to enjoy.

A family has a better chance of re-investing in our area, so we need jobs to support. I care about our neighbors having good jobs to report to so that we will no longer be a dying town.

Everyone wants to see our communities not only maintain the population and operational existence, but also to see them grow. The impact of PolyMet operations on our local economy will allow us to achieve those things and so much more.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Stephanie Dickinson, Citizen
This is why I encourage the MPCA and the DNR to in the most timely manner grant these permits to PolyMet because they have met the criteria set by the State. And as soon as you can give the instructions so they can move into our communities. Lastly, I want to say that my husband and I work for Minnesota Power and ask many of the local residents if they know what standards goes into the permitting processes in our state. We know that Minnesota has some of the strictest review processes to help the people that live here and also the land, which is so important for the recreation that's one of the biggest area attractions. PolyMet spent more than ten years working for an accepted Environmental Impact Statement, in which many significant environmental issues were analyzed and reviewed. This proves that PolyMet has not only adjusted and tolerated, but they also take pride in hoping we celebrate the Iron Range's first copper-nickel mine. (inaudible) of responsible mining and continue to grow our communities by maintaining an attractive living.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Paul Renneisen, Citizen
I've yet to see a newspaper article of a promise for jobs that comes with an enforceable contract. Robotics will be, I'm here to state the falsified and job creation and consequences of environmental damage by unmanned mining operations. I'm opposed to the DNR plan, particularly the lack of environmental and liability insurance necessary to pay for damage outside the mining perimeters as shown in the exhibit hall.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Paul Renneisen, Citizen
Mining operations, domestic and international worldwide, are being built from the start as unmanned operations. Robots, unmanned machines, used to mine do not breathe, need clean water, pay income taxes, pay Medicare taxes or Social Security taxes. Robots don't pay unemployment taxes, they don't pay workers' comp premiums, they don't buy groceries, and by far they don't pay union dues. And robots don't vote. Robots include driverless trucks, unmanned security, etcetera, all which will be at PolyMet.

At the mining control centers, these robot control centers are remote, not 600 yards away on the property, but a control center outside the U.S.A. Could be in China, owned and controlled by foreign owners who are outside the jurisdiction of Minnesota and U.S. supports. Will Minnesota be the first state to have a robot that gets sentenced to prison for violating state or environmental laws? I don't think so. Where in this proposal is the contract for human being manned jobs? None.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Paul Renneisen, Citizen
I've yet to see a newspaper article of a promise for jobs that comes with an enforceable contract. Robotics will be, unlike human operations, unable to detect dust being released. The following future is as likely as the so-called promise for protections of PolyMet, which (inaudible). A future report, Cook County citizens take to mandatory evacuation. The governor has ordered the Minnesota National Guard to help protect Cook County, Minnesota citizens following the release of toxic sulfates. This year is the driest year ever, which resulted in water shortages impacting PolyMet mining operations. U.S. Forest Service is using military helicopters to remove (inaudible) as the governor reaches out to PolyMet control center in Asia and is unable to make contact. No human observers are on the project site. The mining site is run by robots and they're unable to detect that. In short, there's a clear threat in the future to the environment of Northeastern Minnesota. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jerry Tyler, Executive Director, Up North Jobs
Commissioner, my name is Jerry Tyler, I'm the executive director of Up North Jobs in Ely, Minnesota. My last name is spelled T-y-l-e-r. I'm here to yield my time. I support PolyMet and yield my time to speaker Kurt Daudt

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Kurt Daudt, MN Speaker of the House
I'm Kurt Daudt, D-a-u-d-t, from Zimmerman, Minnesota and I am the Speaker Of The House in the Minnesota House of Representatives. It's been a long road for PolyMet and the various regulatory agencies and all of those interested in this project to get to this point. First and foremost I want to thank you for you all and everyone for their time and energy in working on this project.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Kurt Daudt, MN Speaker of the House
Minnesotans love the outdoors. I think our state's public embrace of the Bold North theme during the Super Bowl this last week showed that to the world. As someone who greatly values our beautiful, abundant natural resources, I can tell you that I'm confident that we can take advantage of our natural resources and protect the environment. And I know my fellow members in the House Republican Caucus feel the same way. The NorthMet project has and continues to undergo very rigorous, independent scientific scrutiny from many different entities. The bar has been set high and that's okay. I don't think we'd be here tonight commenting on these draft permits if PolyMet and the regulatory agencies didn't believe the standards within them could be met by a company in both the permit limits and the financial assurance.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Kurt Daudt  
MN Speaker of the House  
The economic activity that this modern state-of-the-art mine will bring to Minnesota will be significant. The NorthMet project will create an estimated 1,000 jobs and will generate $515 million in economic benefits annually for St. Louis County alone. Northern Minnesota needs more good paying jobs and can be a leader in the world in developing products that are in high demand around the globe. The governmental agencies and the company have done their due diligence. Let's take advantage of this exciting opportunity. Rangers and Minnesota have waited long enough. It's pretty exciting to see these kids sitting here tonight in support of this project. They're the future of the Iron Range and the future of the state of Minnesota. It's time to mine. I urge our state and federal regulators to finalize and issue these permits as soon as possible so this project can move forward. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Paul Undeland  
Citizen  
Hi, my name is Paul Undeland, U-n-d-e-l-a-n-d, and I'm a resident of Grand Rapids, formerly a resident of Aurora where I was born and raised and where I still own property close to the prior bridge and watershed. It's important for me to come here tonight to support the advancement of the required permits to continue moving this project forward. Because I believe the State has been thorough in its permitting processes. And as an engineer and as a downstream landowner to the PolyMet project, I trust the science and the finance of the state expert, which show the project will protect human health and also protect the environment. PolyMet has also followed the State's strict regulatory review and permitting process and has met all the conditions the State has imposed on the project. These conditions the State has imposed on PolyMet in its draft permit to mine and the air and water permits are prudent and reasonable.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Paul Undeland  
Citizen  
They will ensure the mining project will protect human health and the environment and the taxpayers will be protected under the financial assurance provisions in the permit to mine. The permit to mine also goes above and beyond the requirements of Minnesota law by establishing bankruptcy proof financial assurance loans for two years when the law only calls for one year. This is just one example where PolyMet and the State have gone to extra lengths to ensure taxpayers are protected in the case of bankruptcy and that the mine and processing facilities are properly closed and reclaimed with no risk of impact to the environment, including my downstream property, where I spend time hunting and fishing and being outdoors while growing up in Aurora. And I want my kids to experience the same outdoor activities that I have passion about.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Paul Undeland  
Citizen  
Minnesota has some of the strictest environmental standards of any state. The company has demonstrated through the environmental review and permitting process that it can meet these standards. The permitting conditions, which were informed by the comprehensive environmental review process, would spell out the monitoring, operating, and reporting and inspection requirements for the mine during construction, operation, and closure. Together they provide the framework for mining and environmental protection to co-exist. The resources that this mine produce are in demand and they will be mined by someone somewhere. On the Range we have a rich history of mining with one of the most stringent environmental regulated states in the nation. We can do it better, safer and more environmentally responsible than anyone else, while putting our residents of Northeastern Minnesota to work. Thank you.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Doug Christy  
Citizen  
I'm Doug Christy from Grand Rapids and I am giving my time to Mike Syversrud. This comment simply defers speaking time to another individual. No response needed.

Mike Syversrud  
President, Iron Range Building Trades and Construction Trades  
Good evening. I'm Mike Syversrud, S-y-v-e-r-s-r-u-d, I'm from Gilbert, Minnesota. And I thank you for the opportunity to speak here. As Dan, one of my coworkers here, I'm actually president of the Building Trades. I represent thousands of building tradesmen and women up here in Northeast Minnesota. Dan mentioned something about his son growing up, he was ten years old. I was 150 pounds when this thing started ten years ago. PolyMet has been a steward already of the communities up here. They've been involved, they've been active in everything, whether it be sports, community events, from one end of the Range to the other. I've worked hand in hand with these guys to get an agreement in place with PolyMet to put our tradespeople to work. And like I say, these are hard working families. You look around here, there's a lot of retirees that busted bones in these mines, they worked hard. My grandpa, my great grandpa, these are where I started.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
I'm a cement finisher by trade, not a very good one, but I am. We used to work on all these plants, buildings, putting them together to make sure they're done right, correctly, environmentally safe, done on time and ahead of schedule under budget.

That's what we pride ourselves on in the building trades. We also pride ourselves in being community active in the building trades as well. We get out, we go forward, we try to bring work to our areas.

So these communities, like Aurora, can still bring people here to work. You have to have a job before you can have a school. If you have a school, you've got to have people to pay for it. The Aurora community just passed a referendum over here to do the addition on the school. This will be done by you, local union craftsmen, will build this school and they'll do it right and they'll do it on time and ahead of budget.

But it wouldn't have been done if it wasn't for PolyMet. PolyMet has given this community in Northeast Minnesota a light at the end of the tunnel so we can bring communities back to where they should be. We must find jobs for our young people that will not destroy the environment for all future generations. And I believe that there are people within our agencies who will have the courage to step up and deny the permit to mine. Thank you.

Jerry Baland
Citizen
Distinguished guests, thank you for this opportunity. My name is Jerry Baland. I spell my name B-a-l-a-n-d. I live here in Aurora, all three children of ours went to the local schools. I am a very proud Iron Ranger.

My background is about 45 years in mining, 30 years with Erie Mining Company and 15 years with the State of Minnesota with the Soudan Underground Mine. And those of you who may not know, this is one of our outstanding state parks.

I would like to have the opportunity passed on to my children, my grandchildren and great-grandchildren that I had and my family had growing up here. We see all of these nice young people here. They're going to be going on from Aurora -- Mesabi East, excuse me, they'll be going on to school, both from the crafts and also going on to college.

I think it's wonderful if we give them the opportunity to have part-time jobs while they're working their way through school. And one of the ways we can is with PolyMet being operational. And the sooner the better.

I would like to think that we as adults -- and Michigan at Eagle Mining Company is successfully meeting the environmental challenges. Can't we do the same? They have received national environmental awards. I think we owe that to these young people and the local people to get this show on the road and get the approval process that has taken over ten years. I think the time to analyze and rescrutinize is over.

Let's get the show on the road and get this behind us. I think we have the intelligence, the educated people that can do this and do it environmentally sound. Thank you very much.

Greg Mosher
Citizen
My name is Greg Mosher, M-o-s-h-e-r, I'm from Ely. I support PolyMet. And I defer my time to Julie Sandstede.

Hi, I'm Julie Sandstede, I'm a wife, a mother, an educator, and also a state representative. To follow up on some statements that were made previously, mining is a great Minnesota tradition. The safety of mining has been a first priority for generations because we live in the various communities where we work. This project has been in the works for over ten years.

We've been thoughtful, responsible, and intentional about the thorough review of every aspect of its completion and the impact it will have on Northeast Minnesota. We care deeply about the environment. And this project is setting the bar for environmental standards and we can be proud of that.
Good evening. My name is Erik Erie, I'm the principal of Mesabi East High School. I'm a resident of Biwabik Township. We support the PolyMet project and defer my time to Jason Metsa.

Good evening. My name is Gregg Allen, A-l-le-n, and I'm from Gilbert. And I'm also the superintendent of Mesabi East School District. I have a resolution of support for PolyMet from District 27 and 28 school superintendents. The letter of support states, and I will summarize, that the Minnesota Association of School Administrators of Region 7, Districts 27 and 28, declare its support of the issuance of state permits and is confident that the exhaustive review by state and federal regulatory agencies have concluded the project can operate in an environmental safe and secure manner.

This project is extremely important to the school districts on the Iron Range. Funding for most schools in Minnesota comes in three major ways: local, state, and federal. However, for schools in the taconite assistance area, which includes most schools in Northeast Minnesota, there's a fourth funding source and it's from production tax from the mines. Production tax is used in lieu of property tax. Nonferrous mines like PolyMet uses different formulas, but the concept in the same. If the mine is producing, schools receive funding. If the mines are not producing, schools receive less or no funding. The funding from mining is important to schools from this area. Mesabi East receives about $10,400 for students from all sources of funding. The state average per pupil funding is about 12,000. That leaves Mesabi East about $1,600 per student short of the average, leaving Mesabi School District about 1.5 million dollars short per year. The PolyMet project will increase funding to Mesabi East and help close this gap and, therefore, allowing more learning opportunities for students. Our students are our future. The students attending the school and the students here tonight need the best education possible. These students are PolyMet's next generation of workers. They're also our future doctors, engineers, teachers, and employees of the DNR and MPCA.

We support the success of this project and believe by meeting Minnesota's strict environmental standards through a comprehensive environmental permitting process PolyMet will be poised to play a significant role in contributing to the sustainability of our region's economy by mining metals we need every day without harming our region's air and water quality.

Good evening. My name is Erik Erie, I'm the principal of Mesabi East High School. I'm a resident of Biwabik Township. I support the PolyMet project and defer my time to Jason Metsa.

I thank all of you for your hard work in the permitting process. On behalf of Mesabi School District, I look forward to MPCA and DNR granting these permits as soon as possible. Thank you for your time.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

We have not ignored the crucial safety standards that are necessary when implementing a project of this scope. We're thankful for the opportunities that PolyMet has brought and will continue to bring to our communities for many generations to come. Vibrant communities need new opportunities to build upon the successes of the past. PolyMet is just that, a chance to expand our economy and offer the next generation a future of hope. This project will not only better the economy in Northeast Minnesota, but for the state as a whole. The modern mining technology used for this project would become a positive impact on the global market. There's no need for outsourcing when we have the innovative tools right here at home. Families in my district choose to raise their children on the Iron Range because Rangers come together and fight for the successes of our region. We stand together and support the science and the strong environmental regulation and we also are united in our support of this project. The production tax this project could bring in could be an outstanding source of revenue to improve our schools, which are the bedrock to any thriving community. As a state legislator, it is my job to shed light on the needs of Northeast Minnesota, which is why I'm called to proceed in convincing our governor to approve this project and help create the next generation of world class miners in Minnesota. I encourage you to approve these permits. And I thank you for the opportunity to share my thoughts.
My name is Jason Metsa, I'm a state representative for District 6B here, the most mining center district in the United States of America. And proud to be here today. Commissioners, thank you for being here as well. It's been a long time coming, hasn't it, Rangers? I want to speak to a few things that I heard earlier I thought were pretty misleading. And this has been a long, tedious process where I know that there's been a very thorough review from our federal, state, and local folks who have really put in the time and due diligence and patience to hear every side out on this issue. But I am sure glad that my constituents can see dust and that they're not robots. They're people who will ensure, just like our steel workers have for many generations up here, that we are meeting the upmost quality in standards. And Minnesota will be a shining star of the north for many years to come to have for the most safe, responsible mining in the world. And everyone in this room can be proud of that. My wife and I just had a baby last year and I can assure you that there were no issues with the water in Virginia, which comes from a reclaimed mine pit. And our baby is doing just fine. In fact, today as soon as I left the house my wife ecstatically was texting me that he got behind his little walker for the first time and started pushing it around. So, I can't wait to go home tonight to go and enjoy that time with him before session starts.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

But overall, again, we've been here time after time again and essentially laid out the ground work for what's a phenomenal project in Minnesota's largest recycling of a plant at the former LTV site. That alone reduces the carbon footprint, puts good people back to work. PolyMet takes on the responsibility of some of the troubles that we had with the closure of LTV, like Senator Thompson mentioned. Those are all wonderful things for the environment. I couldn't be prouder today that we're in the final stages of what's been a very long process. Overall, the people in this room, the kids behind me here, they're our future. They're going to come up behind us, fill these jobs, become steel workers, tradesmen, doctors, lawyers, and the next state senator, the next state representative and they're going to lead us into an even better place. And tonight is the start of that. I look forward to continuing work with you all. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

This comment simply defers speaking time to another individual. No response needed.

Thank you very much. My name is Pete Stauber, S-t-a-u-b-e-r, and I live in the city of Hermantown, Minnesota. I serve as a district county commissioner here in St. Louis County and I'm a candidate for Minnesota's 8th Congressional District seat.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The State has thoroughly reviewed the NorthMet project and PolyMet has proven the project will protect Minnesota's pristine environment and ensure clean water and clean air.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

All of us here tonight want the same things for our kids and grandkids. We want good paying jobs and clean water. Our commonalities far outweigh our differences. The time has now come in these final stages of the environmental review for us to move past one or the other discussions.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

I look forward to PolyMet paying the way forward and proving once and for all that we can have both clean water and air and mine these minerals. If there's anybody in the world who knows how to mine safely for the minerals we all use it's the folks here in Northeastern Minnesota who spend their weekends fishing and summers camping right here. We all care deeply about the environment in our back yard. Mining and all of our watersheds have co-existed for decades and will continue to co-exist going forward. The science is in, the review process is nearly complete and the time is now. The LTV mining site has sat quiet long enough. It's time for us to recycle that plant, revive the economy of the East Range and realize the promising new era of mining and economic growth for St. Louis County in Minnesota. I urge the agencies to approve these permits. And I appreciate your time. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Hi, my name is Cyndee Forsman, I live in Aurora and I support PolyMet. And I defer my time to Chris Vreeland.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Hi, my name is Chris Vreeland. Good evening and thank you for taking my comments. My name is Chris Vreeland, I am a councilman of the City of Hoyt Lakes and I am a licensed Minnesota water and waste water operator for 35 years.

When I started as an operator, the standard treatment limits and laboratory analysis for waste water in the state of Minnesota were parts per million. With technology advancements over the last 40 years, we now test out chemicals at parts per billion, like mercury. My point is, technology analysis and treatment methods have gotten a lot better. It is unfair to compare copper-nickel operations from 40 years ago. I have no doubt that PolyMet can meet all state and federal requirements in protecting the environment.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

In 2001 the LTV taconite plant closed, permanently eliminating 1,400 good paying jobs. It was devastating to our area and we still have not recovered. So, the PolyMet project will reuse the old site and many of its buildings. This project will bring good paying jobs, benefiting the city of Hoyt Lakes and surrounding areas. This project will give a major boost to our schools in the communities.

The metals that PolyMet will mine are essential in our lives for clean energy. Copper is critical to components in wind mills, solar energy and the like. Nickel is used in batteries and stainless steel. I believe if we are going to use these metals, it is our responsibility to ensure that we get them from an environmentally compliant mine. PolyMet is that mine. Let's get this done. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

My name is Allen Brown, I'm from Aurora. When I first moved to Aurora (inaudible) he lived in North Dakota and paid $200 a month. The first weekend, he worked on Labor Weekend, he made more money than he made in a month in North Dakota. He said, "I'm never going back." Now, I worked 41 years in the paper industry in International Falls and moved back. And I'm hoping these meetings that -- and I see the same people that's against everything were against people in the paper industry.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

We moved back after 41 years because my grandchildren ended up living down here. That was 13 years ago. And PolyMet was in the works then. And we sat there and waited and waited. And during that time we've watched a grocery store, a dentist office, a drug store, this town is going. I mean, it's been hurting. And I think we really need to do something to help the people out. And like you say, Minnesota has the strictest rules for mining anywhere. Thank you.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Good evening everyone. My name is Mike Perala. P-e-r-a-l-a. I'm a resident of Virginia. I'm a logical supporter of the PolyMet project and passionate supporter of the PolyMet project. I'd like to concede my time to my good friend Mary Hess.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Thank you. And thank you panel commissioners for taking my comments today. My name is Mary Hess, I'm the former mayor of Aurora. And I've spoke many times on behalf of PolyMet, supporting PolyMet's operation.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

And today I've decided to take a different avenue, kind of telling my personal background in regard to mining. I was born and raised in Sunburg, Minnesota and grew up on a farm, my mom and dad were farmers and had a tough time. I was young, I didn't realize the tough times, but I learned later that they struggled. In 1959 my dad was hired at Erie Mining Company and we moved to Aurora, Minnesota. My mom and dad were in heaven, actually. They were drawing a paycheck every two weeks, they were getting benefits, they were getting insurance, their kids had a good school to go to, we had a clinic, we had a hospital, we had a dentist office right at our fingertips. So, I've seen the good side. But then again, I've also seen the bad side because I was an employee of the IRRRB for 30-some years when LTV closed, it was very devastating. Fortunately my husband had retired, but I had a brother that worked for LTV and many, many friends that worked for LTV. So, I saw what happened there. And, actually, my husband and I helped a lot of people during that time. So, now today I am talking -- it's been years. As I said, I worked at the IRRRB, I heard about the PolyMet project when I was there and retired in 2003.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

In the last ten years, like I said, I have supported the PolyMet project, spoke many times on behalf of PolyMet. And I just look back at all of the time and all of the money, of course, that's been spent on this whole process and money that probably could have been in families' pockets.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
60 Mary Hess Citizen
But I appreciate all of the studies that have been done. I have children, grandchildren here that attend Mesabi East Schools. I have brothers that live in town, siblings that live here, nieces, nephews have all gone to school here. So, I appreciate all that have been done. And, of course, I want it environmentally safe as well. But I think it’s time now to move forward. I think we’ve waited long enough.
I thank you for all of your work, but I think it’s time to put a shovel in the ground. Thank you.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

61 Arik Forsman Citizen
Good evening. Thank you to the agencies for the opportunity to speak tonight. My name is Arik Forsman, F-o-r-s-m-a-n.
And I live in Duluth, but I’m from Aurora. And I could not be more excited to stand tonight in support of PolyMet. Tonight’s setting, as we discuss our future, is in a place where Mesabi East holds commencement ceremonies.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

62 Arik Forsman Citizen
For over a decade our little communities have fought pushback from environmental elitists who demand wind turbines and electric vehicles, but don’t want the minerals that go into them to come from our back yard. They claim to want to help the Iron Range economy and in their next breath attack the iron mining industry and union jobs with nonsense regulations. We’ve been at this for a very long time.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

63 Arik Forsman Citizen
It would be easy for us to get frustrated and give up. Just last night I had a woman at my precinct caucus in Duluth who introduced a resolution claiming that PolyMet will destroy baby brains from mercury.

Never mind that the EIS states that there will be an overall, and this is a quote, “decrease in mercury concentrations in the receiving waters due to water treatment activities that would occur as part of the proposed NorthMet project.” So, in other words, it won’t. But these uninformed activists have accomplished something else that is truly remarkable. They’ve inspired us, generally soft-spoken Iron Rangers, to get in the game and fight for our future.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

64 Arik Forsman Citizen
And take a look tonight at who’s is here in support with us. We’ve got our local elected officials from the Range, House Speaker Daudt, and candidates for federal office, organizations like Jobs for Minnesotans, which have done more for our region than most will ever know.

And maybe most impressively, moms with young families who tonight are setting aside the anxiety of public speaking and the inconvenience of finding child care on a week night because they know how much this matters to their own families.

By a show of hands tonight, I want to see who here is a graduate or student of Mesabi East, Aurora, Hoyt Lakes, Biwabik, and Palo. Tonight I’m proud to call myself one of you. Thank you for coming and fighting for our future and way of life.

In 2006 I graduated in this gym and gave a speech as the class salutatorian, because I wasn’t as smart as John Stark, about the importance of valuing time and each and every day we’re blessed with I was a kid and didn’t know anything about life, but somehow that message holds up tonight because we’ve wasted enough time waiting for this project and it’s time to move forward.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

65 Arik Forsman Citizen
The rebirth of our economy on the East Range is close at hand. And when those who would rather see us go away speak loudest, remember that we are the giants, that we couldn’t be prouder. And even when they refuse to hear us, we will yell a little louder.

I urge the agencies to approve these permits and allow the East Range the fighting chance we deserve of a brighter future because we should think globally and mine locally. Thank you.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

66 Cathy Bissonette Citizen
Hi, my name is Cathy Bissonette, I’m from Babbitt. And I defer my time to Dan Fabian.

This comment simply defers speaking time to another individual. No response needed.

67 Dan Fabian MN Representative, 1A, Chairman of the Environment and Natural Resources Policy and Finance Committee
Thank you, Cathy, and thank you everyone for being here. Commissioner Landwehr and Linc Stine, thank you for being here. I’m Dan Fabian, F-a-b-i-a-n. I’m the chairman of the Environment and Natural Resources Policy and Finance Committee in the Minnesota State House of Representatives. Most of you know I’m a proud supporter of this project and I look forward to the day when we actually start sticking a shovel in the ground.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Dan Fabian  
Representative,  
MN, Chairman of the Environment and Natural Resources Policy and Finance Committee  
Minnesota has a very strong, rigorous and independent environmental review permitting process. Sometimes, as you guys know, I’m very frustrated by some of the processes. But we are what we are and we’re getting to the end.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Dan Fabian  
Representative,  
MN, Chairman of the Environment and Natural Resources Policy and Finance Committee  
I believe that PolyMet can and will meet the environmental and financial assurance standards required for the NorthMet project.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Dan Fabian  
Representative,  
MN, Chairman of the Environment and Natural Resources Policy and Finance Committee  
I spent 35 years in a high school gym like this one as a physical education teacher and a track and cross-country coach. I'm so proud to see you guys here today, this is awesome. This is about your future. And it's also fun to see some of my legislative friends here. I'm proud to stand next to you on this project. We've been through some ups and downs with our economy. (Inaudible) in 1980, Arctic Cat plant in Thief River Falls closed in 1981. We're back up and we're producing the best ATVs in the world right now and we're very proud of that.

So, let me just say that I'm fighting for you folks here on the Range. I want to see this project. I urge our state agencies to issue the permits for the NorthMet project as soon as possible. This project's time has come. Thank you.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Seth Thun  
Citizen  
My name is Seth Thun, T-h-u-n, and I'm not from Aurora necessarily, but I'm from Silver Bay. And T-h-u-n is my name. My dad, my grandpa, my uncles all worked for Reserve Mining Company. I knew the impact it was. Before that they were rock farmers in Central Minnesota.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Seth Thun  
Citizen  
Part of what we did coming to Aurora was about purchasing a building, expanding our business. The other part was PolyMet and what was happening with it, as the project itself looked to be very promising for our area.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Seth Thun  
Citizen  
So, we got together with the Honorable Mayor Hess there and the economics and we bought the old Moose Club. We put a lot of elbow grease into it and $200,000. We invested in this community for the future. And it's time, it's high time to have this project go. We know there's been progress in this project. We've invested here. We want it to go, we know it can go. I'm a political guy, too, I'm kind of a junkie.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Seth Thun  
Citizen  
This process is so burdensome. And you guys have done a great job, I can't take anything, technology has pushed us to that level.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
75 Seth Thun Citizen

When we started this project of having meetings and converting to lease space, we hoped that we could rent these spaces and make some money. That hasn’t turned out real good. However, we’ve had tenants who have now done the same thing we did. They moved out of our building after three years and purchased two other vacant buildings in our town, in this town. So, it works. Our $200,000 investment has now led to them paying taxes to this town and this county. And the taxes aren’t cheap here, right? Not that I can tell. So, we want to get this thing going and we have to assume we can. The detractors out there are doing their thing and we understand that. But technology has brought us to the point where we can’t do more than what? What the state of the art is. And I appreciate your time.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

76 Ross Petersen Citizen

My name is Ross Petersen, Petersen, I’m from Ely. I’m the former mayor of Ely and I still own some rental houses in our Hoyt Lakes area. I think I have a little bit of a unique perspective in some ways. I especially have a unique perspective on some of the opposition to this project. I’ve seen a lot of the opposition from this project come out, very few people from Ely. Overwhelmingly folks in Ely are for this project. The leaders of kind of the opposition tend to come from Ely. And to be honest with you, I’ve been monitoring that very closely and I’ve been very disappointed in some of the reasons I feel they’re really using to oppose this project.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

77 Ross Petersen Citizen

And I think if you’re familiar with Becky Rom and Reid Carron in the article in the New York Times, I think it displays something that a lot of us have known for a long time. A lot of the opposition to this project comes from people who don’t want to see a similar project in Ely. And I think in many ways it’s not because they’re worried about pollution, I think they have some other reasons that have been exposed. And I think it’s kind of sad what some of those reasons are. They feel that miners and blue-collar people are kind of in that basket of deplorables that Hillary Clinton talked about and they don’t want to see a number of those additional folks in Ely.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

78 Ross Petersen Citizen

And some of them have businesses. They have businesses that have excellent people that they’re paying virtually nothing to. And they feel that that would change if the mining comes in. So, they’ve done an excellent job of throwing up road blocks to these projects. And you can’t say that these are some of the reasons why you’re really opposed to these projects.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

79 Ross Petersen Citizen

So, it’s been kind of a hard thing to see, but one thing I’m sure of is they’re not worried. The people who are really speaking on some of these projects aren’t worried that this project PolyMet is going to pollute. They’re worried that PolyMet is not going to pollute and that will further additional projects in Ely. So, that’s a part of this. I don’t think it gets displayed enough. And they’ve used every trick, political and whatever, to kind of throw up some road blocks. So, I want to throw that out there. I think there’s some kind of nefarious reasons for the things that have been done. And I hope that doesn’t affect this panel in moving forward. Thank you.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

80 Daniel Manick Citizen

My name is Daniel Manick, M-a-n-i-c-k. I’m from Cook. I fully intended on deferring my time, but when the superintendent from Mesabi East School spoke I felt I had to speak. I do represent, I guess by default, ISD 2142, the St. Louis County schools, kind of neighbors to Mesabi East and everywhere. We have a school over in Babbitt, we have five schools in our district. Our school in Babbitt was built to hold enrollment of 2,000 students. We currently have 200 in that building. I would hope that now would be the time to grant these permits before another graduating class from Mesabi East, another graduating class from any of the schools in our systems. When these kids leave, they’re gone. Can we please keep some more of our students in this area?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

81 Daniel Manick Citizen

We do love the tourism dollars that Boundary Waters brings and everything, snowmobiling. We love the people that come here to play, but we need people to stay. Thank you for your time. And this shirt today, I’m also a 31-year member of the United Equipment Operators. Jason Metsa, you have earned this. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

82 Chris Knopf Executive Director, Friends of the Boundary Waters Wilderness

Good evening. I’m Chris Knopf, that’s K-n-o-p-f. And I’m the executive director of Friends Of The Boundary Waters Wilderness. And I want to thank Commissioner Landwehr and Commissioner Stine for being here and giving this opportunity to all of us to speak on this important issue here. I believe strongly in community. I strongly believe in union jobs and family. And I also believe in clean water. When I think of PolyMet, I think of that slick road on a winter day that’s covered in ice. And you look down that road and you see the cars and trucks stranded on either side of the ditch. And you see that $150 on the right and you see the Chevy Silverado on the left and the Toyota Corolla further down the road and an 18-wheeler further down, jackknifed.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Chris Knopf  
**Executive Director,** 
Citizen of the Boundary Waters  
And you wonder if you're going to go down that icy road, what's going to happen. With PolyMet and sulfide mining, we're not talking about ferrous mining, we're talking about a different type of mining.  
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Chris Knopf  
**Executive Director,**  
Friends of the Boundary Waters  
Wilderness  
The track record is very, very clear.  
What you have, that F150 down the road, that's the Berkeley Pit in Montana where you have 900 feet of acid water where in December, 2016, a thousand snow geese went in for a drink of water in a snowstorm and all died. You have Mount Polley mine disaster in Canada where on August 4, 2014 the dam burst, destroyed the lake and river downstream from that.  
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Chris Knopf  
**Executive Director,**  
Friends of the Boundary Waters  
Wilderness  
You have another mine down in Montana where the water coming off it is orange, just like orange juice. And that's the track record that we have here. So, when you ask yourself what we're going to get, that's what we're going to get with PolyMet here.  
Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Chris Knopf  
**Executive Director,**  
Friends of the Boundary Waters  
Wilderness  
We have water coming into contact with the sulfide and you get an acid runoff here. We don't have a state-of-the-art mine that's going to keep that water from coming into contact with that road here.  
Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Chris Knopf  
**Executive Director,**  
Friends of the Boundary Waters  
Wilderness  
When you're driving the car, you get insurance to -- in case you have some damage to pay for that. Here we really do not have insurance for PolyMet mine. After ten years you don't have a half billion dollars, you don't have a billion dollars that DNR's own experts say. You only have 26 million dollars. So, what you have with PolyMet is an uninsured driver going down the road there. And that other 974 million dollars will be paid by all of us, all the taxpayers. It's not being paid by the Canadian company that's going to be long gone by that time here. So, again, I'm grateful for the opportunity to speak here and I welcome the opportunity to continue a dialogue on this to protect clean water. Thank you so very much.  
Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Hailey Lislegard  
Citizen  
Hello, my name is Hailey Lislegard, L-i-a-y-e-l-e-g-a-r-d, and I'm from Aurora, Minnesota. Thank you for the opportunity to comment. As I stated before, my name Hailey Lislegard and I'm proud to say that I was born and raised on the Iron Range. I come from a long line of miners. It started with my great-grandfather who mined where my grandfather worked. And he was followed by my father, who worked there until the plant closed in 2001. Mining is in my blood. So, when it came time to think about a career, I chose to follow my family's footsteps. I wanted to support the mining industry.  
Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Hailey Lislegard  
Citizen  
Now, I stand before you as an apprentice with the Operating Engineers Local 49. And I've been blessed to find a job that I love that allows me to live in my hometown of Aurora, Minnesota. I find it insulting when I hear people from outside this region say that my job is not worth this, we do not care about the environment. No one here would support a project moving forward if they did not prove that they can meet or exceed our strict environmental standards: I hunt and I fish. I take pride in where I live because it's where my family and I spend our free time. This is land we depend on. I also take great pride in working in an industry that provides me with the quality of life on the Iron Range.  
Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Hailey Lislegard  
Citizen  
I support the science and the work by the DNR and MPCA and independent experts who found both in the environmental review and in drafting these permits that the PolyMet project can meet all the state and federal standards. I believe the conditions spelled out in these permits will ensure that the project can be built and operated in a way that protects our health and the environment.  
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Hailey Lislegard  
Citizen  
By doing this right I know that we can produce the jobs we need to support our families now and for future generations while being protective of our waters and other natural resources. I urge the agencies to finalize these permits as quickly as possible. Thank you.  
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Hi, thank you. My name is Andrea Zupancich, Z-u-p-a-n-c-i-ch. I’m the mayor of the city of Babbitt. And thank you for coming here. Our population is about 1,500. We used to be almost 4,000, but that was before the mine closed in 1987 and the town pretty much emptied out. Prior to that we were a thriving community. We had two growing elementary schools, a booming state-of-the-art high school with a shop class that no one could rival, with the help of the mine, of course. They provided us (inaudible) and they were very intent on training those people, those future miners.

Thank you. My official name is Charles Baribeau, but everyone calls me Charlie. That’s spelled B-a-r-i-b-e-a-u. I’m here deferring my time to Charlie Baribeau.

The NorthMet project will require an estimated two million construction hours for us to build. This is a lot of jobs for everyone. All right. That’s all I have to say. Thank you.

At one time we had a thriving pool table company in our town. They employed about 50 people. To some that’s a small number. To us, that’s a big number.

Now, I also know a very talented person who moved to our area in Babbitt. They had a plan and they had a savings. They sold everything to come up here, they wanted to live up in this area. They wanted to live up here and gave themselves time to do something and they were unable to do that. So, unfortunately, they had to move back.

Let us not forget the statement in the thoroughly permitting process. We have reviewed and justified the mining and the statement is true. PolyMet NorthMet project will protect human health and the environment.

The NorthMet project will require an estimated two million construction hours for us to build. This is a lot of jobs for everyone. That’s all I have to say. Thank you.

Hello, my name is Mike Larson, L-a-r-s-o-n, and I’m from Aurora. I’m a strong supporter of the PolyMet and I’m deferring my time to Charlie Baribeau.

Thank you. My official name is Charles Baribeau, but everyone calls me Charlie. That’s spelled B-a-r-i-b-e-a-u. I’m here to speak about the water quality that everybody is so concerned and afraid of that PolyMet is going to destroy the environment or water.

Hi, thank you. My name is Andrea Zupancich, Z-u-p-a-n-c-i-ch. I’m the mayor of the city of Babbitt. And thank you for coming here. Our population is about 1,500. We used to be almost 4,000, but that was before the mine closed in 1987 and the town pretty much emptied out. Prior to that we were a thriving community. We had two growing elementary schools, a booming state-of-the-art high school with a shop class that no one could rival, with the help of the mine, of course. They provided us (inaudible) and they were very intent on training those people, those future miners.

Thank you. My official name is Charles Baribeau, but everyone calls me Charlie. That’s spelled B-a-r-i-b-e-a-u. I’m here deferring my time to Charlie Baribeau.

The NorthMet project will require an estimated two million construction hours for us to build. This is a lot of jobs for everyone. All right. That’s all I have to say. Thank you.

At one time we had a thriving pool table company in our town. They employed about 50 people. To some that’s a small number. To us, that’s a big number.

Now, I also know a very talented person who moved to our area in Babbitt. They had a plan and they had a savings. They sold everything to come up here, they wanted to live up in this area. They sold everything to come up here, they wanted to live up in this area. They were unable to find work here. And by work, I mean, sustainable work. But they were a family that wanted to rely on benefits and a retirement plan for their future.

They wanted to live up here and gave themselves time to do something and they were unable to do that. So, unfortunately, they had to move back.

Let us not forget the statement in the thoroughly permitting process. We have reviewed and justified the mining and the statement is true. PolyMet NorthMet project will protect human health and the environment.

The NorthMet project will require an estimated two million construction hours for us to build. This is a lot of jobs for everyone. That’s all I have to say. Thank you.

Hello, my name is Mike Larson, L-a-r-s-o-n, and I’m from Aurora. I’m a strong supporter of the PolyMet and I’m deferring my time to Charlie Baribeau.

Thank you. My official name is Charles Baribeau, but everyone calls me Charlie. That’s spelled B-a-r-i-b-e-a-u. I’m here to speak about the water quality that everybody is so concerned and afraid of that PolyMet is going to destroy the environment or water.
Tom Rukavina
Citizen
And I want to thank you folks because you have done what you are supposed to do and you have made sure that all the statutes and all the rules that have been on the books since the agreement between the environmental community and the mining community in the 1990s, I believe, that those rules and statutes have been met. And that's why we're here tonight because PolyMet has met them. I say it's time to move on. I want to thank you for what you've done and I want to thank the people of the Iron Range for putting up with this for 14 long years.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

111 Tom Rukavina
Citizen
We have a proven track record for 135 years. We are looking at one of the largest recycling projects in the history of the state of Minnesota. For people that don't know it, everything is there basically in order to run this mine. The only thing that has to be done is to dig a new hole amongst all the other holes that have been dug by both North Shore Mining and the old LTV site. It's time for this project to move on.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

112 Tom Rukavina
Citizen
Again, we are all consumers, we all use this. I want to thank my constituents and the people of the Iron Range for their perseverance on this project.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

113 Tom Rukavina
Citizen
We have a plan to dig a new hole amongst all the other holes that have been dug by both North Shore Mining and the old LTV site. It's time for this project to move on.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

109 Tom Rukavina
Citizen
Thank you, Bob. And just for Mike Syversrud, when this project started 14 years ago and I was in the legislature, I was six feet tall. So, I'm -- I was in the legislature for 26 years, I represented the good people from Ely all the way through Babbitt and down here to Aurora, Hoyt Lakes. Representing the people on the Iron Range for 30 years, I can assure the gentlemen from Schroeder that I don't represent robots, I represent super men and women who have contributed to this country and this state like no other people in this world. And I have to say this, for anybody to think that I would want anything to harm my daughter and my two grandchildren that live five miles south of here, that's absurd.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

108 Bob Berrini
Supervisor, Town of Morse
Hello. Thank you, I'm Bob Berrini, B-e-r-r-i-n-i. I'm a supervisor in the Town of Morse that surrounds Ely. And I want to yield my time to my commissioner, everybody here knows him, Tom Rukavina.

This comment simply defers speaking time to another individual. No response needed.

107 Charles Baribeau
Councilman, City of Virginia
Right now the science that PolyMet and their advisors they've gotten is the best science in the world. So, I'd appreciate if anyone has questions afterwards about it, I will answer questions about reverse osmosis. Thank you.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

106 Charles Baribeau
Councilman, City of Virginia
I would say that that is better than the water that comes out of any of your sewage treatment plants. We just had a video on sulfate and that's what they're talking about, saying it goes through sulfuric acid. A judge just ruled on sulfate standards for wild rice and threw everything in the science out because they aren't using the right science.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

105 Charles Baribeau
Councilman, City of Virginia
There's nothing left for chemicals that go into the environment. And people are so concerned about the water. I am not concerned as a professional person using our technology that is being put forth by this project.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

104 Charles Baribeau
Councilman, City of Virginia
I'm also a city councilman at the City of Virginia where our water, as said before by Jason Metsa, comes out of a mining pit. We test that every year. That water is as pure as any water in the Boundary Waters or anywhere else. Once you get rid of water through reverse osmosis you actually have to add chemical entities to it to make it drinkable so your body can handle it. It's almost like drinking distilled water, if everybody knows what that is.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

103 Charles Baribeau
Councilman, City of Virginia
PolyMet is going to use reverse osmosis when they discharge their water into the -- discharged in the facilities that they're going to be using this. This is going to be millions and millions of dollars of high-tech technology with membranes.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

102 Charles Baribeau
Councilman, City of Virginia
I'm also professionally a pharmacist, so I know the chemistry and I know what goes into this. PolyMet is going to use reverse osmosis. And I don't know how many of you know what reverse osmosis is, it's a system -- a lot of you do, the students especially know what it is. It's a system that's used in the pharmaceutical industry and being used (inaudible) it purifies the water that goes into these products, pharmaceuticals that you take into your body, other things.

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Bill Erzar  
Citizen  
Good evening, I'm Bill Erzar from Ely. I'm a proud supporter of PolyMet and I defer my time to Mr. Mike Jugovich.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Mike Jugovich  
7th County Commissioner, St. Louis County  
Thank you. My name is Mike Jugovich, J-u-g-o-v-i-ch, I live in Chisholm. I am the 7th District County Commissioner right here in St. Louis County, proud to be, and represent a lot of the people here. It's an amazing thing this process has taken so long. And I understand it's a process, but at some point we've got to get to work. We talked about our future, these kids are our future. I have one of my kids here tonight.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Mike Jugovich  
7th County Commissioner, St. Louis County  
Because this is what it's about, generations being able to stay here, generations having their own kids. This is why we all moved here because we love the area. No one wants to petuile where we live, work and raise families. And I believe the science is clear. And I think deep down we all know the '70s is long gone. And what we have now is the technology and the ability to mine and mine right. So, people like these young people right across from me will have the opportunity to stay here, raise their own families and have their kids go to Mesabi East. It's a great, great feeling to be an Iron Ranger and understand what it takes to be an Iron Ranger.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Mike Jugovich  
7th County Commissioner, St. Louis County  
You've got to be tough. You've got to be Tom Rukavina, you've got to be tough, because he's been through it all. He gets it. And I see a lot of blue and white hats, tradespeople, all kinds of people here. You've been through the ups and downs. They understand how important it is to have these jobs.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Mike Jugovich  
7th County Commissioner, St. Louis County  
We need them, our families need them. We can do this right, we can do this safely. We've been doing it for 135 years, nobody does it better, nobody does it safer, right here in the Iron Range. And we can make this go and be a success environmentally and economy-wise. Thank you.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Jean Akkanen  
Citizen  
Hello, I'm Jean Akkanen, A-k-k-a-n-e-n, from Embarrass. And I'm a supporter of PolyMet and defer my time to Lance Johnson.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Lance Johnson  
Aurora Chamber of Commerce  
My name is Lance Johnson, L-a-n-c-e, J-o-h-n-s-o-n. I'm from Biwabik Township. I'm a business owner here in Aurora, but I'm also speaking on behalf of the Aurora Chamber of Commerce. My wife and son and my mother are in the crowd tonight. My wife and I have attended many meetings about this project dating back quite a bit. We attended PolyMet public comment meetings in Blaine and Aurora in 2010, I believe. Next were meetings in Duluth and Aurora and in St. Paul in 2014. And that was followed by another round of meetings in Duluth and Aurora in 2016. And here now we are in 2018, another round tonight and then tomorrow in Duluth. After following this process for nearly a decade the agencies have overseen a thorough scientific review process. There's been ample opportunities all over the state for both local residents here where the project will take place and also those 100 miles away to provide input on the PolyMet permitting process. With PolyMet following our state's rigorous review and permitting process years of scientific study by state experts, I see no reason why this important project for our area needs to wait any longer.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Lance Johnson  
Aurora Chamber of Commerce  
I'm not sure when you folks got here today, if you're going to be in the area tomorrow when we go back down to Duluth, but if you get an opportunity and you want to take a drive into Hoyt Lakes, you'll find multiple manufacturing facilities that have closed down over the last few years. You can drive through Aurora's Main Street, and you've heard that referenced here tonight multiple times, and you can see buildings that were once homes to productive businesses and they're now falling apart and in disrepair and empty. In just the last few years we also lost a grocery store and the pharmacy, too. The scientific review process has been followed and this project should not be delayed any longer. The positive economic benefits that PolyMet will bring to our community is desperately needed. This project will inject new life to our local businesses, along with hired additional employees and expand instead of laying off and closing doors.

Thank you.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Tonia Kittelson  
Friends of the Boundary Waters Wilderness  
Hi, I'm Tonia Kittelson, K-i-t-t-e-l-s-o-n, I'm from Duluth. And I'm with Friends of the Boundary Waters Wilderness. Thank you for the public comment. We strongly urge you to deny the PolyMet mine application and we ask for our comments tonight to be about specific things that are in the permit request. My comments are about that. So, there's an example of the mine in British Columbia, the Mount Polley mine, the toxic waste from that mine followed 400 miles down the tributary and down the river.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
123 Tonia Kittelson  Friends of the Boundary Waters Wilderness  And if PolyMet mine pollution, the acid mine drainage, was to go 400 miles, it would go all the way from here down through the Partridge River, down through St. Louis River, 197 miles down to the Duluth and Superior, Wisconsin area and estuary, if you go another 203 miles down from Lake Superior, 203 miles from the lift bridge. My request is that you determine how far PolyMet pollution would travel and let people know how far that would go out into Lake Superior. People living downstream of the mine deserve to know just how far that contamination is going to reach, especially since it contains six of the top ten worst chemicals that the World Health Organization has identified in acid mine drainage.

This comment pertains to issues considered in the development of the DNR Dam Safety permit. Regarding potential contamination from the discharge from the WWTS, the discharge is required to meet Operating Limits for sulfate, copper, arsenic, cobalt, lead, nickel and mercury at the point of discharge at the project site. The permit also states that the discharge must not violate water quality standards; again, this would be at the point of discharge. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control wastewater and runoff from the facility to prevent the pollution of groundwater. Consequently, impacts to the St. Louis River and Lake Superior will not be discernable.

124 Tonia Kittelson  Friends of the Boundary Waters Wilderness  A couple other things to consider are that the St. Louis River estuary had decades of cleanup going on for the area of concerns in the estuary. And that's clearing up legacy pollution from the past industries. And PolyMet would be a new industry putting new legacy contamination into that area that's had hundreds of thousands of dollars spent in cleanup and decades to clean it up.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

125 Tonia Kittelson  Friends of the Boundary Waters Wilderness  I know the health impact assessment was thrown out, but I think that was legislation that determined that. And that's actually, I think, something that's worthy of consideration for you in your role as impact on humans, even lastly for their sulfide mine proposals.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

126 Tonia Kittelson  Friends of the Boundary Waters Wilderness  Regarding reverse osmosis, I know the pharmacist made some excellent points, but the reverse osmosis in the proposed permit to mine application was done on taconite rock, not in the sulfide ore that's going to be used in the PolyMet mine proposal. So, I would request that you use the rock that's going to be used in the PolyMet mine for your testing for the reverse osmosis. Thank you very much.

Reverse osmosis as a treatment technology is designed to treat water with certain chemistries, so it is not important to the viability of the treatment where that chemistry came from. However, to demonstrate that membrane treatment technologies were capable of meeting treatment targets for the PolyMet project, the company conducted a 6-month pilot testing program using seepage water from the existing tailings basin. For a portion of the test, additional metals were added to the test influent to more closely simulate projected effluent quality (i.e., wastewater that would be expected from the mining of sulfide-bearing ore). Results of the pilot testing were used in MPCA's engineering review of the treatment system design, and MPCA determined the proposed design is capable of providing the necessary level of treatment.

127 Patricia Renneisen  Citizen  I'm Patricia Renneisen from Schroeder. And I give my time to John Gappa.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

128 John Gappa  Board Member, Friends of the Boundary Waters Wilderness  Good evening. My name is John Gappa, G-a-p-p-a, I live in St. Paul. I served as a corporate chief financial officer for a number of Minnesota companies and I've been actively following the financial assurance aspects of this proposed project. I also serve on the Board of the Friends of the Boundary Waters Wilderness. Governor Dayton has stated that permitting for the proposed PolyMet mine will occur only if taxpayers from Minnesota enact financial assurance.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

129 John Gappa  Board Member, Friends of the Boundary Waters Wilderness  While the DNR's latest financial assurance departments are much improved, they still do not provide the financial protection Minnesota taxpayers deserve. The financial analysis shows that the first year of mining creates a cleanup bill of 588 million dollars. After 11 years of mining the cleanup exposure is over a billion dollars. At the conclusion of mining the remediation cost and the cost of treating polluted water for a hundred years is 782 million. And these estimates assume that everything goes according to plan.

Comment noted. This comment pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to this comment.
To protect the taxpayers in Minnesota I recommend the following: First, significantly increase the up-front cash contribution required. As it stands, total cash requirements by the ninth year of mining operations total 26 million dollars, a mere 3 percent drop in a billion dollar bucket. DNR's own consultants state that it would be very difficult for PolyMet or even a major mining company to obtain the financial instruments required in the permit. Second, require PolyMet to complete an updated tentative feasibility study, examine the project's ability to meet the cash contribution requirements. This study should be subject to public review and comment. And the information learned from the study should be incorporated into the final permit to mine. Outside expert analysis of the project shows that this project produces marginal financial income at best, even with copper prices at ten-year peak levels. Third, the DNR should provide public transparency into the annual review process for financial assurance and continue to use its third-party consultants for these annual reviews.

Finally, if PolyMet fails to meet any of its financial assurance requirements, the DNR needs to have the options to, first, prohibit payment of dividends to mine shareholders, prohibit payment of bonuses, stock options or other incentives to the mine and require full cash funding of all financial assurance obligations in the event the mine is sold. I am an old-timer. I'm a resident of Plainview, Minnesota. I support PolyMet. And I defer my time to Julian Collins.

Hello. Thanks for having me today. My name is Julian Collins, Collins. I am the president and CEO of IDEA Drilling, a local drilling company based in Virginia, Minnesota. IDEA Drilling offers lots and lots of high-paying jobs for local citizens specifically by aligning ourselves with (inadmissible) such as PolyMet. In fact, we relocated our headquarters to the Iron Range specifically to support the local economy. I'm here today, quite simply, to ask you to please approve the permitting process to allow me to continue to offer local employment to the citizens of this area. Thank you.

So when you hear somebody say when it comes to mining, we know how to do it right, it's not very accurate. We've been told we need these metals to make cars and batteries and windmills and all these wonderful things. Which is an element of truth, but we should acknowledge that we pay a price for using our metals. We have a sad record. I know our regulatory agencies have good leadership and good rank and file people. What they don't have is the political clout to clean up Minnesota water that's been degraded by our existing mining industry. In conclusion, a significantly more financial assurance package needs to be funded with cash rather than difficult to obtain financial instruments. To adapt an old saying, "In God we trust." PolyMet, please bring cash. Thank you.

So when you hear somebody say when it comes to mining, we know how to do it right, it's not very accurate. We've been told we need these metals to make cars and batteries and windmills and all these wonderful things. Which is an element of truth, but we should acknowledge that we pay a price for using our metals. We have a sad record. I know our regulatory agencies have good leadership and good rank and file people. What they don't have is the political clout to clean up Minnesota water that's been degraded by our existing mining industry. In conclusion, a significantly more financial assurance package needs to be funded with cash rather than difficult to obtain financial instruments. To adapt an old saying, "In God we trust." PolyMet, please bring cash. Thank you.

So when you hear somebody say when it comes to mining, we know how to do it right, it's not very accurate. We've been told we need these metals to make cars and batteries and windmills and all these wonderful things. Which is an element of truth, but we should acknowledge that we pay a price for using our metals. We have a sad record. I know our regulatory agencies have good leadership and good rank and file people. What they don't have is the political clout to clean up Minnesota water that's been degraded by our existing mining industry. In conclusion, a significantly more financial assurance package needs to be funded with cash rather than difficult to obtain financial instruments. To adapt an old saying, "In God we trust." PolyMet, please bring cash. Thank you.
Hi. My name is Melissa Cox, C-o-x. I'm a resident of Hibbing and I am president and CEO of the Laurentian Chamber of Commerce and we represent nearly 300 businesses in the Quad Cities and surrounding communities. And on behalf of the Laurentian Chamber of Commerce and our board of directors and our member businesses, we stand today in strong support of our next generation of mining and the draft permit to mine, air and quality permits, and 401 wetland certification for the PolyMet NorthMet project. I also want to note that my nephew goes to school here, my family lives in this area and I'm an Iron Ranger at heart and proud to live and work here, which makes this even more important and close to my heart. Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

So utilizing natural resources is a core aspect of our economy on the Iron Range. Beyond our region of strong, sustainable, domestic supply of minerals that will be mined by PolyMet, it's essential to a vibrant American manufacturing sector. This, in turn, positively affects all of our other member industries, including financial, legal, defense and communications, which are all integral in supporting our high standard of living. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The Laurentian Chamber of Commerce supports responsible mining in all forms in northeast Minnesota. We believe in the systematic application of science upon which decisions must be made to guide mining and create economic viability. PolyMet has undergone an exhaustive environmental permitting process and has been fair to all stakeholders. We believe the State has been thorough in their permitting processes and we trust the science and findings of the State's experts which show that the PolyMet NorthMet project will protect human health and the environment. Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

PolyMet will not only provide up to 1000 direct and indirect jobs, but it will also have a massive impact on our infrastructure, our schools and other areas. The profound effect of this project will be seen in our communities, in our schools, and the people in this room without projects like this won't be able to sustain our communities and our viabilities. We won't be able to stand here much longer to even be here to support. So we need to have the mining continue and support. So we urge today that the MPCA and the DNR grant these permits in a timely manner. Thank you for the opportunity to speak. We appreciate it. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Hi. My name is Kara Josephson. And I would like to cede my time to Kristina Nighre (sp.). Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Hi. My name is Kristina Nighre (sp.). I'm from Knife River, Minnesota. My last name is N-o-g-h-r-e (sp.). I just came up here to voice a couple of concerns that I have. What concerns me is the permit waste storage element of this project. The waste storage basin will be unlined and will leak (inaudible) rock. And according to the PolyMet plan, untreated water will seep directly into the groundwater. According to their numbers, that's 5,000,000 gallons from the site itself and 10,000,000 gallons from the storage basin. And it struck me that when everything is operating perfectly, millions of gallons of contaminated water are going directly into our groundwater. See response to Comment Water-510.

And then the second piece that I wanted to mention was the real value of our water in Minnesota. If you think about the nation as a whole, how many states are undergoing serious crisis in terms of drought and we are so rich in water. The amount of water that the PolyMet plan says they are going to use is 6.4 billion gallons of water each year. Each year. And they aren't paying for that water. They are paying $8 per million gallons. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I live downstream, and my thought, my concern is for everyone around the mine, wherever along, whether the top or the bottom of the stream or anywhere, my concern is about our kids, about contamination, contaminating water. And, you know, what's the value of our land if we can't drink the water. So I ask the DNR and MPCA to deny the permits and certifications for the PolyMet sulfide mine. Thank you. Treatment of the discharge through the WWTS using membrane treatment technology (e.g., reverse osmosis) and where enforceable operating limits for sulfate and various metals apply, will minimize effects on downstream water quality. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control wastewater and runoff from the facility. The effectiveness of these controls was evaluated in the EIS and the water quality permit requires their installation and operation.

My name is Mark Giese, G-i-e-s-e. I'm from Gilbert, Minnesota. I defer my time to Chara Jarvela. This comment simply defers speaking time to another individual. No response needed.
Hi. I'm Chara Jarvela, J-a-r-v-e-l-a. Originally Chara Chuck. I live in Hoyt Lakes, Minnesota, but I grew up in Aurora and went through 12th grade here at Mesabi East School District. "..." Sadly, many of these schools had to close their doors due to TV shutting down in 2001. After that date, we lost almost one-third of my graduating class. Friends left, families moved away and businesses shut down. After growing up in these small towns, I realized how important it is to trust people, to be a part of a community and to be close to family. After moving away to college and getting my degree in elementary education, I immediately moved back to try to start my new career in the Iron Range. I'm currently a teacher in Virginia. "..." The upcoming possibility of PolyMet opening in our area is amazing for our young family. It has been very depressing driving down the streets that used to be filled with people mingling and businesses thriving that have now become vacant and closed. The possibility of the class sizes going up, people moving into the hundreds of houses that are currently sitting for sale, and the use of a current infrastructure and reuse of our resources is more than anyone could ask for around here. I have dreams of my daughter -- sorry, growing up in the school just like both of my parents did and how her father and myself did. Molly will some day get to use the new athletic complex, play volleyball and basketball on this court like I did, meet new friends and find success here at Mesabi East. I implore you all to think of these dreams as well: Hundreds of jobs and families moving to our area to work at PolyMet, schools and other businesses, more money in our communities and a more secure life on the east end of the Iron Range. Thank you.

150 Nancy Norr, N-a-n-c-y N-o-r-r. It is my privilege to be in front of you again this evening as the director of regional development for Minnesota Power as well as the chair of Jobs for Minnesotans. I'm here on behalf of those 55,000 labor union members, 2500 businesses across the state and thousands of citizens in the Arrowhead region and across the state as well who commend the regulatory agencies for the work you have been doing and how closely you have been working together to reach this important and historic milestone. The core belief in our organization is we do not have to choose between jobs and the environment. We can do both. A key economic driver clearly here in the region is mining. And the growth in terms of (inaudible) of this industry is critical to the long-term success of our way of life here in northern Minnesota.

151 Nancy Norr, N-a-n-c-y N-o-r-r. As the nation with the highest consumption of strategic metals in the world, it is imperative that we maintain the regulatory framework that allows responsible mining to move forward. You will hear from a very vocal minority of people that these permits should not be issued and that the financial assurance is insufficient. And they will criticize agencies, the governor and anyone else that supports PolyMet. In fact, I don't think they would ever think the project is good enough or safe enough. And yet those same individuals consume, like we all do, an average of 1400 tons of metal to minerals to fuels in their lifetime. Critics of the financial assurance package are loose with the facts, and it seems as though they are as loose as those who keep claiming there will be acid rock drainage when the DNR has clearly stated that there will not. PolyMet will have to meet the bankruptcy approved petition for the financial assurance before they will be issued their permit. And that is the same as mines across this country who post bonds and letters of credit as the primary means of meeting their financial obligations. That's the same high standard the State of Minnesota will require.

152 Nancy Norr, N-a-n-c-y N-o-r-r. Our members, along with the vast majority of the people, understand our society, that we fundamentally rely on our natural resources and fully support your rigorous review to be conducted over these dozen years. We support a process based on sound science that strives to minimize and mitigate risks and at some point comes to a close. We fully recognize that if you say no to mining here, we are saying yes to mining somewhere else in the world where it's unlikely their environmental protection or labor safety laws are as rigorous as ours here in Minnesota. So the agencies have done their jobs, the process works. Now it's time to let Minnesotans get to work. And we respectfully request permits to be issued in a timely manner and that the agencies now can turn your attention to long-term compliance activities that will on daily basis protect human health and the environment. Thank you.
Good evening. Tony Jeffries, J-e-f-f-r-i-e-s. And I apologize to all for having no prepared remarks. I'm here not only as the director of the board of the Engineers Club of Northern Minnesota and as the director of the Iron Range Tourism Bureau, I'm here as myself. And only for myself. And I would like to speak mostly in support of the agencies and your great work and the long time it has taken to get where you're at. The brunt of my professional life has been spent in environmental science and environmental engineering and I've been blessed with the opportunity to work not only in Minnesota, but across this country in many pretty controversial and contentious projects, from the mining where extraction of landfill of gas to be converted into usable energy to the combustion of solid waste, and a project in downtown Minneapolis which now is being celebrated in about its 28 years of operation, the Hennepin Energy Resource Center, which took almost 10 years to permit for Hennepin County to combust their solid waste and convert that into steam and usable electricity. So as a guy who woke up every morning and put his shirt and tie on and ran into that brick wall waiting for the permits to come through, lots of things happened, including the world's first commercial mercury permit limit. It was kind of like Field Dreams, build it and they will come. There was not even any technology available at that date that the PCA put that permit limit on there.

Guess what? We got the technology. We made it. We made it happen. And we made it happen successfully.

I'm not convinced that there has been any argument to date that suggests that this project will be environmentally degrading to human health or the environment. I am fully convinced back from my days of doing graduate research for the DNR and looking at chelating leachable and toxic heavy metals out of the Goat Ridge Lee (sp.) case to my work with the PCA on several rulemaking task forces, this project has not to me demonstrably ever been proven to come anywhere close to degrading human health and the environment. I believe the agencies have done their jobs and done it well, have done it multiple times over. I'm not going to speak to the -- I grew up in Ely, I grew up in Eveleth, I live in Eveleth now again. I'm not going to speak to the socioeconomic aspects as so many of these other folks have so successfully spoke to. I'm going to speak completely technologically and scientifically. There is nothing that I see that suggests that this project is going to be degrading to human health or the environment and I urge that consideration to pass on this permits by the agencies. And I thank you all for your work.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I'm not much of a public speaker. My name is James Watson, W-a-t-s-o-n. No relation to Sherlock and his buddies. I have lived up here on the Iron Range now for about just under 50 years. Two of my kids would have been in that blue shirt group 10 years ago. Now my grandkids are going to be in that. That's where they're at. They are in school right now. Well, I have a little bit of a unique situation here. I had an opportunity to work at PolyMet for three summers in a row cleaning up and reorganizing things that the mine had left. Rewarehouseing, picking up parts, new parts, used parts, and what I picked up along the way just from the conversation among the workforce that was out there at the time, that these PolyMet people really have got their stuff together. It was clean, do it right, do it the way it really needs to be done, prepare for when PolyMet finally gets over there and gets the ball rolling, they can jump right in and just go for it. Well, I think PolyMet has really got the environment at heart. Well, making money, too.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Now, in the 50 years that I have been here, I also played in a country band and it used to be in the heyday when the LTV and the Erie Mining Company were running you couldn't find a parking place on Main Street or the side street on a Friday or a Saturday night. Now, you shoot a bazooka down the street and not hit a person or a car or nothing. It's becoming just almost abandoned. You take a look at the streets now compared to what they were 15 years ago, it's becoming a ghost town. We lost our grocery store, the drugstore, about six or seven or eight bars, hardware stores, zilch.

Now, I would like to see some opportunities for the younger people. Most of our young families have left the area. Why? Their means of support is gone. PolyMet I think is their salvation.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Now, I appreciate the fact that you folks have done such an extensive, tight-knit job of this. But I do have one complaint. You are taking way, way too long. I mean, I've been waiting 13 years for this opportunity. And I'm 76 years old now. It's too late for me. But what about my kids and my grandkids? Two of my grandkids, three of my grandkids are going to graduate from this school. Sitting up there with them blue shirts on. Which is kind of nice I think. And as far as the opposition to this PolyMet project, I think these folks just don't have their stuff together. I'm doing pretty good I thought. I was afraid to get up here and talk and I was going to give my time to somebody because I couldn't keep my language clean. But I think I'm doing pretty good. When my name came up, I changed my mind and to just go for it. But PolyMet in my opinion is good to go. It's time. Let's go for it. Go PolyMet. Thank you.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Hi. My name is Joni Stutzman. My name is spelled J-o-n-i, last name Stutzman, S-t-u-t-z-m-a-n. I live in Gilbert. I would like to defer my time tonight to Lance Kupka.

This comment simply defers speaking time to another individual. No response needed.
My name is Lance Kupka, L-a-n-c-e, K-u-p-k-a. I'm from Hibbing, Minnesota. I am the son of a steelworker, a grandson of a steelworker and a brother-in-law of a steelworker. I am also a proud member of the Mesabi East Teachers Union. I am here to speak strongly in support of the PolyMet project. I adamantly believe that mining and caring for the environment are not two mutually exclusive ideas. We can have well-paying mining jobs and make sure that our air is clean and our water is safe to drink. Diversifying our economy is incredibly important, but will only work if we take advantage of the foundational resources such as mining that we already have in abundance.

I am a third generation Iron Ranger who wants his son and daughter to live on the land where they were born. I do not want them to make the tough choice to have to leave this area in search of employment.

PolyMet has gone above and beyond the requirements to make sure that this project is safe. The science is sound and proven. Much like our existing mayor Dave Lislegard, I would not support this project if it was not done in an environmentally responsible manner. We have the technology to build this operation right. Let's move this project ahead and do this the right way.

PolyMet has the wherewithal to do it by following the existing law and statutes, that copper-nickel mining can be done right before in the United States, that's just simply not true. We have a living example of it with the Eagle Mine in the Iron Range. I was born on the Iron Range and will probably die on the Iron Range. I will give my very last breath to make sure that this area sustains and thrives in the future. I look forward to the day when we can proudly look back at this project and say that we did things the right way, we provided good jobs for people in the area, and we ensured the sustainability of the Iron Range. Please move forward with this permitting process. We have have waited far, far too long for this to happen. Thank you.

I am a third generation Iron Ranger who wants his son and daughter to live on the land where they were born. I do not want them to make the tough choice to have to leave this area in search of employment.

This comment simply defers speaking time to another individual. No response needed.

The world is changing how it looks at this kind of mining. They are looking at the United States and us in particular to lead that change. And that's exactly what PolyMet is doing right here in northern Minnesota. And for those that say this has never been done right before in the United States, that's just simply not true. We have a living example of it with the Eagle Mine in northern Michigan and the Flambeau Mine in Wisconsin has done very well. And to this day that mine site is a park that is used by the community there in Ladysmith. I wanted to point that out.

So we can create a world-class mine with top of the line controls and unequal environmental safety right here in the middle of the forests and lakes of northeastern Minnesota.

I am going to ask the anti mining crowd, once again, where will you get your copper-nickel from? What third world nation would you prefer to see that mining being placed in? If you've seen some of the mining sites in some of these third world nations, would you prefer that? Our sustainability friends want these modern communities to (inaudible) at someone else's expenses. I encourage the MPCA and the DNR permit the following into statute and law. Thank you.

I am a third generation Iron Ranger who wants his son and daughter to live on the land where they were born. I do not want them to make the tough choice to have to leave this area in search of employment.

This comment simply defers speaking time to another individual. No response needed.

I am a third generation Iron Ranger who wants his son and daughter to live on the land where they were born. I do not want them to make the tough choice to have to leave this area in search of employment.

This comment simply defers speaking time to another individual. No response needed.

If there is any kind of takeaway from all of this, it's been that whether the anti mining crowd likes it, if a company like PolyMet has the wherewithal to do it by following the existing law and statutes, that copper-nickel mining can be permitted regardless of the vociferous opposition. At what point will the opposition see the futility in furthering this fight? At what point will the opposition recognize the opportunity to create something positive not just for northeast Minnesota but for the world? And I think Ross Peterson was right, they are afraid that PolyMet is actually going to do this correctly. And we all know they are.

The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subj. 2). No changes were made to the draft permit in response to these comments.

Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subj. 2). No changes were made to the draft permit in response to these comments.

Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subj. 2). No changes were made to the draft permit in response to these comments.

Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subj. 2). No changes were made to the draft permit in response to these comments.

Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subj. 2). No changes were made to the draft permit in response to these comments.

Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subj. 2). No changes were made to the draft permit in response to these comments.

Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subj. 2). No changes were made to the draft permit in response to these comments.
My name is Diane Kromer, K-r-o-m-e-r. I am a resident of Ely, Minnesota and I thought it very important for me to spend my birthday today here in support of PolyMet. I just want you to listen to the engineers and the chemists who have spent 14 years working on this project and listen to the experts in the field. And I would like to defer the rest of my time to Nancy McReady.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Hi. Nancy McReady, N-a-n-c-y M-c-R-e-a-d-y. I'm president of Conservationists With Commonsense. I've followed and reported on PolyMet and the NorthMet project with the CWSC and the Ely Echo since 2004. I have attended community readiness meetings, open houses, presentations and hearings and have learned about PolyMet's process, their environmental safeguards and their financial reassurance that would be updated annually. In those early days of information on PolyMet, few, if any, anti-copper-nickel mining activists attended the meetings. Only in the last two years have they been speaking against all aspects of the permitting process and copper-nickel mining. The main arguments against copper-nickel mining or sulfide mining, as they call it, are that it might, may or could pollute area lakes, rivers and streams. They say they want it proven that it can be done safely. But when we cite Flambeau in Wisconsin, Stillwater in Montana or Eagle Mine in Michigan, they aren't satisfied. PolyMet's ore body has a low sulfur content of less than 3 percent compared to the Flambeau which was at 30 percent. They do not acknowledge the new mining technology that's been used in other parts of the United States and in Canada. The opposition will bring up Mount Polley in British Columbia and the horrible breach of its tailing ponds in 2014. They don't say how many times the mining company applied for water discharge permits beginning 10 years earlier that the ministry didn't address. This is what lead to the breach of the tailing pond's wall. The walls that were far steeper than what PolyMet proposes for their double-wall tailing pond. They also bring up Gold King in Colorado in 2015. The EPA deliberately released toxic water into the Animas River from a mine that's been idle since 1950. It was cheaper to release the water than to build a wastewater treatment facility, and there were no reports of any fish loss. And within weeks the Animas River was open to tourists, rafters on the rivers, fishermen on the lakes, on the rivers and on the streams that were affected. An independent study of water quality in the Animas River after the spillage shows major human health concerns were short-lived. The lawsuit against Reserve Mining Company over taconite tailings dumped into Lake Superior were deemed asbestos-like fibers. Today we have Black Beach near Silver Bay where millions of tons of tailings washed ashore. This beach is now hailed as the most beautiful beach on Lake Superior. Accidents happen, there are no guarantees against that, but they are addressed and and mitigated.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

CWCS believes the State has been very thorough in its permitting process. We trust the science and the findings of the State agencies’ experts which show the PolyMet NorthMet project will protect human health and the environment.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

My name is Aaron Stolp, S-t-o-l-p, from Duluth. I am born and raised on the Iron Range. And I believe in hearing both sides to any story, but after 13 years of hearing opposition to this, while PolyMet has followed the letter of the law in their permitting process, I encourage the State agencies to take a closer look at some of the arguments against this project to help realize it's time to continue forward with this permitting process.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Opposition point number one: We often hear that there is too much copper already available in the world and we have more than enough copper for all of our needs. To that argument, I say false. I'd like to know the source that can show us that we have enough copper for the development that we need for the next 20 years, 30 years and beyond. And even if this were the case, to that I would say, so what. I could make the same argument that there is already too much craft beer available for us in Duluth. But if a new brewery wants to open up and if they go through the proper permitting process, they have the right to do that.

Opposition point number two is the misleading verbiage that we often hear about this process. Precious metal mining is often referred to as sulfide mining by opponents. I would like to ask if they are aware that all metal and ore mining involves exposing sulfide rock. And this deposit we are focusing on here has no higher sulfide content than any other successful, non-polluting mine site in the country.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. This comment simply defers speaking time to another individual. No response needed.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Jerry Fryberger  
Citizen

My name is Jerry Fryberger and I’m from Duluth. And I was born and raised in Duluth. I went to school in Duluth. And unlike Tom Rukavina, my friend, I’m not an Iron Ranger, but I’m (inaudible) and I’m passionate about the Iron Range people. I’m passionate about the communities across the Range. PolyMet, a project that Minnesotans should be very, very proud of, particularly the co-lead agencies that have painstakingly studied this thing, and they have done a superlative job. The Corps of Engineers, the Department of Natural Resources, the State of Minnesota, the U.S. Forest Service and MPCA and the EPA, you have done a wonderful job. I know they are all not represented here, but I’m very, very proud of – I was paddling in the Boundary Waters Canoe Area in 1946 long before many of you were born. So I understand the environment.

Over the past 11 years of responsibly addressing the environment and the processing challenges and the expenditure of in excess of $300,000,000, we have watched this project’s gradual development. And continuing in the rich heritage of Minnesota’s mining industry, a major contributor of America’s industrial growth and national security, Minnesota should be extremely proud of this project.

"...” A milestone has been reached here in the tremendous efforts of PolyMet and the co-lead agencies in this project. The progress PolyMet has made in the last 11 years is a wonderful, wonderful milestone as they develop Minnesota’s first copper-nickel non-ferrous mining project. A milestone, an important milestone, which is our mining industry is no longer being judged how mining was done more than a century ago back in the 1870s or even decades ago. But rather by state-of-the-art present mining technology and enlightened environmental standards based upon the science of our 21st century. You have done a superlative job, folks. We are very proud of you. I’m proud to be a Minnesotan and I really support it. Thank you much.

John Rebrovich  
Citizen

My name is John Rebrovich. I am a third generation miner on the Range and our family has been mining for over 80 years up here. I’m also assistant to the director of United Steelworkers District 11. Our district covers nine states in which we represent miners in just about every one of them. One of the states that were mentioned was Montana. And, actually, I heard the Stillwater Mining Company mentioned. And I use that as an example because they, too, when they opened up, they had the East Boulder Mine on one side of the mountain and the Nye on the other. Very sensitive rivers run right next to it. The Yellowstone River. You can throw a rock from the parking lot right into the river. So you can imagine when that mine opened up we heard a lot about the same things that are going on here. They went through a stringent, rigorous environmental impact statement that’s done here and they met the standards. But the fight was still going on. They started to mine. They showed that there was no pollution that was coming. And the regulators were right. They did it right. Now, what the mine did was talk to the environmentalists and said, look, come on in here and look what we are doing. Don’t just raise heck or make false statements and file lawsuits and on and on and on. We meet the vigorous environmental standards that are here. Come and look at what we are doing. And they formed what they called after many, a couple of years of talks the Good Neighbor Agreement. This Good Neighbor Agreement is transparent with everybody. And the environmentalists, the union and the company worked together to show that this can be done safely. Thank you. I hope you support PolyMet.

Chad Sarh  
Citizen

My name is Chad Sarh. This here is my son Cody. We are here to support PolyMet. We are going to defer our time to Jodi Piérkarski because it’s getting late and I’ve got to get him home to bed.

Jodi Piérkarski  
Citizen

Hello. My name is Jodi Piérkarski, J-o-d-i P-i-e-k-a-r-s-k-i. I’m from Grand Rapids, Minnesota. It was important for me to come here today. I have spent ever since high school graduation working in either the paper or polymer industry. During those over 20 years I have observed with the proper permitting and environmental oversight that industry and environmental regulations can coexist together to create positive impact for a community.

Minnesota has some of the strictest environmental standards of any state. If mining is going to occur, we want it to be done in a state and country that cares about the environmental impact. I urge the MPCA and the DNR to grant these permits in a timely manner because the permitting conditions, which were created through a comprehensive environmental review process, follow the monitoring, operating, reporting and inspection requirements for the mine during all phases of construction, operation and closure. Together the permits provide the framework for mining and environmental protection to coexist together. Thank you.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
183 Steve Giogi Executive Director, Range Association of Municipalities and Schools

Good evening. Steve Giogi, G-i-o-g-i. I'm from Mountain Iron. I'm the executive director for the Range Association of Municipalities and Schools. This is not my first rodeo at one of these hearings conducted by Commissioner Stine or Commissioner Landwehr. And, unfortunately, in the past, we have not always been in agreement. But tonight RAMS and the 72,000 residents who are members of our association stand here in support of all of the work that you have done on this project.

The reason we are here tonight is because those two commissioners and their departments have done the environmental research and checked all of the standards. They have worked with PolyMet rigorously, we believe a little bit too long, but we have come to the right conclusion. That it's time to issue these permits. They have met the standards. They have met the tests. And these are the right things to do at this time. And I'm going to have some more remarks tomorrow down in Duluth. Hopefully, I will get a chance. We have got resolutions coming in from a lot of Range communities, from some groups, from our board. We have already passed a resolution of support for these permits and we will submit them for the record.

But tonight I'm going to ask this crowd, mostly supporters here, to give these people a hand. Because they have done the work. We thank you for your dedication and hard work and making us get to this point and we hope this is the last delay and the permits do get issued. And it almost worked out perfectly, because you started the hearing with the mayor of Aurora, a good friend of mine, Dave Lislegard, and I was hoping we could wrap it up with a round of applause. But you are probably going to draw a couple of more names. But thank you. Thank you for your hard work on this.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

184 Robert Peterson Citizen

Hi. My name is Robert Peterson. The last name is spelled P-e-t-e-r-s-o-n. I'm a senior here at Mesabi East High School. I sometimes question why my dad has only moved a mile in his whole life. I mean, it's kind of weird, he's 46 and he's only moved a mile his whole life. But then I think about today and the opportunities he has here on the Iron Range. I mean, growing up and graduating from Mesabi East High School is what I'm going to be doing here in June. Which my dad also did. He works at a mine now and we have a great life here on the Iron Range. When I think about my future, unfortunately, I don't see it on the Iron Range. As I've grown up in my life, I've seen businesses close and doors close. It's not something I want to put a family towards when I know that the economics are unstable. My dad works in the mines. Which is a great job when they are open and running. But you never know when a layoff is going to happen. For example, the Mesabi Nugget is now not running when it was up and running not less than two years ago. What I would really like to see is to see PolyMet go through so I can come back here after college and the Air Force and raise my family and live here happily. So I urge you guys to pass these permits. Thank you for your time.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

185 William Whiteside Citizen

My name is William Whiteside, W-h-i-t-e-s-i-d-e. Thank you all for being here. I'm really impressed to see this crowd at one of these hearings conducted by Commissioner Stine or Commissioner Landwehr. And, unfortunately, in the past, we have not always been in agreement. But tonight RAMS and the 72,000 residents who are members of our association stand here in support of all of the work that you have done on this project.

The reason we are here tonight is because those two commissioners and their departments have done the environmental research and checked all of the standards. They have worked with PolyMet rigorously, we believe a little bit too long, but we have come to the right conclusion. That it's time to issue these permits. They have met the standards. They have met the tests. And these are the right things to do at this time. And I'm going to have some more remarks tomorrow down in Duluth. Hopefully, I will get a chance. We have got resolutions coming in from a lot of Range communities, from some groups, from our board. We have already passed a resolution of support for these permits and we will submit them for the record.

But tonight I'm going to ask this crowd, mostly supporters here, to give these people a hand. Because they have done the work. We thank you for your dedication and hard work and making us get to this point and we hope this is the last delay and the permits do get issued. And it almost worked out perfectly, because you started the hearing with the mayor of Aurora, a good friend of mine, Dave Lislegard, and I was hoping we could wrap it up with a round of applause. But you are probably going to draw a couple of more names. But thank you. Thank you for your hard work on this.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

186 Nick Rowse Citizen

My name is Nick Rowse and I live at 10704 Prescott Court, Burnsville, Minnesota. I am here to advocate and bear witness for the continued, strict protection of the Boundary Waters Canoe Area Wilderness, specifically from the NorthMet Mining project as proposed by PolyMet Mining and in their nationally owned mining company.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

187 Nick Rowse Citizen

For 33 years, I have lived and worked in Minnesota and specifically have experienced the joy and recreation provided by the Boundary Waters Canoe Area Wilderness. Whereas, copper and nickel mining will expose subsurface rock to air and water erosion resulting in acid mine runoff...

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Nick Rowse Citizen  
... whereas, air pollution will degrade air quality for recreation within the Boundary Waters Canoe Area Wilderness; whereas, significant noise will result from blasting and degrading quiet recreation within the Boundary Waters Canoe Area Wilderness; whereas, air quality is a high priority on federal land, specifically on nationally recognized wilderness areas such as the Boundary Waters Canoe Area Wilderness; whereas, the State of Minnesota must protect wilderness values provided by the Boundary Waters Canoe Area Wilderness for current and future generations of Minnesotans; whereas, large-scale mining on more than 4000 acres of currently forested land will result in releasing air pollution over the Boundary Waters Canoe Area Wilderness,.....

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Nick Rowse Citizen  
...and, whereas, the Fond Du Lac Tribe of Lake Superior Chippewa, the Grand Portage Band of Lake Superior Chippewa and the Bois Forte Band of Chippewa will suffer the loss of wild rice leading to the degradation of their livelihoods in waters downstream at the proposed project due to changes in water quality.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Tom Peterson Citizen  
Good evening. My name is Todd Dobesh from Minneapolis, Minnesota. The City of Lakes. It has come to my attention

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Tom Peterson Citizen  
My name is Tom Peterson. I'm disappointed the way the governor has been handling this process on money to northern Minnesota. We gave $500 million to the Vikings stadium, and I think he should be giving $500 million to the Iron Range. They think there is 350 jobs are going to be over the long run here. And if you figure 350 jobs dividing that into the $500 million for the stadium is $17,200,000 a year, and that's enough for 28 years of well-paying jobs for the Iron Range. So they can start an Olympic training facility, they can build facilities for the solar panels, they could do a number of environmental projects.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Todd Dobesh  
Citizen  
But I believe PolyMet, which is a shell organization, is a crock of shit because they refuse to list the Swiss venture capitalists who would benefit in this top-heavy, winner-take-all profiteering scandal. And I would cite that they should man up and identify themselves to the American public and the other principalities of this argument so that we can see them for what they are, which is self-serving oligarchs. Yours truly, Todd Dobesh.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Michael Link  
Citizen  
I live in Willow River, Minnesota. I live in a state forest. I’m surrounded by areas in which we manage and use our resources, and I support that. I’m also a professor of environmental studies for Hamline University in St. Paul. I was formerly the director of the Audubon Center in Sandstone, Minnesota. I have guided in the Boundary Waters. I have explored this entire land. And in 2010 with my wife walked around Lake Superior. When we walked around Lake Superior it was a culmination of a career of over 40 years in environmental studies and environmental concerns. We did it because we cared about freshwater, we cared about this vulnerable landscape that we are in with a geology that is not very forgiving when we put pollution in our waters or do things to alter the landscape. We did it to raise consciousness amongst people in three states, two countries about Lake Superior and about that great land we call the border lakes.

We have now reached a point where it’s essential for us to speak up and say no to PolyMet, no to this mining that will create a sulfate disaster in our great state and the watershed of lake Superior.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Michael Link  
Citizen  
We have had the opportunity to wander in this land with a lot of different people, including a number of graduate students and teachers who we have helped to explore and see the sensibility and the fragility of the landscape. When they talk about PolyMet and the potential for being safe, we know it’s a lie. It’s a lie because we have something going on in numerous states around this great America and in numerous provinces in Canada and in places in South America and other countries where they face the same issue and no one has ever resolved the problem with the sulfide. Even now, we are told to feel good because there will be a bond put up to protect and maintain the waters that we’ll potentially pollute for over 500 years.

We explored this entire land. And in 2010 with my wife walked around Lake Superior. When we walked around Lake Superior it was a culmination of a career of over 40 years in environmental studies and environmental concerns. We did it because we cared about freshwater, we cared about this vulnerable landscape that we are in with a geology that is not very forgiving when we put pollution in our waters or do things to alter the landscape. We did it to raise consciousness amongst people in three states, two countries about Lake Superior and about that great land we call the border lakes.

We have now reached a point where it’s essential for us to speak up and say no to PolyMet, no to this mining that will create a sulfate disaster in our great state and the watershed of lake Superior.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Michael Link  
Citizen  
It’s easy for the PolyMet and even the DNR scientists to lie because none of them will be alive during the status of this threat to our conditions, to our water and to our future life. This isn’t just an issue of jobs in the old Iron Range. It is a world issue. And, yes, we use copper and we use other minerals in the things that we are sold and have become part of or daily lives. But that’s not a justification for destroying the future for stealing from our grandchildren, for making other generations have to face the problems that are created by our generation.

During that same year, I was with Bud Hinselman in Washington, D.C. as we worked to protect that land through the wilderness bill. Sigurd. Olson said to me that we cannot afford to lose any of these battles. Because the Boundary Waters is always going to be a target for somebody to develop. But once we lose, there is no going back. We can’t put back what is destroyed. And so my stand today and for the rest of my life will be do not destroy our land, take care of our resources, do not sell out the beauty and the importance of our natural landscape for quick profits and promises that can’t be fulfilled.

Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Hello. I'm Maureen Skelly. I'm a native Minnesotan. I'm a grandmother and an educator. I worked on Isle Royal, which is an international biosphere preserve and lived in Grand Marais. I presented at the International Water Conference at Eisenhower Hopkins High School and organized for the Women and Water Rights conference at the University of Minnesota.

Five hundred years, 500 years is 2050. No, 2520 is 500 years from now. That is if we would say that a generation is 100 years, that would mean that the people that are going to inherit the water monitoring from this project is our grandchildren, our great grandchildren, our great, great grandchildren, our great, great, great grandchildren and our great, great, great, great grandchildren. We are leaving a potentially horrible toxic mess for all these people yet to come in the future for a 20-year mine for 360 jobs. Perhaps 900 jobs. History will probably look back on us as short-sighted, greedy, incapable of self-sacrifice and disrespectful of future generations.

I am requesting that PolyMet receive no permits until they explore as a compromise the dry stacking process. I teach my grandchildren in workshops in their elementary schools that as native Minnesota's in the land of 11,000 lakes and source of the largest river in North America bordering the largest freshwater lake in the world that it is their duty and responsibility to protect the water in this area. We all want the miners to have good jobs. With all the money that has come into the state with the Super Bowl, can't we put our heads together and provide some jobs training programs or come up with some new projects so the people that live up there will have good jobs.

It's not impossible.

Speaking as a lifelong Minnesotan, as a mother and grandmother and someone who spent 4 1/2 months walking the entire shoreline of Lake Superior, the greatest reservoir of freshwater in the world, my problem with this mine proposal is that I consider it morally wrong to propose implementing a type of mine that has historically been proven to cause or create toxic wastewater that lasts for hundreds of years. There has not yet been an example of a copper-sulfide mine that has not leaked or leached its toxins into surrounding waterbodies or streams. It's not impossible.

We know what we are doing when they cannot point to one example that has been without failure. If the mines don't leak, they leave behind poisonous holding ponds that must be, quote, "managed," unquote, for 500 years or more. And this is confirmed by the mining companies themselves. This is insane. Our country has only been in existence for two and a half centuries and we are supposed to believe that this company will fund and provide supervision of said poisonous waters for hundreds of years.

We are told to believe a foreign mining company that says, quote, "trust us," end quote. We know what we are doing when they cannot point to one example that has been without failure. If the mines don't leak, they leave behind poisonous holding ponds that must be, quote, "managed," unquote, for 500 years or more. And this is confirmed by the mining companies themselves. This is insane. Our country has only been in existence for two and a half centuries and we are supposed to believe that this company will fund and provide supervision of said poisonous waters for hundreds of years.

In Butte, Montana there is one such pond and every year countless waterfowl die when they land in it. What do the people promoting this mine think about the future when our state bird, our beloved loons, mistake the PolyMet holding ponds for lakes? These are birds that already face environmental challenges. The last thing they need is this kind of threat.

Hello. I'm Maureen Skelly. I'm a native Minnesotan. I'm a grandmother and an educator. I worked on Isle Royal, which is an international biosphere preserve and lived in Grand Marais. I presented at the International Water Conference at Eisenhower Hopkins High School and organized for the Women and Water Rights conference at the University of Minnesota.

Five hundred years, 500 years is 2050. No, 2520 is 500 years from now. That is if we would say that a generation is 100 years, that would mean that the people that are going to inherit the water monitoring from this project is our grandchildren, our great grandchildren, our great, great grandchildren, our great, great, great grandchildren and our great, great, great, great grandchildren. We are leaving a potentially horrible toxic mess for all these people yet to come in the future for a 20-year mine for 360 jobs. Perhaps 900 jobs. History will probably look back on us as short-sighted, greedy, incapable of self-sacrifice and disrespectful of future generations.

I am requesting that PolyMet receive no permits until they explore as a compromise the dry stacking process. I teach my grandchildren in workshops in their elementary schools that as native Minnesota's in the land of 11,000 lakes and source of the largest river in North America bordering the largest freshwater lake in the world that it is their duty and responsibility to protect the water in this area. We all want the miners to have good jobs. With all the money that has come into the state with the Super Bowl, can't we put our heads together and provide some jobs training programs or come up with some new projects so the people that live up there will have good jobs.

It's not impossible.

Speaking as a lifelong Minnesotan, as a mother and grandmother and someone who spent 4 1/2 months walking the entire shoreline of Lake Superior, the greatest reservoir of freshwater in the world, my problem with this mine proposal is that I consider it morally wrong to propose implementing a type of mine that has historically been proven to cause or create toxic wastewater that lasts for hundreds of years. There has not yet been an example of a copper-sulfide mine that has not leaked or leached its toxins into surrounding waterbodies or streams. It's not impossible.

We know what we are doing when they cannot point to one example that has been without failure. If the mines don't leak, they leave behind poisonous holding ponds that must be, quote, "managed," unquote, for 500 years or more. And this is confirmed by the mining companies themselves. This is insane. Our country has only been in existence for two and a half centuries and we are supposed to believe that this company will fund and provide supervision of said poisonous waters for hundreds of years.

We are told to believe a foreign mining company that says, quote, "trust us," end quote. We know what we are doing when they cannot point to one example that has been without failure. If the mines don't leak, they leave behind poisonous holding ponds that must be, quote, "managed," unquote, for 500 years or more. And this is confirmed by the mining companies themselves. This is insane. Our country has only been in existence for two and a half centuries and we are supposed to believe that this company will fund and provide supervision of said poisonous waters for hundreds of years.

In Butte, Montana there is one such pond and every year countless waterfowl die when they land in it. What do the people promoting this mine think about the future when our state bird, our beloved loons, mistake the PolyMet holding ponds for lakes? These are birds that already face environmental challenges. The last thing they need is this kind of threat.
We have been told this mine will have a lifespan of 20 years. And then what? What do the people in the Iron Range do next? This is classic bust and boom mentality. With all the intelligent, hardworking people in Minnesota, I just can't believe we can't find a better, longer-lasting solution to their difficult economic problems.

We have been told this mine will have a lifespan of 20 years. And then what? What do the people in the Iron Range do next? This is classic bust and boom mentality. With all the intelligent, hardworking people in Minnesota, I just can't believe we can't find a better, longer-lasting solution to their difficult economic problems.

As a mother and grandmother, I care desperately about the future health of our water resources. I have three grandchildren living in Duluth and we love Lake Superior. And the PolyMet mine is in the Lake Superior watershed as well as the watershed of the incomparable Boundary Waters. I beg the DNR to consider its responsibility for protecting our precious waters far into the future and deny this mining permit.

I am from Minneapolis. I live in Stillwater. I am an enrolled tribal member of the Ho-Chunk Nation and I came here with my mother who this is an important subject for her, so I tagged along. She's a second-time cancer survivor and the environment is very important for her, so it's important to me. The only thing I really wanted to say was if the company does any mining in Minnesota, they should be under their legal name not under a subsidiary or umbrella company. I think it's PolyMet Minnesota and I think they should have the name of the company for everything. All legal documents should have the main company name on it. All legal documents. And I believe that company is out of Switzerland. I'm not sure. That's all I really wanted to say.

My name is Anja Curiskis and I am here to urge the DNR to deny the permit to mine for PolyMet and urge the MPCA to deny all PolyMet pollution permits and certifications. Water is life. We do not want to risk our precious resource. I believe there is room in Minnesota for better industries. Industries that do not threaten our safety or well-being. I would ask only why risk our most precious resource for the profit of the few. Thank you.

I am from Duluth. My paternal great-grandfather immigrated from Sweden to mine and dig in Tower, Minnesota. My family had to move away because mining is not a sustainable activity. And I since went on to become an editor at Outside Magazine, a nationally renowned publication.

This is Maureen Allen. I am from Minneapolis. I live in Stillwater. I am an enrolled tribal member of the Ho-Chunk Nation and I came here with my mother who this is an important subject for her, so I tagged along. She's a second-time cancer survivor and the environment is very important for her, so it's important to me. The only thing I really wanted to say was if the company does any mining in Minnesota, they should be under their legal name not under a subsidiary or umbrella company. I think it's PolyMet Minnesota and I think they should have the name of the company for everything. All legal documents should have the main company name on it. All legal documents. And I believe that company is out of Switzerland. I'm not sure. That's all I really wanted to say.

So my name is Stephanie Pearson. I grew up in Duluth. My paternal great-grandfather immigrated from Sweden to mine and dig in Tower, Minnesota. My family had to move away because mining is not a sustainable activity. And I since went on to become an editor at Outside Magazine, a nationally renowned publication.

Two years ago, Outside assigned me a story about Lake Superior because they realized that it's one of the most pristine bodies of water left on the planet and the potential for recreating and the wilderness potential is unparalleled. And as one of the people I interviewed for the story told me, that this is some of the best and most strategic water on the planet. John Downing, the director of the Minnesota Sea Grant, told me that wars have been fought for thousands of years over water like this. So I would ask why are we voluntarily putting this resource at risk? And that's all.

Hello. My name is Tom Thompson, and I am on the executive board for the Northstar chapter of the Sierra Club. I live halfway between where we are today and where PolyMet is proposing to be built. Some argue that we need more copper for our gizmos: Our cell phones, our wind generators, our electric lines, our TVs, our Game Boys, our hybrid cars that need copper. So is there a shortage of copper? I looked at the copper markets yesterday, and they didn't look like there was a shortage. If anything, the copper market was down, not up. Furthermore, copper dispersed -- production is dispersed throughout the world, not just here. I don't think there's a need to fear that there won't be enough copper for our gizmos. Why not increase recycling efforts? And it should be noted that there is progress towards wireless electric transmission. Apple has pledged not to use mined materials in their products, and Subaru brags about all their parts being recycled. And it should be noted that there is progress towards wireless electric transmission. Apple has pledged not to use mined materials in their products, and Subaru brags about all their parts being recycled. And it should be noted that there is progress towards wireless electric transmission. Apple has pledged not to use mined materials in their products, and Subaru brags about all their parts being recycled. And it should be noted that there is progress towards wireless electric transmission. Apple has pledged not to use mined materials in their products, and Subaru brags about all their parts being recycled. Another argument says that this country has more strict protections than most other countries, so do it here. To me, this is a comment on the sad state of affairs for the world, since I believe that ours are far from what they should be. However, if this is true, I would like to see the list of foreign mines operating with inferior protections that will be closed should PolyMet be built. What? There isn't one? No other mines will close?
Tom Thompson, Executive Board, Northstar Chapter of Sierra Club

That means that however good PolyMet might be or not be, it will add to the total amount of pollution from copper-nickel mining in the world, not lower it. Regardless, PolyMet will add to the pollution going into the waters of northeast Minnesota, Lake Superior, and the Boundary Waters. In the scheme of things, PolyMet is not needed. There is no apparent shortage of copper in the world. So if a copper-nickel mine really isn't needed that much, what do Minnesotans and Americans get out of it? A permission slip will be given to a foreign corporation to dig giant holes, pile rocks into huge mountains, destroy thousands of acres of habitat, forests, wetlands, and recreational areas, creating giant lakes full of toxins and heavy metals, and to allow sulfides into our rivers and streams, threatening wild rice and increasing the methylation of mercury, infecting fish eaten by many, including children. Thus, much of the water we consider the – much of the area that we consider the bedrock of Minnesota where people live and thrive will, in effect, become a mining – a sulfide-mining industrial zone. No permits. Thank you.

The status of the global copper market is, legally, not a consideration of the NPDES/SDS permitting process; any permit issued must comply with state and federal pollution control and permitting regulations. Treatment of PolyMet's discharge through the WWTPS using membrane treatment technology (e.g., reverse osmosis) and where enforceable operating limits for sulfates and various metals apply, will minimize effects on downstream water quality. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control wastewater and runoff from the facility. The effectiveness of these controls were evaluated in the EIS and the water quality permit requires their installation/operation. It should be noted that the project is located in the St. Louis watershed and will not affect BWCA's watershed.

Brad Boos, Citizen

My name is Brad Boos, from Moose Lake, Minnesota, and I support PolyMet. And I want to defer my time to Commissioner Keith Nelson.

Commissioner, St. Louis County Board

Good afternoon. I am Commissioner Keith Nelson, currently serve as the chair of the St. Louis County Board. Commissioner Landwehr, imagine the day that I would come in front of you and thank you. I don't think you imagined that, some years back. With that said, I truly do want to thank you for the science, for the work that you've done on this project. It is -- the people of St. Louis County, that I have been so proud to serve for these last 14 years, truly appreciate the efforts that have been made.

Keith Nelson, Commissioner, St. Louis County Board

For my friends out there in labor, for my friends out there with blue hats on, I cannot thank you enough for the patience that you have had. I hope that this is the last time we have to meet on a project which has significant merit and which has proven itself both in science and in process. To my dear friends out there with the orange bandannas, I have to tell you: I like a good cowboy, I like a good cowboy, and you are my friends. I hope that as this process moves forward and this project moves forward, you will join me in the prosperity that this county is certainly going to see as a result. With that, and since this organization -- this -- or the rules of this event are that we can't clap after people are done, I'm going to cede the last minute of my time to my friends out there in labor who want to use their two hands to clap now and work later at PolyMet.

Mike Casey, Citizen

I'm Mike Casey, I'm going to cede my time to Ricky DeFoe.

This comment simply defers speaking time to another individual. No response needed.

Ricky DeFoe, Citizen

Thank you, Mike. My name is Ricky DeFoe, R-I-C-K-Y, D-E-F-O-E, from the city of Cloquet. If we take a look out at this lake out here, the Ojibwe call it "gichi Ojibwe gami," "the great sea of the Ojibwe." Now, we talk about fealty. Who do you owe your allegiance to? Do you owe it to death, which is when we pollute, we continue to do these things as proposed? Or do you owe your fealty to life? Now, we talk about who is in the -- the Commissionier's -- who are the photoctats? Who are the kleptocrats? Who are the bureaucrats? Who do they owe their fealty to? We often wonder. And then we say -- I was raised here in Duluth in the hillside. 35 years of my life. I know a little bit about a book, and in that book, it says the inequities of the father will be met on by -- in the third and fourth generation, the kids. So I wonder about those things. Do we need to shine on light on those whose fealty it is about death? So we realize we are here about life. Water. Mother Earth is crying about all the damage from pillaging in the rape of our Mother Earth. Life. We talk about a world view. Mainstream America's world view is dominion over all things, hierarchy of life, and an almighty, transcendent God, and we know that the ambiguity, the conflict, the tension that is coming now is a reflection of those things that are unresolved because of the dysfunctional cosmology, a dysfunctional world view.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Ricky DeFoe, Citizen

These folks, the State of Minnesota, owe their fealty to death. When we take a look at when we're destroying waters such as pristine Lake Superior -- who's known throughout the world -- our planet, our Mother Earth, we have to begin to think in terms of life, not destruction. So we sound out to you: Who do you owe your fealty to again? Arishmanabe have a world view where all things are interdependent on one another. Our world view is one that has the "Great Mystery," and then we come down to the star world, and then the moon, the sun, and finally to our Mother Earth. And on our Mother Earth, we have orders of things: We have orders of things: The rock nation, the plant nation, the animal nation, and last, man. We can't live without them; they can live without us.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

217  Brad Boos  Citizen  My name is Brad Boos, from Moose Lake, Minnesota, and I support PolyMet. And I want to defer my time to Commissioner Keith Nelson.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

218  Keith Nelson  Commissioner, St. Louis County Board  Good afternoon. I am Commissioner Keith Nelson, currently serve as the chair of the St. Louis County Board. Commissioner Landwehr, imagine the day that I would come in front of you and thank you. I don't think you imagined that, some years back. With that said, I truly do want to thank you for the science, for the work that you've done on this project. It is -- the people of St. Louis County, that I have been so proud to serve for these last 14 years, truly appreciate the efforts that have been made.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

219  Keith Nelson  Commissioner, St. Louis County Board  For my friends out there in labor, for my friends out there with blue hats on, I cannot thank you enough for the patience that you have had. I hope that this is the last time we have to meet on a project which has significant merit and which has proven itself both in science and in process. To my dear friends out there with the orange bandannas, I have to tell you: I like a good cowboy, I like a good cowboy, and you are my friends. I hope that as this process moves forward and this project moves forward, you will join me in the prosperity that this county is certainly going to see as a result. With that, and since this organization -- this -- or the rules of this event are that we can't clap after people are done, I'm going to cede the last minute of my time to my friends out there in labor who want to use their two hands to clap now and work later at PolyMet.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

220  Mike Casey  Citizen  I'm Mike Casey, I'm going to cede my time to Ricky DeFoe.

This comment simply defers speaking time to another individual. No response needed.
<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Group/Context</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>223</td>
<td>Jim Sanfferer</td>
<td>Citizen</td>
<td>My name is Jim Sanfferer. I was born and raised in Minnesota. I'm a veteran. I spend many days hunting and fishing in northern Minnesota. My family -- my son has a home on Lake Vermillion. I don't think anybody appreciates the land, the water, the trees, and nature anymore than I do. I spend a lot of time hunting and fishing, and I love it up here. However, we do have a need -- it was several years ago when we were at war with -- in Europe and in the Pacific, and it was the one that came out of our hills here that really, probably, saved this country, in making the planes and the tanks and the ships and everything that was needed for our military to be successful. Today, we're still at war. We have people in this world that would like to put away with our entire way of life. And with the rocket boy, now, and his little rocket with the atomic bomb on it, he can hit our nuclear -- oh, shake your head -- he can hit our nuclear -- our electrical grid, and he can put us all out in no time. We can't let that happen. War today -- or -- our military today uses a lot of new technology. We have unmanned aircraft, we have satellites, we have all kinds of computers. Just about every part of the military uses technology and computers to -- for their -- for their efforts. So it is our obligation to provide them with the materials that they need to be successful, and that's all these special, precious metals that we have here under our feet today. We do not want to buy from overseas because that's exactly what will happen. We have it here; let's use it. God bless the military men and women today, God bless the mining industry in northern Minnesota, and God bless the U.S.A. Thank you. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
</tr>
<tr>
<td>224</td>
<td>Tonia Kittelson</td>
<td>Friends of the Boundary Waters Wilderness</td>
<td>Hi, there. I'm Tonia Kittelson. I'm with the Friends of the Boundary Waters Wilderness. Thanks for letting us speak tonight. We strongly urge you to reject the Poly Met-NorthMet sulfide-ore mine proposal permits that are in front of you right now. You’re considering some pretty serious stuff, so I appreciate your critical review of it. You asked us to content -- asked us to comment on content that is new or unresolved at this state, and there are a few that I'm going to list right now. We do not want to buy from overseas because that's exactly what will happen. We have it here; let's use it. God bless the military men and women today, God bless the mining industry in northern Minnesota, and God bless the U.S.A. Thank you. Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.</td>
</tr>
<tr>
<td>225</td>
<td>Tonia Kittelson</td>
<td>Friends of the Boundary Waters Wilderness</td>
<td>One is that I ask you to require PolyMet to use the best available technology for storing mine waste, and that would be dry stacking. That's currently the industry's best standard for storing mine waste versus storing it in a liquid form, kind of a waste, the slurry that's stored behind an earthen-built dam. The earthen dams are actually old technology and are the main reason why so many sulfide-ore mines seriously polluted in the past. PolyMet has promised to use best industry standards, and dry stacking is recommended, so the permits you are currently considering allow PolyMet to use the old technology. Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.</td>
</tr>
<tr>
<td>226</td>
<td>Tonia Kittelson</td>
<td>Friends of the Boundary Waters Wilderness</td>
<td>Another is: Given that acid mine drainage from PolyMet mine dam that cracked -- collapsed in 2014, that pollution traveled 400 miles. And I mentioned this last night in Aurora, but it's worthy of repeating here: I'm asking that you determine how far that acid mine drainage pollution will travel into Lake Superior. From where the PolyMet mine sits, if you go 200 miles downstream, you get to our lift bridge, which is just outside of the DECC here, and another 200 miles past that goes out into Lake Superior, and that's 400 miles. So maybe PolyMet mine pollution goes not quite that far, but maybe it goes further. But as citizens of this state, I think we deserve to know how far that reach of contamination extends before you make a decision. This comment pertains to issues considered in the development of the DNR Dam Safety permit. Regarding potential contamination from the discharge from the WWTS, the discharge is required to meet Operating Limits for sulfate, copper, arsenic, cobalt, lead, nickel and mercury at the point of discharge at the project site. The permit also states that the discharge must not violate water quality standards; again, this would be at the point of discharge. In addition, the project will include other engineering controls such as stockpile liner systems and seepage capture systems that are designed to control wastewater and runoff from the facility to prevent the pollution of downgradient water. Consequently, impacts to the St. Louis River and Lake Superior will not be discernable.</td>
</tr>
<tr>
<td>227</td>
<td>Tonia Kittelson</td>
<td>Friends of the Boundary Waters Wilderness</td>
<td>I request that you require an updated financial analysis. The last one was done in 2008. It's been 10 years, and no one -- not -- and no one should -- and no one, including the State of Minnesota, should make a decision based on 10-year-old financial information. Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.</td>
</tr>
</tbody>
</table>
Lastly, I request that you require PolyMet to prove it can capture and collect 90 percent of its wastewater before you make a decision. No other metal mine has ever captured 90 percent, let alone suggested that they could. Mines usually promise high and perform low, meaning they usually promise 60 to 80 percent capture rate, but fall short of their promises by about 25 to 30 percent. PolyMet plans to use the same technology that other mines have used -- nothing new, nothing better -- yet claims it will achieve what has never been achieved before, so please reject the permit application and require that proven technology be used to capture 90 percent of wastewater.

10 percent of billions of gallons of wastewater is bad enough. It's too much pollution to allow in our public waterways. Please do not allow more than that. Thank you.

The containment systems function on the principle of maintaining an inward hydraulic gradient across the barrier wall that is part of the system design. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape -- instead, water will tend to flow into the capture system. The Modflow modeling conducted for the EIS indicated that the capture efficiency for both systems would be in excess of 90% and the subsequent GoldSim modeling indicated that degree of capture would be sufficient to protect downgradient surface and ground water quality. See FEIS at 5-7.

The comment questions the efficacy of controls of the seepage capture systems required in the NPDES permit at the Mine Site and Plant Site. The same issues were raised in the EIS and DNR, in consultation with MPCA, considered those issues. The comment does not raise any new facts for MPCA to consider at the permitting stage, it merely disagrees with MPCA's conclusion.

I'm a bit of a technical person, so I'm going to focus on some specific technical issues in the permit to mine and the Minnesota Pollution Control Agency water pollution permit.

And based on the technical information that I've read, I believe the PolyMet copper-nickel mine threatens Minnesota waters, downstream property owners and communities, the St. Louis River, Lake Superior, and Minnesota taxpayers. Now, you need to know that even if everything goes as planned, the PolyMet mine project would result in over 15 million gallons per year of untreated, contaminated pollution seeping into Minnesota groundwater, and from groundwater into wetlands and streams. PolyMet's mine pits, its tailings waste, and its waste rock piles, that's permanent. All have no liners underneath, and it would seep contaminated water for centuries, if not forever.

The effectiveness of the FTB seepage containment system was evaluated in the EIS. The permit has been revised to include the barrier design specifications (i.e., thickness, permeability) that were evaluated in the EIS and that it be constructed and operated so as to maintain an inward hydraulic gradient across the barrier wall that is part of the system design. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape -- instead, water will tend to flow into the capture system. The Modflow modeling conducted for the EIS indicated that the capture efficiency for both systems would be in excess of 90% and the subsequent GoldSim modeling indicated that degree of capture would be sufficient to protect downgradient surface and ground water quality. See FEIS at 5-7.

The MPCA has revised the language of the permit to state that if an inward gradient is not reestablished within 14 days of detection of an outward gradient, it is a violation of the permit. The permit also requires that the effectiveness of the seepage capture system be evaluated on an on-going basis.

The effectiveness of the FTB seepage containment system was evaluated in the EIS. The permit has been revised to include the barrier design specifications (i.e., thickness, permeability) that were evaluated in the EIS and that it be constructed and operated so as to maintain an inward hydraulic gradient across the barrier wall that is part of the system design. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape -- instead, water will tend to flow into the capture system. The Modflow modeling conducted for the EIS indicated that the capture efficiency for both systems would be in excess of 90% and the subsequent GoldSim modeling indicated that degree of capture would be sufficient to protect downgradient surface and ground water quality. See FEIS at 5-7.

The MPCA has revised the language of the permit to state that if an inward gradient is not reestablished within 14 days of detection of an outward gradient, it is a violation of the permit. The permit also requires that the effectiveness of the seepage capture system be evaluated on an on-going basis.

The Minnesota Pollution Control Agency draft water pollution permit is just as weak. The MPCA wouldn't limit pollution through groundwater that seeps up into wetlands and streams and harms water quality, fish, or wild rice. In fact, the Minnesota Pollution Control Agency doesn't even propose to monitor at those really close-by wetlands and streams, so PolyMet could pollute Minnesota surface water for decades with acid mine drainage, sulfate, and toxic metals and no one would be the wiser.

Lastly, I request that you require PolyMet to prove it can capture and collect 90 percent of its wastewater before you make a decision. No other metal mine has over captured 90 percent, let alone suggested that they could. Mines usually promise high and perform low, meaning they usually promise 60 to 80 percent capture rate, but fall short of their promises by about 25 to 30 percent.

PolyMet plans to use the same technology that other mines have used -- nothing new, nothing better -- yet claims it will achieve what has never been achieved before, so please reject the permit application and require that proven technology be used to capture 90 percent of wastewater.

10 percent of billions of gallons of wastewater is bad enough. It's too much pollution to allow in our public waterways. Please do not allow more than that. Thank you.

The containment systems function on the principle of maintaining an inward hydraulic gradient across the barrier wall that is part of the system design. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape -- instead, water will tend to flow into the capture system. The Modflow modeling conducted for the EIS indicated that the capture efficiency for both systems would be in excess of 90% and the subsequent GoldSim modeling indicated that degree of capture would be sufficient to protect downgradient surface and ground water quality. See FEIS at 5-7.

The comment questions the efficacy of controls of the seepage capture systems required in the NPDES permit at the Mine Site and Plant Site. The same issues were raised in the EIS and DNR, in consultation with MPCA, considered those issues. The comment does not raise any new facts for MPCA to consider at the permitting stage, it merely disagrees with MPCA's conclusion.
Paula McCabe
Advocacy Director, Water Legacy
Now, here’s something even more dangerous for any of you who live downstream. The DNR permit turns a blind eye to another huge risk. The threat that PolyMet’s dirty dams, that are supposed to hold back tailings waste, would collapse. PolyMet is only being required to put up $10 million for what could be hundreds of millions of dollars in liability. Thank you.

Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.

Kristin Larsen
Friends of the Cloquet Valley State Forest
Hi. I’m Kristin Larsen, with Friends of the Cloquet Valley State Forest, and speaking for me today is Jan Kehoe (phonetic), and Jan is the supervisor of North Star Township.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Jan Kehoe
Supervisor, North Star Township
Hi, yes, my name is Jan Kehoe. I’m a wetlands scientist and a past president of the Society of Wetland Scientists. I’m going to speak today in -- with concern about the permit to mine -- okay? I’m short. A couple of things. First of all, the wetland loss around the mine has been grossly underestimated in the narrative document because the analog model that was used has scientific flaws through analysis of a bedrock type that’s not present there, and so I think that the damage to wetlands around the mine will be much greater in scope and geographic area, and that’s a concern.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

Jan Kehoe
Supervisor, North Star Township
The second concern I have is that the construction of the mine and operation will result in 1,000 acres of wetland loss that will not be replaced because the mitigation bank that’s planned to be used -- that is, the Superior Mitigation Bank -- is comprised largely of healthy wetlands. And so the peatland types that the mine will destroy will not be restored in the mitigation area. They’ll be -- credits for mitigation are going to be comprised entirely of preserving natural wetlands, so this results in the total loss of 1,000, or even more acres, of wetlands overall during the project.

So I’ll be very brief. I’d like to ask the DNR and the MPCA to deny the permit until they can show that there will be no net loss of wetlands. Thanks.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

Catherine Kohlmeier
Citizen
I'm Catherine Kohlmeier, and I code my time to Rich.

This comment simply defers speaking time to another individual. No response needed.

Rich Staffon
Duluth Chapter of the Izaak Walton League
My name is Rich Staffon, R-I-C-H, S-T-A-F-F-O-N. I'm speaking for the Duluth chapter of the Izaak Walton League. I can remember when the lower St. Louis River in Duluth was an industrial wasteland. It was not fishable, swimmable, or drinkable. Thanks to the Clean Water Act and after spending nearly half a billion dollars, the river has been restored to the point that it is now an economic asset, rather than a liability for Duluth. It does not seem consistent policy to us to spend so much money to clean up the lower river and then issue permits to create an industrial wasteland in the headwaters.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

Rich Staffon
Duluth Chapter of the Izaak Walton League
Copper and other minerals are valuable for our economy and society, but they’re not more valuable than water. Water is essential to everything we do. Protecting watersheds is how we safeguard our water. The land where PolyMet wants to build their mine was purchased with the Weeks Act for the very purpose of protecting the headwaters of the St. Louis River. It defies common sense that we can sustain this watershed while building a toxic mine in the midst of the headwaters. This is a forested, swampy, stream-laden landscape, an ill-suited place for Minnesota to experiment with the risky business of copper mining.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Rich Staffon
Duluth Chapter of the Izaak Walton League
If it is so important that we mine these minerals, the permit should at least require PolyMet use the best available technology, such as dry stacking of tailings, rather than storing them in a flooded tailings basin that we know will leak into surface and groundwater, and if the dikes fail, send a slurry of contaminated water right into the river.

Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Rich Staffon
Duluth Chapter of the Izaak Walton League
One of the duties of DNR is to promote the mining of our state’s minerals. Because of this bias to support mining, we ask that a contested case hearing be held as a check to make sure that the facts around copper and nickel mining are complete and accurate.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Rich Staffon
Duluth Chapter of the Izaak Walton League
And as a check on the safety of the mining itself, we ask that the permit require that all employees who mine, transport, and process the ore be regularly monitored for the uptake of pollutants. They are the canaries in this mine, and monitoring their health would be the best way to determine if the standards are being enforced and are actually protecting the workers and our environment.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Finally, we're especially concerned about the way industry and our state legislature has been able to thwart the enforcement of existing water quality regulations. What good are these permits if they will not be enforced? We recommend that before mining, Minnesota should consider recycling copper as a better way to meet our needs for this metal. If there's no shortage today, we believe it would be prudent to not issue a mining permit at this time, leave these minerals in the ground, and wait until mining technology is advanced so we can mine them safely.

I live in Duluth; I love Duluth. I actually moved here, but my spirit lives in the Boundary Waters, waiting for me. Minnesota gets America's biggest polluting industry. Minnesota gets higher taxes to pay for the cleanup that they left behind, long-term costs, contamination of fish and wildlife. Minnesota gets our state's biggest polluting industry.

NorthMet has the potential to be a global powerhouse of responsible, strategic metals mining. The NorthMet Project will bring new life to an idle taconite plant and mine. With this new life, the region will rebound, communities will grow, jobs will be created.

There is no better time or place to build the mine. The NorthMet ore body is part of a world-class resource. It's located in the middle of a mining zone where mining has occurred for more than 135 years.

I, along with my union brothers and sisters, have been waiting a long time, and, quite frankly, have been waiting long enough. It's time for the State to finalize and issue the permit so that we can get these projects underway to get our people back to work. Thank you.

Good evening. My name is Lynne Pickart, L-Y-N-N-E, P-I-C-K-A-R-T.

Tonight, a lot of us went to the caucuses, right? A lot of us went to the caucuses? Yes, we did. We did our civic duty, we participated, we brought up sulfide mining, and we presented resolutions against sulfide mining.

Of course, a few folks at our caucus didn't like that, and one lady pointed out that it isn't called "sulfide mining," it's called "copper-nickel mining." I beg to differ.

What Minnesota gets out of sulfide mining is sulfide slush, acid mine drainage that is full of mercury, arsenic, lead, asbestos-like fibers, toxic stuff. We get air pollution, gigantic waste piles, tailing pipelines, and the 24-hour around-the-clock light and noise pollution.

Most of the copper, nickel, platinum, gold will go somewhere else. Most of it will go to China. One of the folks at the caucus -- this is a good place to go for information -- said that we don't even need the copper here. Most of it could be recycled copper. How about that?

Minnesota gets big holes in the ground as big as cities, as deep as forever. When they're all done in 20 years, what goes into the holes, I wonder? Water? Dirty water?

Minnesota gets higher taxes to pay for the cleanup that they left behind, long-term costs, contamination of fish and wildlife. Minnesota gets America's biggest polluting industry.

I live in Duluth; I love Duluth. I actually moved here, but my spirit lives in the Boundary Waters, waiting for me.
Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Good evening. My name is Adam Lantz. I work with Minnesota Industries. We support responsible mining, and we meet and exceed all the state and federal environmental requirements. These materials have to be mined somewhere. I would personally rather have them -- have the mining take place where we can be assured of the environmental standards that are the most stringent in the world, and that the workers’ safety will be taken care of by the best labor standards anywhere.

Thank you to the DNR and MPCA for holding this public hearing. I am in favor of this project moving forward. We have the strictest and most stringent environmental regulations of any state or country in the world. My view of this project is that it can be done through science and research, and that we can safely mine copper and nickel and all the other precious metals available in the Duluth complex. It should move forward. To deny this project will just make us more reliable on imports from third-world countries that have little regard for environmental regulations or the working conditions of their employees.

Again, thank you for this public hearing, and I would like to close with a couple of thoughts: We won two world wars by mining on the Iron Range. Let’s take this mining one step further. After the permit to mine is issued, let’s make this area the destination for industry that could further develop the copper and nickel resource. There is no reason that we cannot build the electric cars, wind turbines, microbrew vats, that our new green economy is going to demand, right here in northern Minnesota where the resource, pride, and our great work ethic already exists. Thank you.

Good evening. My name is Adam Lantz. I work with Minnesota Industries. We support responsible mining, and we support PolyMet. I would like to defer my time to Harry Melander.

Again, thank you for this public hearing, and I would like to close with a couple of thoughts: We won two world wars by mining on the Iron Range. Let’s take this mining one step further. After the permit to mine is issued, let’s make this area the destination for industry that could further develop the copper and nickel resource. There is no reason that we cannot build the electric cars, wind turbines, microbrew vats, that our new green economy is going to demand, right here in northern Minnesota where the resource, pride, and our great work ethic already exists. Thank you.

Commission noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Thank you for the DNR and MPCA for holding this public hearing. I am in favor of this project moving forward. We have the strictest and most stringent environmental regulations of any state or country in the world. My view of this project is that it can be done through science and research, and that we can safely mine copper and nickel and all the other precious metals available in the Duluth complex. It should move forward. To deny this project will just make us more reliable on imports from third-world countries that have little regard for environmental regulations or the working conditions of their employees.

Again, thank you for this public hearing, and I would like to close with a couple of thoughts: We won two world wars by mining on the Iron Range. Let’s take this mining one step further. After the permit to mine is issued, let’s make this area the destination for industry that could further develop the copper and nickel resource. There is no reason that we cannot build the electric cars, wind turbines, microbrew vats, that our new green economy is going to demand, right here in northern Minnesota where the resource, pride, and our great work ethic already exists. Thank you.

Commission noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Commission noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Commission noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
266  Harry Melander  President, MN Building and Construction Trade Council  Additionally, PolyMet trusted the process that they were asked. It has invested millions of dollars because they agreed with the process and have followed through with it. PolyMet has followed the State's strict regulatory reviews and permitting process. It has done everything that you and we have asked. I urge the MPCA, the DNR to grant these permits in a timely manner. It's time for the State to finalize these permits and allow Minnesotans to get to work. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

267  Bill Erzar  Citizen  My name is Bill Erzar, B-I-L-L, E-R-Z-A-R. I'm a lifelong resident of Ely and the Boundary Waters Canoe Area around which Ely has always been a part. And I'm a former school board member in Ely who has seen our school population dwindle. I'm a proud Air Force veteran and a retired, proud, union steelworker. I support PolyMet, and I defer my time to Lori Fedo.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

268  Lori Fedo  President, Hibbing Area Chamber of Commerce  Thank you. Good evening. My name is Lori Fedo, L-O-R-I, F-E-D-O, and I have been president of the Hibbing Area Chamber of Commerce for over 25 years. I have lived in or around mining communities my entire life, and I now live in French Township, just 30 miles north, as the crow flies, from the proposed PolyMet Project.

PolyMet has been under -- or -- has been in this process for half of my career, and I'm kind of old. I strongly support the PolyMet Project because I believe PolyMet will mine safely in our region. I believe in the strength of the environmental scientific community of our region and our industries, and more importantly, I believe in the people who are behind both.

We have the metals, we have with resources, we have the workforce, we have the infrastructure. PolyMet will be part of keeping this wealth in our communities and our nation and in our state.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

269  Lori Fedo  President, Hibbing Area Chamber of Commerce  We have a track record of mining safely for more than a century, and I believe we will continue to do so. Industry is continually innovating and must, to stay operational and relevant. Our community can be a part of this innovation.

As we move towards using more sustainable energy sources, we will depend heavily on the mining industry to supply the materials we need. As consumers, we can provide these materials from overseas, or we can produce them here. We have the metals, we have with resources, we have the workforce, we have the infrastructure. PolyMet will be part of keeping this wealth in our communities and our nation and in our state.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

270  Lori Fedo  President, Hibbing Area Chamber of Commerce  I also trust our state's regulatory agencies have done their job to analyze the project accurately and fairly, and PolyMet is working through the process outlined by the agencies. It is time to move this project forward. Our chamber and all the northern chambers of commerce and business community stand at the ready to help be a part of this exciting project that will strengthen our region and provide jobs for our people. Thank you.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

271  Laura Kircher  Member, Better in Our Backyard  My name is Laura Kircher. I'm a lifelong Minnesota resident and a member of the grassroots group called Better in Our Backyard which supports responsible, economic, industrial development that drives our economy in northeastern Minnesota.

The story we're in tonight has some of the strictest environmental standards of any state. The regulatory process for the NorthMet Project, which has been very thorough, shows that the company can meet and operate within these standards. Our area has been mining for over 135 years, and safety and the environment are at the forefront of our work.

The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

272  Laura Kircher  Member, Better in Our Backyard  Better in Our Backyard rejects the notion that the copper, nickel, cobalt, and precious metals we all consume should only be sourced from countries that lack the laws, means, or will to protect their environment, As a Minnesotan and a resident of St. Louis County, the economic benefits cannot be repeated too much. The NorthMet Project will create 360 full-time jobs. These are good, high-paying jobs that support families. This project will create secondary job needs, creating 600 additional opportunities for residents.

Iron Range needs these jobs. They have the expertise and the available talent to fill these roles and inject energy into their communities. The county needs this project. St. Louis County will see $515 million in benefit. That has an incredible impact to schools, roads, and county services.

I urge the MPCA and the DNR to grant these permits.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

273  Harry Van Horn  Citizen  My name is Harvey Van Horn, and I'm actually going to cede my time to Michael Pfau.

This comment simply defers speaking time to another individual. No response needed.

274  Mary Thompson  Citizen  Mary Thompson from Duluth. I cede my time to Virgil.

This comment simply defers speaking time to another individual. No response needed.
Chris Urbas

I'm Chris Urbas, a resident of Ely, Minnesota, born and raised. I support PolyMet, and I defer my time to Tony Kwilas.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Tony Kwilas

Director of Environmental Policy, Minnesota Chamber of Commerce

Good evening. My name is Tony Kwilas, K-W-I-L-A-S, and I am the director of environmental policy at the Minnesota Chamber of Commerce.

First of all, I'd like to thank the Department of Natural Resources and the Pollution Control Agency for having this consolidated draft public hearing on the draft permit to mine, the draft air permit, the draft water -- or NPDES permit -- and the 403 certification.

Because this is the perfect example of one of the efficiencies that the chamber has been asking for. Instead of having four separate public hearings, to have one consolidated hearing, and we thank you for listening to us and having -- this is one, just, perfect example of when we think of efficiency in the system. Second of all, I'd like to thank you for having multiple public hearings, which you didn't have to do, and went above and beyond what was required in state law. But we thank you for doing that, and especially having it in the region where the proposed project is located. Hearing from stakeholders that have daily interactions with this proposed project is invaluable.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Tony Kwilas

Director of Environmental Policy, Minnesota Chamber of Commerce

The environmental review and environmental permitting process has been adhered to by state statute and rule. Some say, along with the chamber, that it's taken too long and cost too much, but no one can argue that this process has not been followed and closely adhered to.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Tony Kwilas

Director of Environmental Policy, Minnesota Chamber of Commerce

We have a tremendous opportunity before us to develop a world-class resource, the NorthMet ore body, and in turn, capitalize on one of the largest economic development project proposals in this state in recent years, all the while protecting the great natural resources that we all enjoy. The economic impact to this project is invaluable and could create over 600 construction jobs and 360 permanent jobs at the facility. There will be numerous auxiliary benefits also to local cities, counties, school district.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Tony Kwilas

Director of Environmental Policy, Minnesota Chamber of Commerce

In regards to the four permits -- on the permit to mine, I'd like to thank the Department of Natural Resources, Commissioner Landwehr and Assistant Commissioner Naramore, for your staff for putting together this document. I know it was no easy task.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Tony Kwilas

Director of Environmental Policy, Minnesota Chamber of Commerce

But the most important part of that permit to mine is the financial assurance provision. The financial assurance provisions ensure that the state of Minnesota will be protected from the process when the facilities and the mine are properly closed and maintained. It is important to note that this provision could be revisited yearly and adjusted by the State.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Tony Kwilas

Director of Environmental Policy, Minnesota Chamber of Commerce

In regards to the draft air permit, the company has set -- has met all the details required by the draft air permit. The potential emissions are identified and have set limits on those that are legally enforceable.

This comment addresses the air quality permit. No changes were made to the draft NPDES/SDS permit in response to this comment.

Tony Kwilas

Director of Environmental Policy, Minnesota Chamber of Commerce

On the draft water quality permit, or the NPDES permit, we thank you for establishing the specific limits and protection of surface and groundwater. But in the end, it is clear that the process established by the State --

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Emily Norton

Citizen

My name is Emily Norton. I'm a citizen of Duluth, and I'm out here asking the DNR to oppose the permits to mine, all the things the scientists have said. What's at stake here, from a DNR standpoint, is the pristine wilderness that we want to preserve, and I don't think we will regret preserving the wilderness, but we're probably going to regret the mine.

I would like to defer the rest of my time to Bridget Holcomb, who will speak for Duluth for Clean Water.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Bridget Holcomb Citizen

My name is Bridget Holcomb, B-R-I-D-G-E-T, H-O-L-C-O-M-B. I'm from Duluth. This is my first sonnet, and I think it’s appropriate that I wrote my first sonnet for public servants, and I recognize that these public servants have enough flex in the law. You can make this decision either way. How much was flushed to get us to this day? How far would be the breaking point for you? Comfort the draft and with it science lay. Whatever reason facts tell us to do. You do your job but still reach to sleep fair, so keep the struggles with all laws concealed. Deep dives minuita of design and their false sense of calm kill qualms about the real. But what alone soft voice resolved could say? No model holds the world and all its flaws. The thought of ground you stood and lives you changed be foremost on your mind retirement day. Before you lies a whistle and our home. Our eyes ask: Who has the courage to say no? Thank you.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Kevin Lee Citizen

Thank you. My name is Kevin Lee. The last name is L-E-E. I've heard a lot today about this project complying with the highest standards in the world, so I'd like to talk about that for just a moment. In 2015, there was a panel of expert mine engineers that issued a report that outlined how we can learn from the mistakes of the past. Most of the mining industry listened. PolyMet and Glencore have not.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Kevin Lee Citizen

The first item on this expert’s list: Don’t store mine waste with water, but PolyMet won’t listen. They want a permit to create a mine waste lake 900 acres large, 250 feet in the air, and keep it there forever. The Mining Association of Canada, an industry trade group, now requires its members to have their mining practices audited by outside experts. PolyMet won’t do this. The government of British Columbia requires outside review of mine waste dam designs. Polynet does not.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Kevin Lee Citizen

The Canada Mining Innovation Council says you need to make sure that surrounding communities have realtime access to water quality data. PolyMet won’t do this. Here in the States, the governments of Maine, Michigan, and New Mexico will not permit mining operation that has to be maintained in perpetuity.

Comment noted. Monitoring data considered in the development of the draft permit and required by the draft permit documents are publically available. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Kevin Lee Citizen

PolyMet’s water permit application says that maintenance and water treatment will be required forever. Montana not only requires that permits are reviewed by outside experts, they require that mine waste dams have what's called a "factor of safety" of at least 1.2. PolyMet allows 1.1, and when you get to 1, the dam collapses. We deserve better than this.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Sally Munger Citizen

I'm Sally Munger, and I'm ceding my time to Gay Trachsel.

This comment simply defers speaking time to another individual. No response needed.

Gay Trachsel Member, League of Women Voters of Duluth, Natural Resources Committee

My name is Gay Trachsel, G-A-Y, T-R-A-C-H-S-E-L. I'm from Duluth. I am a member of the League of Women Voters Duluth Natural Resource Committee. We have a public policy position that states that we promote an environment beneficial to life through the protection and wise management of natural resources in the public interest. Also, to preserve the physical, chemical, and biological integrity of the ecosystem and to support measures to reduce pollution to protect surface water, groundwater, and drinking water.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Gay Trachsel Member, League of Women Voters of Duluth, Natural Resources Committee

According to your own statements, the purpose of a permit to mine is to control the possible adverse environmental effects of mining by ensuring orderly construction and development of a mine, sound operational practices, and reclamation of mined areas. These are some of the things that I think have not been fully addressed with PolyMet.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Gay Trachsel Member, League of Women Voters of Duluth, Natural Resources Committee

The design of the tailings basin is the cheapest, and it has a history of failing. Pollution, due to seepage, can still contaminate the surrounding water and last for years, maybe forever. We don’t know. How will PolyMet satisfy the 10-milligrams-per-liter sulfate standard when existing mines are not even being held accountable today?

Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Gay Trachsel  Member, League of Women Voters of Duluth, Natural Resources Committee

Reclamation is the act of returning something to a former, better state. I see no path to this happening unless you believe what is in Butte, Montana, the nation’s biggest body of toxic water from a flooded copper mine, the Berkeley Pit, is reclamation. It is a Superfund and is under the EPA’s remediation, not the company that’s produced the toxic water. In the latest decision by EPA Director Pruitt on Bristol Bay to protect salmon from copper mining, he states, “It is my judgment at this time that any mining projects in the region likely pose a risk to the abundant natural resources that exist there.”

I would think that 10 percent of the fresh water in the world, Lake Superior, might deserve at least the same protection salmon fish are getting in Alaska. The world’s water supply is dwindling due to climate change, pollution, and overpopulation. The only conclusion at this time is that sulfur-copper mining poses too many risks today.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Dennis Goode  Citizen

Hi. My name is Dennis Goode, and I would like to cede my time to Paula Maccabee.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Bob Tammen  Citizen

I’m Bob Tammen. I see time’s a flying, for which some will be grateful. But I’m from Soudan, Minnesota. I know you asked for technical reasons to analyze this permit, so I would suggest that we need to do an adjusted net savings accounting. Now, this is a widely used process when countries that depend on natural resources -- a lot of them are very poor, so you do an adjusted net savings accounting to see if the costs balance with the benefits. Now, we know the costs of mining in Minnesota, about a quarter of a billion dollars to build a bridge over there at Highway 53. We know that we rebate up to -- it’s been a quarter of a billion dollars since ’93, we rebate right back to the mining industry, so I think we should do that accounting.

I don’t believe the State of Minnesota should make the decision on mining without knowing if we’re actually going to get a benefit for the great state of Minnesota. And the other thing I would mention, that in the accounting, they account for mineral depletion, wetland destruction, carbon sequestration. There are a lot of costs to mining, so we’re destroying wetlands for little benefit. And I hate to think that I live in a state that would dynamite a cathedral to create a job salvaging bricks. Thank you.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Rose Hoene  Citizen

My name is Rose Hoene, spelled R-O-S-E, H-O-E-N-E, and I’m here to stand with the water and ask you to not permit this to happen.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Rose Hoene  Citizen

And I want to talk about seven generations of sustainability and where that concept comes from. This is not a new concept; this is a very old concept. It originated with the Iroquois, the Great Law of peace from the Iroquois nation, the Haudenosaunee, who, by the way, our Constitution is based on theirs. They talk about looking forward, for our children, seven generations. I wonder what it looked like here 500 years ago. Sometimes I like to daydream about that, and I wonder what it will look like 500 years from now.

What PolyMet is proposing, 500 generations from now would be 25 -- 500 years from now would be 25 generations. The Haudenosaunee people, in their wisdom, were looking at 7. We need to look even beyond that at this point.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Rose Hoene  Citizen

We need to be thinking about not just us, immediate gain, jobs. I’m not against jobs. We all need jobs, we need to live, but not through the loss of water, because water really is life, and every single one of us needs to be thinking forward.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Rose Hoene  Citizen

One of the great leaders of the Haudenosaunee -- who, by the way, I lived with for many years -- is a chief named Onon Lyons who’s often quoted. He says, “We’re looking ahead, as is one of the first mandates given us as chiefs, and as people, to make sure that every decision that we make relates to the welfare and well-being of seven generations to come.” What about the 7th generation? What about the 25th generation 500 years from now? Where are you taking them, and where are you taking us?

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Lauren Sandbulte  Citizen

I'm Lauren Sandbulte from Duluth, Minnesota. I defer my time to Mark Giese.

This comment simply defers speaking time to another individual. No response needed.
My name is Mark Giese. I'm not a person who -- G-I-E-S-E -- I'm not a person who would normally speak in public, but I will because we need to encourage everyone to support PolyMet in the final stages of the permit process. I was born and raised in northern Minnesota. My wife and I decided to raise our family here too. I attended school in Aurora, so did our children. I've worked in the mines, as did my father, uncle, and great-uncles. My family have all been avid outdoor enthusiasts. The last 30 years, I've resided on a small lake on the Embarrass River chain. It's located downstream from the old Erie and LTV mine site, which is the proposed site of the PolyMet Project. We use the lake to hunt, fish, kayak, boat, and swim. We also take trips to the Boundary Waters and enjoy the outdoors, pristine waters, and fishing. Contrary to what opponents of this project portray, residents in this area, including my family, friends, neighbors, coworkers, and customers are all concerned about our environment.

The PolyMet Project will mine ore from the Duluth complex. It is a world-class resource of precious metals located in the midst of existing mining operations. It will produce metals that are essential to our lives: Appliances, electrical components, power plant equipment, dental instruments, and numerous necessary items that are built with copper, nickel, platinum, and other precious metals, metals that can be sourced locally by environmentally responsible mining. This is not the old sulfide-extraction method often referenced by opponents, but a new technology which will make it possible to tap this valuable resource safely. Modern copper and nickel mines have shown they can operate without polluting and comply with state and federal standards, protecting our air and water. There's no better place to construct this mine.

We've been mining Minnesota for close to a century and a half. Our watershed is one of the cleanest in the nation. We've also utilized some of the old mining pits in our region for water sources and recreational purposes. It is clean water because we live in a state that monitors mining activities. Companies are held responsible and not given the opportunity to jeopardize the environment without severe ramifications. PolyMet has been thorough in following the governmental regulatory review through this long permitting process.

Thank you for considering my comments. I urge the MPCA and the DNR to conduct a timely review of the comments. I believe organizations like the Clean Water Action group are needed, but our region has the cleanest water in the state, and I believe it's because we're heavily regulated. The Clean Water Action group focuses on protecting our lakes, streams, and rivers in other regions of the state that currently have contamination issues, and continue to protect our watersheds from exotic species.


Anja Curiskis

This comment simply defers speaking time to another individual. No response needed.
Good evening. My name is John Gappa, G-A-P-P-A. I live in St. Paul. I served as a corporate chief financial officer, and I've been actively following the financial assurance aspects of this proposed project. I also serve on the board of the Friends of the Boundary Waters Wilderness. Governor Dayton has stated that permitting the proposed PolyMet Project will occur only if it protects the taxpayers of Minnesota with adequate financial assurance. While the DNR's latest financial assurance requirements are much improved, they still do not provide the financial projections -- the protections that Minnesota taxpayers deserve. The DNR's analysis shows that the first year of mining creates a cleanup bill of $588,000,000. After 11 years of mining, the cleanup exposure is over a billion dollars. At the conclusion of mining, the remediation costs and the costs of treating polluted water for 100 years is $782 million, and these estimates assume that everything goes according to plan.

To protect the taxpayers of Minnesota, I recommend that the DNR, first, significantly increase the up-front cash contributions required in the financial assurance package. As it stands, the total cash requirements by the ninth year of operation total $26 million, a mere 3 percent drop in a billion-dollar cleanup bucket. DNR's own consultants state that it would be very difficult for PolyMet, or even a major mining company, to obtain the financial and -- financial instruments required. Second, require PolyMet to complete an updated definitive feasibility study examining the project's ability to meet the cash-contribution requirements. This study should be subject to public review and comment, and information learned from the study should be incorporated in the final permit to mine.

Board Member, Friends of the Boundary Waters Wilderness

PolyMet has proposed paying itself first by contributing only $2 million a year during most profitable years of mine operation while deferring its cleanup payments until after most of the productive ore is mined. By deferring the cash cleanup payments, the State runs the risk of PolyMet privatizing the profits and socializing the cost of this project. Finally, if PolyMet fails to meet any of its financial assurance requirements, the DNR needs the options that have -- needs options similar to all corporate credit agreements, which carry the following conditions: First, prohibit the payment of dividends to mine shareholders if the agreement -- if the financial assurance agreements are not being met. They should also prohibit the payment of bonuses, stock options, or other incentives to executives of the mine if the financial assurance is in default. And finally, require full cash funding of all financial assurance obligations in the event the mine is sold. In conclusion, significantly more of the financial assurance package needs to be funded with cash, rather than difficult-to-obtain financial instruments. To adapt an old saying: In God we trust, PolyMet, please bring cash.

In conclusion, significantly more of the financial assurance package needs to be funded with cash, rather than difficult-to-obtain financial instruments. To adapt an old saying: In God we trust, PolyMet, please bring cash.

Hi, my name is Blanche Wilcox, and I defer my time to J.T. Haines.

Hi, my name is J.T. Haines. I live in Duluth, and I'm a volunteer with Duluth for Clean Water. I spent some of my early years growing up on the Iron Range in Mountain Iron. I have very fond memories of growing up in Mountain Iron. The basic comment that I want to make today is that those of us in this area, we live downstream of this proposal. To protect the taxpayers of Minnesota, I recommend that the DNR, first, significantly increase the up-front cash contributions required in the financial assurance package. As it stands, the total cash requirements by the ninth year of operation total $26 million, a mere 3 percent drop in a billion-dollar cleanup bucket. DNR's own consultants state that it would be very difficult for PolyMet, or even a major mining company, to obtain the financial and -- financial instruments required. Second, require PolyMet to complete an updated definitive feasibility study examining the project's ability to meet the cash-contribution requirements. This study should be subject to public review and comment, and information learned from the study should be incorporated in the final permit to mine.

First, as you know, medical professionals around the state have called for a health impact assessment on this project to measure cumulative impacts to humans. That study has not happened. I view this as a failure in the process and something the draft permits do not adequately address.

Second, the U.S. Forest Service recently found that 28 percent of dams for this type of mining failed in the U.S. That rate is unacceptable in a water-rich environment. Since this process began, agencies have updated climate data which confirms increasing frequency of heavy precipitation events in our area. My understanding is that these draft permits do not address the increased risk of dam failure to downstream communities. That is clearly a failure in this process.

Hi, my name is Blanche Wilcox, and I defer my time to J.T. Haines.

Hi, my name is J.T. Haines. I live in Duluth, and I'm a volunteer with Duluth for Clean Water. I spent some of my early years growing up on the Iron Range in Mountain Iron. I have very fond memories of growing up in Mountain Iron. The basic comment that I want to make today is that those of us in this area, we live downstream of this proposal. To protect the taxpayers of Minnesota, I recommend that the DNR, first, significantly increase the up-front cash contributions required in the financial assurance package. As it stands, the total cash requirements by the ninth year of operation total $26 million, a mere 3 percent drop in a billion-dollar cleanup bucket. DNR's own consultants state that it would be very difficult for PolyMet, or even a major mining company, to obtain the financial and -- financial instruments required. Second, require PolyMet to complete an updated definitive feasibility study examining the project's ability to meet the cash-contribution requirements. This study should be subject to public review and comment, and information learned from the study should be incorporated in the final permit to mine.

This comment simply defers speaking time to another individual. No response needed.

This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

This comment relates to a health study was addressed as part of the EIS process.

This comment generally pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.
Third, and finally, there has been no emergency response-planning education with downstream communities like Fond du Lac, Cloquet, Esko, Duluth, and others. The threat of dam failure is high, and the threat of spills and leaks is, essentially, 100 percent. It is unconscionable that downstream communities have not been educated and informed about dam failure rates, inundation analysis, and emergency response planning. How has that not happened? This is a fundamental failure in the process, and the permits should be denied on that basis alone. This has been a long process, but I think it's important that we remember -- are we okay here?

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Thank you. I just want to acknowledge this has been a long process, but I think it's really important, Commissioners, that we recall that this is the moment of decision, and it's required of all of us, elected officials and commissioners, that we give it a fresh look with the final details now, and I expect you to do that.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

And I want to say that I regret that my advocacy for the children of this area feels like advocacy against the children from my old home town. That is not my intent. I like to think that as Minnesotans we could agree that if our jobs harm or threaten our neighbor's children, as painful as it might be, maybe those aren't the right jobs.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Glencore is not a good company. They have a horrible record of mistreating labor and the environment. I think it's obvious they would say anything for profit. I do not trust them. I don't think anyone in here should trust them, either blue hat or orange scarf.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Commissioners, we believe this process has failed in fundamental ways, especially with regard to downstream communities. I urge you to reject the permits. If this goes forward, I believe we will have sold Minnesota to the lowest bidder and nothing would ever be the same again. We need a better option. Thank you.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Okay. My name is Korii Northrup, K-O-R-I-I, Northrup. I come from the Fond du Lac band of Lake Superior Chippewa. I live over there on the reservation. I've been there about four years, but I was born and raised in Duluth, so, you know, obviously, Duluth has a big part of my heart. I've heard a lot of people talk today about 500 years from now, and I stand here in front of you as, sort of, a relative 500 years from the past. 500 years ago, we didn't worry about poisoned water. We didn't worry that we would not have enough wild rice to feed our families. We didn't worry about game. We came here to our promised land, the Anishinaabe people. You know? Not just my reservation, but across all of mining country. Not just in this state, but in other states as well. You know? 500 years ago, we all lived together, community. We looked out for each other, and there was no such thing as profit.

And, you know, to me, I'd like to get back to that, you know, where we all are living in the promised land again and we're all snowshoeing and hanging out and going fishing and, you know, telling each other stories and stuff. Because, like, to me, you know, that's a better use of our time than having to come to meetings and hearing and judges and, you know, things of that nature.

You know, I'd rather share my last dollar with a stranger than say, "I need a profit." I don't need a profit. I need to help my fellow man. I need to be here to share this beautiful place, this beautiful life, with everyone around me. And, you know, 500 years in the future, I would like it to go back to the way it was 500 years in the past, so thank you for listening.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Hello. My name is James Kramar, K-R-A-M-A-R. I'm a resident of Hoyt Lakes, Minnesota, and I support PolyMet. And I defer my time to Peter Haines.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Hello. My name is Peter Haines. I'm the CEO of GPM, a 40-year-old pump company located in Duluth. We manufacture the world's toughest submersible slurry pumps. They're cased in cast iron, they're loaded with copper-wound motors and alloy steels that contain copper and nickel. We support over 50 families regionally and over 1,000 families if you factor in our 48 North American distributors and our local marketing partners. We all support mining.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Peter Haines  CEO, GPM  
Description of daily life with aspects of daily life that require natural resources (electricity, oil heating, water, wastewater). And how much of detail life uses copper. 

Like it or not, if you live in a house, an apartment, a mobile home, or any type of man-made dwelling, then, by default, you support copper and nickel mining. Everything you use every day is manufactured and produced by equipment that's made from steel alloys that contain varying fractions of copper and nickel. That means if you consume electricity, use natural gas or propane, turn on a faucet for water, eat food or beverage products that you've purchased, if you flush a toilet, ride a bike, drive a car or a truck, by default, you support copper and nickel mining. 

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Mike French  Citizen 
Citizen 
One, as an engineer, I'm a big fan of process. That is, following rules, procedures and the implementation and review of those procedures.

Minnesota surpasses all states in protecting and leveraging our natural resources. From a first-person standpoint, the Boundary Waters are as pristine and fresh today as they were the first time I went there with my dad 50 years ago. If you live in Minnesota, you need to support PolyMet. You need to support mining. You can't live as you do today without copper and nickel metals that PolyMet.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Alex Haveron  Citizen 
Hello, my name is Alex Haveron, I'm a resident of Duluth, Sheet Metal Local 10. I support PolyMet and I defer my time to Mike French. 

Good evening. My name is Mike French and I'm a civil engineer with LHB here in Duluth. I'm here to speak as a member of the consulting engineering and environmental services community and for the industrial clients that I have the privilege of serving. There are many passionate voices speaking tonight and those that have spoken for many nights over many years now on this topic. To that lengthy conversation I'd simply like to add my three points.

Comment noted. Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Mike French  Citizen 
Citizen 
One, as an engineer, I'm a big fan of process. That is, following rules, procedures and the implementation and guidelines of best practices. Guidelines and rules are important in that they take the guesswork out of problems, not controversy, but they take away the randomness. It is in this mindset that I wish to voice strong support for the approval and completion of PolyMet's permit to mine on the basis of following the procedures.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Mike French  Citizen 
Citizen 
Mining is a significant part of our shared heritage in Minnesota. And I have to say that I've only been a Minnesotan since 2004. So, in my 14 years of being a Minnesotan, I've never known a period when PolyMet wasn't working on getting their permits. It's quite a time.

As time has progressed the rules and standards that administer mining continue to evolve, whether on the matter of worker safety or environmental impact mitigation. We have state agencies and federal agencies that establish and enforce standards and lay out a clear path for reviewing and issuing permits. If an enterprise like PolyMet is committed to following the rules, to funding its environmental commitments, to ensuring worker safety, then it needs to be allowed to engage in that business.

In the absence of following our own established rules, how is any enterprise to have confidence that they would want to locate in Minnesota? I believe our permitting and review process is robust and it works. It's time to end the debate and move forward with the permit to mine.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Mike French  Citizen 
Two, I support allowing PolyMet to advance their project as it relates to the benefits of improvements to regional infrastructure. We've heard many calls for approving this project on the basis of jobs. And I absolutely agree. But heavy industry like PolyMet supports us in many ways. Industry supports the expansion and protection of our harbor with products coming in and out. Heavy industry like PolyMet supports the construction and safety of rail. Heavy industry like PolyMet supports education and research, like that at NRRI. And heavy industry like PolyMet supports the robust electric infrastructure providing significant reliability for which all Minnesotans benefit. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

John Rosene  Citizen 
Thank you so much. My name is John Rosene, I will proudly defer my time to Libby Bent.

Hi, I'm Libby Bent, downstream resident of Duluth. I oppose the issuance of any permit. As my father observed, the sheer complexity of the chemistry, hydrology, and geology involved in sulfide mining without irreversible pollution in our water rich environment boggles the mind. It's never been done because the cost would be huge, far in excess of the value of extracted metals. A more far-fetched industrial initiative is difficult to imagine.

Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
So, what is going on? How did this plan make it past a federal law designed to protect watersheds, headwaters on forest service land? A state law requiring sulfide mines to be maintenance free on closure and treaty rights to hunt, fish and gather on a sea of territories requiring high biodiversity lands.

Comment noted. The draft permits were developed according to current state and federal law. The comments do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Why was the call for a health impact assessment ignored, even as 30,000 health professionals requested one? Why are warnings from mining engineers that the tailings basin design is risky and unsafe going unheeded?

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The proposed upstream design to store a slurry of toxic mine waste on top of unstable wetland soils is a Mount Polley recipe for disaster. The Mount Polley review panel warns it is not enough to tweak around the edges of what we’ve been doing. We cannot continue to use technology that is fundamentally -- Hello? Yes? Okay. All right. These are not problems of the past. Dam failures are increasing and PolyMet has not analyzed the increased risk of dam failure from higher precipitation events due to global warming.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Perhaps most troubling, where is the analysis of the value of one of the world’s largest fresh water deposits? Water is becoming desperately scarce worldwide. 40 states could face clean water shortages in the next ten years.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

This decision will broadcast Minnesota’s priorities. Do we embrace a blue economy and lead the way in mining landfills for strategic metals and investing in copper and precious metal recycling? Or do we trade multi-billion gallons of our fresh water every year for deposits containing less than 1 percent minerals, transforming our lake country into a sea of toxic waste?

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

The rest of the world is choosing. El Salvador prizes water over gold saying, “We are the first country to evaluate the cost and benefits of metallic mining and say no.” Buffalo, New York is transforming their city from rust to blue, embracing an economy based on the Niagara River and Lake Erie. And Minnesota, 50 years of cleaning up the St. Louis River, only to become the land of Sky Tainted waters?

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Like many of the other people here, I’m not really accustomed to public speaking, but this is an issue that’s really tough for me. I grew up on the Iron Range, Chisholm.

My grandfather drove or engineered trains from The Range to the Superior area. Another grandfather worked in the underground mines, a pioneer in Ely, spent a lot of time in and around the Boundary Waters. I’ve seen it transform people’s lives. I’ve seen it bring people from different social and economic backgrounds together. But dollars to doughnuts, bottom line, water is more precious than copper. We need it, we do need copper, we have other ways to get it currently.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

We have companies’ bad track records, Glencore. Should the Twin Metals mines follow, we’ve got Antofagasta, even worse. If you let this abomination in our door, please make sure they put down at least a half a billion deposit with other ways to get it currently.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

I oppose the draft permit for PolyMet’s sulfide mine proposal because PolyMet has not listened to the public and experts who oppose the dangerous way it stores mine waste and the hundreds of years of pollution and the over one billion that is at stake.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Perhaps most troubling, where is the analysis of the value of one of the world’s largest fresh water deposits? Water is becoming desperately scarce worldwide. 40 states could face clean water shortages in the next ten years.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

This decision will broadcast Minnesota’s priorities. Do we embrace a blue economy and lead the way in mining landfills for strategic metals and investing in copper and precious metal recycling? Or do we trade multi-billion gallons of our fresh water every year for deposits containing less than 1 percent minerals, transforming our lake country into a sea of toxic waste?

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

The rest of the world is choosing. El Salvador prizes water over gold saying, “We are the first country to evaluate the cost and benefits of metallic mining and say no.” Buffalo, New York is transforming their city from rust to blue, embracing an economy based on the Niagara River and Lake Erie. And Minnesota, 50 years of cleaning up the St. Louis River, only to become the land of Sky Tainted waters?

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Like many of the other people here, I’m not really accustomed to public speaking, but this is an issue that’s really tough for me. I grew up on the Iron Range, Chisholm.

My grandfather drove or engineered trains from The Range to the Superior area. Another grandfather worked in the underground mines, a pioneer in Ely, spent a lot of time in and around the Boundary Waters. I’ve seen it transform people’s lives. I’ve seen it bring people from different social and economic backgrounds together. But dollars to doughnuts, bottom line, water is more precious than copper. We need it, we do need copper, we have other ways to get it currently.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

We have companies’ bad track records, Glencore. Should the Twin Metals mines follow, we’ve got Antofagasta, even worse. If you let this abomination in our door, please make sure they put down at least a half a billion deposit with other ways to get it currently.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

I oppose the draft permit for PolyMet’s sulfide mine proposal because PolyMet has not listened to the public and experts who oppose the dangerous way it stores mine waste and the hundreds of years of pollution and the over one billion that is at stake.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Kate Harrison, for Citizen Greg Benson

As primarily owner/operators, we are pro worker and pro quality of life and we have and will continue to rely on union labor as we expand our facilities. But because we are so dependent on the health of our water, we are concerned about copper-nickel mining.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Laurel Melby Citizen

I request that the DNR does its job by requiring this permit process to be done completely, followed completely.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Laurel Melby Citizen

And I believe what they can see is that no sulfide mining has been done anywhere near reasonable cleanliness without extreme pollution. And I concede the rest of my time to Greg Benson.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Greg Benson Citizen

Hi, I'm Greg Benson. I'm a resident of Duluth and a business owner. I'm going to read really fast. I'm here representing 100 small businesses in the north, we're the Downstream Business Coalition. We employ nearly 1,211 people. We're continuing to grow and reinvest in both our companies and our community. This equates to adding jobs and real dollars to the local economy. To continue this our businesses depend on the health of the Lake Superior watershed. We are pro iron ore mining and pro jobs. We support and benefit from ferrous mining, which originally built this economy in the north. We rely on mined products in our businesses.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Greg Benson Citizen

The proposed PolyMet NorthMet copper-nickel mine and others like it are vastly different from ferrous mining, as we've been hearing all night. I'm going to just jump ahead here.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Greg Benson Citizen

We trust that PolyMet intends to meet all applicable regulations, but our concerns are based on the track record of similar projects. We welcome them to show us one metallic sulfide mine of this type that has operated for ten years and been closed for ten years.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Greg Benson Citizen

There is an alternative to the boom and bust extraction economy that benefits foreign corporations and leaves local communities worse off in the end. Our locally owned small businesses are proof positive that a more sustainable model is possible. We welcome them to show us one metallic sulfide mine of this type that has operated for ten years and been closed for ten years.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Beth Bartlett  Citizen

Hi, my name is Beth Bartlett, B-e-t-h, B-a-r-t-l-e-t-t, I live in Duluth. I’d like to address two specific issues. The first is that the 1854 treaty ceded territory goes right through the Duluth rock complex in question. And there has been no consultation with the tribes about the rights to hunt and fish and gather in this territory.

Comment noted. The draft permits were developed according to current state and federal law. The comment does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Beth Bartlett  Citizen

The indigenous people of this region will be disproportionately affected by any toxic contamination of water, fish and wild rice, resulting in harm to their health, livelihoods, culture, and well-being.

Because the authorized discharge from the WWTS is limited to 10 mg/L and the required engineering controls will prevent unauthorized discharges, the project as designed will not harm wild rice.

Beth Bartlett  Citizen

And I don’t think any of you would wish this on anyone, let alone all of the many generations of children yet to be born, not only of humans, but of deer, moose, walleye, all beings that depend on clean, fresh water for life. In this water rich environment, all beings are at risk for generations to come.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Beth Bartlett  Citizen

Second, one of the bodies of water into which toxic contamination would flow is the St. Louis River, as we’ve heard all night. This puts all of us living in Duluth and the Duluth region, especially those in Fond Du Lac, at risk.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Beth Bartlett  Citizen

We’ve heard a lot about heavy metals, I imagine you’ve heard about it over and over again. But do we really know what any of these do? So, just to focus on one, mercury and methylmercury.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Kathy Heltzer  Citizen

My name is Kathy Heltzer, H-e-l-t-z-e-r. I yield my time to Bill Hansen from Grand Marais, Minnesota.

This comment simply defers speaking time to another individual. No response needed.
Bill Hansen

Commissioners, deputy commissioners, thank you for letting me testify today and your time. I’d also like to especially thank the community mediators for their time and service and the ASL interpreters, who have been doing a great job up here. So, thank you very much.

My name is Bill Hansen, H-a-n-s-e-n. My parents founded Sawbill Canoe Outfitters at the end of the Sawbill Trail in Tofte in 1957. My wife Cindy and I bought the business from them 35 years ago. We made a dignified living over those years, raised four children, and sold the business to our daughter and son-in-law two years ago.

In addition to my small business career I’ve involved myself as deeply as I can in regional economic development over the last three decades. I’ve been fortunate and honored to serve as a Trustee and Board Chair of the Northland Foundation and the Entrepreneur Fund.

These organizations have been long-time partners with private companies, lending institutions, government agencies in creating jobs in Northeastern Minnesota. These partnerships have spanned every sector of the economy, including mining services, tourism, health care, manufacturing, service industries, and so on.

I’m honored to have played a modest role in supporting diverse local economic development. My very first vote at my very first board meeting at the Northland Foundation was in favor of providing an emergency loan to a struggling small company called Cirrus Designs.

Initially I welcomed the prospect of precious mineral mining in our region, but as the PolyMet project has moved through the study and approval process, I’ve become convinced that it’s simply bad economic development.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Bill Hansen

Northeastern Minnesota has a long history of backing economic development projects that end badly. The chopsticks factory is the poster child, but unfortunately there’s been many other examples, large and small, of which you are aware. I believe PolyMet is another economic developmental mistake promising prosperity and wealth, but very unlikely to deliver on those promises.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Bill Hansen

In my opinion it boils down to what kind of community do we want to leave to our grandchildren and great-grandchildren. Do we put our trust in huge foreign-owned corporations with long histories of labor and environmental violations, leaving a trail of depressed communities and perpetual pollution? Or do we roll up our sleeves, invest in ourselves and build a regional economic system that’s diversified, resilient, sustainable, respectful to our people, our environment, our health, our communities, and our long-term future?

We can do better. And as a good friend of mine said in this very room in 2002 at the AFL-CIO convention, “We all do better when we all do better.” Thank you.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Sam Hodel

My name is Sam Hodel and I’d like to concede my time to Josh Skelton.

Comment noted. This comment simply defers speaking time to another individual. No response needed.

Josh Skelton

Good evening. My name is Josh Skelton, S-k-e-l-t-o-n, and I reside in Coleraine, Minnesota, but I grew up in Hoyt Lakes.

My wife and I are both chemical engineers licensed professionally here in the state of Minnesota. And we’ve made a very conscious decision to locate our family here where we don’t believe there’s any better quality of life. I’m here tonight to urge the Minnesota Pollution Control Agency and the Department of Natural Resources to grant these permits in a timely manner. Because the proposed PolyMet NorthMet project would provide consequential impacts to our region and our way of life.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Josh Skelton

In a time where our region has been decimated by a lack of professional opportunity, this NorthMet project brings hope in the form of an estimated a thousand jobs.

These types of jobs and wages that come from building and operating and maintaining a project of this scale will have long-term benefits on a region where the very social and moral fabric that makes it so unique has become storied in history books instead of the reality in our own front yards.

The ability to work and live in this area has been hanging in the balance as the science and technology proposed with this mining operation has been vetted deeply and with the review of your agencies deemed adequate to provide a framework to protect all that we cherish.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Josh Skelton

Your work has been important to help us assure that those same things we hope draw and retain our families will be with us for a long time and not just a season and we can co-exist with this mining operation. It’s time to put these great mines to work. And as a result, bring in and retain employees of the future to become the great pillars of our communities to help lead our schools, businesses, churches, and community organizations.

It’s time to write a new chapter in our history that shows the region can persevere, they can reinvent. And building from a long tradition like iron mining propagate state-of-the-art technologies, once again serving our nation and leading the world in safe, efficient and responsible practices.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Worldwide demand for copper as material will continue to build with our appetite and strategic goals to reduce our own carbon footprint and modernize our way of life. If we are serious about transforming our energy landscape to meet these goals, like integrating more renewables and advanced technologies for our energy production and delivery, responsibly mining these materials will be critical to address any global threats. Copper is an essential material to build these energy systems in the future and being able to rely on a domestic source with high accountability for impacts on the environment will allow us to meet these needs with the highest integrity.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

We appreciate the representatives from the MPCA and the Department of Natural Resources State of Minnesota. My name is Jerry Fryberger, T-r-e-e-b-er-ger. I'm Chairman of the Board of Hallett Dock Company, a local company. And I'm a lifelong resident of Duluth. And I am one of these people who thinks that our co-lead agencies and along with PolyMet and all kinds of other consultants have done a superlative job.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

I am very proud to be a Minnesotan. I am very proud of the PolyMet project and the thoroughness and the level of excellence that happened. Over the past 11 years of responsibly addressing the environmental and processing challenges, we have watched this project gradually develop from its infancy when we did the initial drilling to define the extent of the oil reserve to the design of mine, power, rail and other structure — project infrastructure, decades of unprecedented in-depth, respectful research of the mining process to ensure protection of our air and water from possible toxic waste.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

The enlightened visionary and responsible corroboration of regulatory agencies, namely the EPA, the Corps of Engineers, the U.S. Forest Service, the Minnesota Department of Natural Resources, and the Minnesota Pollution Control Agency have done a superlative job of working together and working through the difficult challenges of this new operation, continuing the rich heritage of Minnesota's mining industry and major contributor of America's industrial growth and national security, Minnesotans should be proud of this project.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

After more than a decade of persevering effort and expenditures in excess of 300 million dollars to develop environmentally responsible mining and processing practices, PolyMet will arguably be the benchmark of copper-nickel mining, not only in Minnesota, but in North America as well. They will provide the minerals necessary to produce the technological advances in support of our nation's ever increasing standard of living while providing the jobs and taxes to support our local Iron Range communities. An important milestone in which our mining industry will now no longer be judged upon mining — how mining was done more than a century ago, 1870s, or even decades ago, but rather by the state-of-the-art of present mining technology and enlightened environmental standards based upon the science of this 21st century. Thank you very much.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

I am very proud of the PolyMet project and the thoroughness and the level of excellence that happened. Over the past 11 years of responsibly addressing the environmental and processing challenges, we have watched this project gradually develop from its infancy when we did the initial drilling to define the extent of the oil reserve to the design of mine, power, rail and other structure — project infrastructure, decades of unprecedented in-depth, respectful research of the mining process to ensure protection of our air and water from possible toxic waste.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Good evening. My name is Pat Mullen, I'm senior vice president of external affairs for ALLETE, which is the parent company of Minnesota Power. What a special high-quality environment and beautiful outdoors we have here in Northeastern Minnesota. The Boundary Waters and the Superior National Forest are gems that attract millions of visitors to our region and form a playground for people lucky enough to live and visit here.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Some people frame the decision on PolyMet's permits as pitting the economy against the environment. And for a number of reasons I believe those two can co-exist. PolyMet's mining proposal is an opportunity that shouldn't be squandered. The economic benefits of this project are significant and will help support hundreds of families in Northeastern Minnesota for decades to come. Hundreds of new good paying jobs and millions of dollars in spending right here in Northern Minnesota, as well as new tax revenue for state and local governments.

Minnesota has some of the toughest environmental standards in the nation. PolyMet's permit conditions determined after more than a dozen years of environmental review set the requirements for monitoring, operating, reporting, inspections for the mine during construction, operation, and closure. These permit conditions and requirements are fair and reasonable and include protections for our environment and our health. Through the environmental review and permitting process PolyMet has demonstrated that it can meet those tough Minnesota standards.

Closing a mine safely will cost a lot of money. And the permit to mine protects Minnesota taxpayers financially, too. It doubles the bankruptcy proof, financial assurance amounts from one year to two, showing how the state and PolyMet have gone to extra lengths to ensure taxpayers are protected in case of a bankruptcy.

And there's a lot of misconceptions. These precious metals, this copper, it's not coming to us, it's going to the open market. From a utility perspective, the metals PolyMet will produce are essential to our quality of life and especially to the production of clean energy. Copper is a critical component of the transformation of the nation's energy landscape. It's used in large quantities with wind turbines and solar rays and used in the wires needed to get that carbon-free energy to customers. Electric cars require copper, too, along with nickel, a key ingredient in the batteries that fuel them. As our nation moves ever forward in clean energy, we're going to need more and more of these metals. Mining these metals in the United States and right here in Northeastern Minnesota under our tough standards, rather than a far-away country that might not offer the same environmental protections, makes good sense for our nation.

Let's open a new chapter for mining on the Iron Range with PolyMet and not squander the opportunities so we can prove that copper-nickel mining and clean environment can co-exist while also boosting the fortunes of a part of Minnesota that could use some good financial news right now. Thank you for your time and the opportunity to address this important issue.

Closing a mine safely will cost a lot of money. And the permit to mine protects Minnesota taxpayers financially, too. It doubles the bankruptcy proof, financial assurance amounts from one year to two, showing how the state and PolyMet have gone to extra lengths to ensure taxpayers are protected in case of a bankruptcy.

And there's a lot of misconceptions. These precious metals, this copper, it's not coming to us, it's going to the open market. From a utility perspective, the metals PolyMet will produce are essential to our quality of life and especially to the production of clean energy. Copper is a critical component of the transformation of the nation's energy landscape. It's used in large quantities with wind turbines and solar rays and used in the wires needed to get that carbon-free energy to customers. Electric cars require copper, too, along with nickel, a key ingredient in the batteries that fuel them. As our nation moves ever forward in clean energy, we're going to need more and more of these metals. Mining these metals in the United States and right here in Northeastern Minnesota under our tough standards, rather than a far-away country that might not offer the same environmental protections, makes good sense for our nation.

Let's open a new chapter for mining on the Iron Range with PolyMet and not squander the opportunities so we can prove that copper-nickel mining and clean environment can co-exist while also boosting the fortunes of a part of Minnesota that could use some good financial news right now. Thank you for your time and the opportunity to address this important issue.
Anna Yliniemi, Citizen  
Climate change is real. We know it’s here. It’s one extreme to another. It’s a thaw and it’s a freeze and it’s a thaw and a freeze. In New Brunswick, Canada just this weekend a small creek froze up and then they had a warm spot. And it caused everything to thaw and more rain to fall. Well, the creek was ice jammed, so it flooded a parking lot. And then, the temperature dropped to 20 below zero, plus a windchill. The cars were frozen in place. What if that happens with this PolyMet mine? What kind of accommodations are being made for these extreme conditions that our urban engineers don’t even understand? Thank you so much for the opportunity. I hope that we continue to have this public comment process long into the future.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Allen Richardson, Citizen  
I’m Allen Richardson, A-l-l-e-n, R-i-c-h-a-r-d-s-o-n, from Duluth. I want to say, it’s one of my least favorite things to be in a state of political opposition with members of the labor movement. I really and truly dislike it. I feel like it’s a -- it’s a false dichotomy and that we’re being maneuvered against each other. And I sincerely hope that we can come together to build an economy that does not require an open-ended amount of water treatment. Hopefully working together we can build a more resilient future than that. And I’m here to -- my opinion as a citizen is to give a vote of no confidence in the PolyMet project.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Larry Bogolub, Citizen  
Good evening. My name is Larry Bogolub from St. Paul, Minnesota. I am a full union teacher in Minneapolis teaching at the Northrop Environmental School. I do not want to see the PolyMet proposal go forward. And I’m going to cede my time over now to Nancy Schuldt. Thank you.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Nancy Schuldt, Specialist, Fond du Lac Band  
Thank you. Can I speak from the yellow mic? MODERATOR GOURLAY: As long as it’s on.

NANCY SCHULDT: Is it on? MODERATOR GOURLAY: Yes. NANCY SCHULDT: Thank you. I’m Nancy Schuldt, N-a-n-c-y, S-c-h-u-l-d-t. I live in Duluth, but for the last 20 years I’ve worked for the Fond Du Lac Band as their water quality specialist. And it’s been a long 12 years of trying to understand what this project is going to do and how it can potentially be done in accordance with state and federal rules. Along with my other tribal counterparts we spent a lot of time preparing and submitting very detailed, very extensive, very substantive comments for the last 12 years.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Catherine Pruszynski, Minneapolis  
I’m Pruszynski, Minneapolis. And I’m ceding my time to Allen Richardson.

This comment simply defers speaking time to another individual. No response needed.

Allen Richardson, Citizen  
I will say that I’m glad that what we share with our labor brothers and sisters is we come from a culture of science. And I wanted to invoke the CO2 question on this project. So, over 20 years of mining PolyMet would release 15.8 million tons of CO2 equivalent pollution, which is more than ten million tons from burning fossil fuels. And on an annual basis, PolyMet’s CO2 equivalent pollution would be 700,007, 342 tons per year, which is more than a quarter of the carbon footprint of all of Duluth, including commercial, industrial, residential, transport, and waste sectors.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Allen Richardson, Citizen  
I -- I remember well in August of 2014 when the Mount Polley copper-nickel tailings dam in Canada blew out, releasing 6.3 billion gallons of polluted water. And I’m certain that they had a long Environmental Impact Statement, that the Mount Polley mine was heralded as a state-of-the-art facility at the time. And I’m sure that those folks love their families and there probably were a lot of outdoorsmen that worked on that project, but that’s one hell of a mess.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Allen Richardson, Citizen  
I just want to say that based on environmental review documents, the hydrometallurgical waste facility that’s attached to this project would have sulfate concentrations above 7,300 milligrams per liter, which is 700 times Minnesota’s wild rice sulfate standard. And over 20 years of operations that would hold 3,280 pounds of highly toxic mercury. Again, speaking directly to my brothers and sisters in labor, I would hope that you would expand your concept of solidarity to include the wild rice protection that is enshrined in treaty law, which is the true law of this land. Thank you for your time.

The permit specifies that the HRF be operated as a closed-loop system and prohibits a discharge from the HRF system to surface waters or to the FTB pond. The HRF will be constructed with a double liner system with a leachate collection between the two liners. This means that there will be essentially no leakage to groundwater from the facility. The permit includes detailed requirements on the investigation of the subsurface at the proposed site and the preparation of the foundation for the HRF. In addition, the permit requires MPCA review and approval of the final plans and specifications for the liner system before it can be constructed.

Comment noted. No changes were made to the draft permit in response to these comments.

Citizen  
Well, the creek was ice jammed, so it flooded a parking lot. And then, the temperature dropped to 20 below zero, plus a windchill. The cars were frozen in place. What if that happens with this PolyMet mine? What kind of accommodations are being made for these extreme conditions that our urban engineers don’t even understand? Thank you so much for the opportunity. I hope that we continue to have this public comment process long into the future.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Citizen  
I -- I remember well in August of 2014 when the Mount Polley copper-nickel tailings dam in Canada blew out, releasing 6.3 billion gallons of polluted water. And I’m certain that they had a long Environmental Impact Statement, that the Mount Polley mine was heralded as a state-of-the-art facility at the time. And I’m sure that those folks love their families and there probably were a lot of outdoorsmen that worked on that project, but that’s one hell of a mess.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Citizen  
I just want to say that based on environmental review documents, the hydrometallurgical waste facility that’s attached to this project would have sulfate concentrations above 7,300 milligrams per liter, which is 700 times Minnesota’s wild rice sulfate standard. And over 20 years of operations that would hold 3,280 pounds of highly toxic mercury. Again, speaking directly to my brothers and sisters in labor, I would hope that you would expand your concept of solidarity to include the wild rice protection that is enshrined in treaty law, which is the true law of this land. Thank you for your time.

The permit specifies that the HRF be operated as a closed-loop system and prohibits a discharge from the HRF system to surface waters or to the FTB pond. The HRF will be constructed with a double liner system with a leachate collection between the two liners. This means that there will be essentially no leakage to groundwater from the facility. The permit includes detailed requirements on the investigation of the subsurface at the proposed site and the preparation of the foundation for the HRF. In addition, the permit requires MPCA review and approval of the final plans and specifications for the liner system before it can be constructed.

Comment noted. No changes were made to the draft permit in response to these comments.

Citizen  
Well, the creek was ice jammed, so it flooded a parking lot. And then, the temperature dropped to 20 below zero, plus a windchill. The cars were frozen in place. What if that happens with this PolyMet mine? What kind of accommodations are being made for these extreme conditions that our urban engineers don’t even understand? Thank you so much for the opportunity. I hope that we continue to have this public comment process long into the future.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Citizen  
I -- I remember well in August of 2014 when the Mount Polley copper-nickel tailings dam in Canada blew out, releasing 6.3 billion gallons of polluted water. And I’m certain that they had a long Environmental Impact Statement, that the Mount Polley mine was heralded as a state-of-the-art facility at the time. And I’m sure that those folks love their families and there probably were a lot of outdoorsmen that worked on that project, but that’s one hell of a mess.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Citizen  
I just want to say that based on environmental review documents, the hydrometallurgical waste facility that’s attached to this project would have sulfate concentrations above 7,300 milligrams per liter, which is 700 times Minnesota’s wild rice sulfate standard. And over 20 years of operations that would hold 3,280 pounds of highly toxic mercury. Again, speaking directly to my brothers and sisters in labor, I would hope that you would expand your concept of solidarity to include the wild rice protection that is enshrined in treaty law, which is the true law of this land. Thank you for your time.

The permit specifies that the HRF be operated as a closed-loop system and prohibits a discharge from the HRF system to surface waters or to the FTB pond. The HRF will be constructed with a double liner system with a leachate collection between the two liners. This means that there will be essentially no leakage to groundwater from the facility. The permit includes detailed requirements on the investigation of the subsurface at the proposed site and the preparation of the foundation for the HRF. In addition, the permit requires MPCA review and approval of the final plans and specifications for the liner system before it can be constructed.

Comment noted. No changes were made to the draft permit in response to these comments.
And yet, it's been really frustrating to see so little of that expertise that has come from the tribes reflected in the environmental review, the results of that environmental review. And now as I'm reading through these massive documents, I wouldn't call it efficiency personally to have to review four major permits at one time, but there's very little of that reflected in what I'm seeing coming out in permits right now. So many of those major differences of opinions were kicked down the road until permitting. And I don't see them resolved or addressed in the permits so far.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

There's a big question that the tribes raised back in August and we can't get a simple answer to a question about how many acres of wetlands will actually directly be impacted by this project. It seems like it's awfully late in the game to have questions hanging over something that is so fundamental to all four of the permits that we're talking about tonight.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

And as a downstream water quality regulator, the Band can say that we fundamentally disagree with the 401 certification. We know that the existing mines and the way they are regulated in this state with all of its stringent environmental regulations are polluting waters already. And there's nothing in the proposal for this project and the permits for this project that give me any kind of confidence or provide any evidence that this project will control its water pollution either. So, I'll be submitting another round of substantial and extensive comments on all four of these permits. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

Nancy Schuldt Water Quality Specialist, Fond du Lac Band

There's a big question that the tribes raised back in August and we can't get a simple answer to a question about how many acres of wetlands will actually directly be impacted by this project. It seems like it's awfully late in the game to have questions hanging over something that is so fundamental to all four of the permits that we're talking about tonight.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

And as a downstream water quality regulator, the Band can say that we fundamentally disagree with the 401 certification. We know that the existing mines and the way they are regulated in this state with all of its stringent environmental regulations are polluting waters already. And there's nothing in the proposal for this project and the permits for this project that give me any kind of confidence or provide any evidence that this project will control its water pollution either. So, I'll be submitting another round of substantial and extensive comments on all four of these permits. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

Nancy Deever Citizen

And as a downstream water quality regulator, the Band can say that we fundamentally disagree with the 401 certification. We know that the existing mines and the way they are regulated in this state with all of its stringent environmental regulations are polluting waters already. And there's nothing in the proposal for this project and the permits for this project that give me any kind of confidence or provide any evidence that this project will control its water pollution either. So, I'll be submitting another round of substantial and extensive comments on all four of these permits. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

Nancy Schuldt Water Quality Specialist, Fond du Lac Band

And as a downstream water quality regulator, the Band can say that we fundamentally disagree with the 401 certification. We know that the existing mines and the way they are regulated in this state with all of its stringent environmental regulations are polluting waters already. And there's nothing in the proposal for this project and the permits for this project that give me any kind of confidence or provide any evidence that this project will control its water pollution either. So, I'll be submitting another round of substantial and extensive comments on all four of these permits. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

Nancy Schuldt Water Quality Specialist, Fond du Lac Band

And as a downstream water quality regulator, the Band can say that we fundamentally disagree with the 401 certification. We know that the existing mines and the way they are regulated in this state with all of its stringent environmental regulations are polluting waters already. And there's nothing in the proposal for this project and the permits for this project that give me any kind of confidence or provide any evidence that this project will control its water pollution either. So, I'll be submitting another round of substantial and extensive comments on all four of these permits. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

Nancy Deever Citizen

And as a downstream water quality regulator, the Band can say that we fundamentally disagree with the 401 certification. We know that the existing mines and the way they are regulated in this state with all of its stringent environmental regulations are polluting waters already. And there's nothing in the proposal for this project and the permits for this project that give me any kind of confidence or provide any evidence that this project will control its water pollution either. So, I'll be submitting another round of substantial and extensive comments on all four of these permits. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

Nancy Deever Citizen

And as a downstream water quality regulator, the Band can say that we fundamentally disagree with the 401 certification. We know that the existing mines and the way they are regulated in this state with all of its stringent environmental regulations are polluting waters already. And there's nothing in the proposal for this project and the permits for this project that give me any kind of confidence or provide any evidence that this project will control its water pollution either. So, I'll be submitting another round of substantial and extensive comments on all four of these permits. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

Nancy Deever Citizen

And as a downstream water quality regulator, the Band can say that we fundamentally disagree with the 401 certification. We know that the existing mines and the way they are regulated in this state with all of its stringent environmental regulations are polluting waters already. And there's nothing in the proposal for this project and the permits for this project that give me any kind of confidence or provide any evidence that this project will control its water pollution either. So, I'll be submitting another round of substantial and extensive comments on all four of these permits. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.

Nancy Deever Citizen

And as a downstream water quality regulator, the Band can say that we fundamentally disagree with the 401 certification. We know that the existing mines and the way they are regulated in this state with all of its stringent environmental regulations are polluting waters already. And there's nothing in the proposal for this project and the permits for this project that give me any kind of confidence or provide any evidence that this project will control its water pollution either. So, I'll be submitting another round of substantial and extensive comments on all four of these permits. Thank you.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Detailed responses to specific written comments are addressed in the "Water" and "401" sections of the Response to Comments.
Nancy Deever
Citizen
So, I just want to remind -- when I taught science I told my kids -- how many of you played rock, scissors, paper? Okay. What beats all three of those elements when you play that game? Water. It melts the paper, erodes the rock and rusts the scissors. Folks, no matter what side you’re on, water is going to win. Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Doug Christy
Citizen
I'm Doug Christy, you spelt the name wrong, but that's all right, it's -t-y. And I'm from Grand Rapids. I'm a proud union member and a representative for Sheet Metal Workers Local 10 for Northern Minnesota. I'm going to give my time up to Dave Lislegard. Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Dave Lislegard
Mayor of Aurora
Hi, my name is Dave Lislegard, L-i-s-l-e-g-a-r-d. And I am the mayor of Aurora, Minnesota. And I think it's very well known the struggles that our community has had, but I want people to know that we truly do care to do the right thing the right way. My grandfather -- my grandfather built the Erie Mining Company. My dad worked there, I worked there. And we're hoping that many of our family members can continue to work there. My message is to all of you, I respect you guys for your caring. We may not agree, but I think that as long as we can have this open dialogue and communicate in a professional and polite manner that we can come to some sort of resolve. Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Dave Lislegard
Mayor of Aurora
And I don't believe that it's all or nothing. And I want to leave saying thank you for all of your hard work as the agencies. I want to thank the company for doing their due diligence and for the state of Minnesota. Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Dave Lislegard
Mayor of Aurora
This isn't just for our region. And I want Duluth and Lake Superior to know that our goal, the agency's goal and the company's goal is not to pollute the water that goes to Lake Superior. That is not our goal, in all due respect. Our goal is to do the right thing the right way and provide jobs. So, I thank you for your due diligence, our communities thank you for your due diligence. I appreciate it. Thank you. Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Scot Bol
Citizen
Hi, I'm Scot Bol. I believe the research shows that sulfide mining has not been done safely ever. And to watch it for 500 years? I don't know. No one here is going to be that person that's going to do that. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Scot Bol
Citizen
Brothers and sisters, I want us to figure out how we can help the common good. Now, I hope a lot of you would want that also. Let's have jobs for everyone. There's better ways. Following the dark money, following the 1 percent's analysis is shortsighted. We have to create jobs in another way. It turns out, you know, the science is helping us in many ways. It's pointed out that climate change is real. We need to create other alternative energy. There can be so many millions of jobs with this. They retoggled after World War II -- during World War II after the bombing of Pearl Harbor. So, let's retoggle and move away from all these fossil fuels. We can do it. We can create jobs in other ways. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Scot Bol
Citizen
But following the corporate analysis, the dark money, the 1 percent's ideas of where we should get our jobs, this kind of mining is not safe, it's not been done. So, we have to look at other ways. There's so many other options. We have to look for the common good. Right now we allow three people in this country to have more wealth than half of our nation. That's in Forbes magazine, I'm not making this stuff up. That hurts my mind to conceptualize that. Three people have more wealth than half of our nation? We need to distribute our wealth better than that. I think that along with having a minimum wage we have to have a maximum wage. I don't see how we can allow three people to have as much money as half of our nation. So, we have to do better at looking out for the common good. Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
We need to retool, create alternative energy jobs. We have to say no to sulfide mining, it's just too great a risk. We can't risk our water. I know those that are desperate for a paycheck have a hard time grasping this because they're blinded by the possibility of a job. We made people too desperate. I know that I've worked with some folks on the food shelf and there's a lot of folks that are desperate for a meal. And I'm sorry folks on the Iron Range are looking so hard for jobs. They're losing their kids moving away because there's not jobs. There's other ways. We can do a new deal. We can do like we did -- a green new deal would be a beautiful thing for creating the jobs, a lot of possibilities. There's so many other options. We have to think beyond what the corporation's analysis has given us. I think that's about it. Let's take care of each other.

They're trying to put this mine in at the very top of the watershed. So, it can pollute anything downstream. What's downstream? Some of our only clean water that is not at all contaminated in the entire state. I encourage you to look at the RAPS reports for local watersheds. A RAPS report is from the Pollution Control Agency, it's a watershed restoration and protection strategy. Please take these into consideration as you're making your decision because there's not a single RAPS report in the state that encourages further pollution and contamination of our watersways. We have very little fresh water in the entire world. Minnesota is already looking to export some of our water resources. This is an incredibly valuable resource, far more valuable than anything that's below our ground, any mineral, anything. Like everybody says, water is life, we need it to live.

I have my children here with me tonight that I educate, along with many others in the community. And what we teach them is that it's very important to take very, very, very high considerations as to what kind of developments that we are going to be making to affect these future resources. The risk is just far too great with this mining proposal. Water is a closed dynamic system, so nothing ever leaves it. What we put into it we generally cannot take out.

So, risking what very, very, very little clean water we have left on this planet as a resource just does not make sense for our future generations.

With that also in mind, this is a boom and bust system, this is not going to be a long-term benefit to our state, in my opinion. So, when it busts, who's left with the cost? It's not going to be us, it's going to be our kids.

I care so very much about our future generations. What are they going to have to drink? What are they going to have for life if we contaminate everything? We can't do this, please. Also, this is public land. How is leasing this to a private company going to benefit me wanting to access these public lands? How can I benefit from that forest? How can I benefit from these lakes that are public lands that are supposed to be accessible by everybody if it is under the control of a private corporation? I just want to say thank you to all of the water protectors that have been working just as diligently for the decade that this has been going on. I've been here with you for five years of it, let's keep on going. Please take this into consideration.

Hi, I'm Kim Davis, K-i-m, D-a-v-i-s, I'm from Shakopee, Minnesota and I support the water. I'm going to turn this over to Paul Christianson.
Paul Christianson  
Citizen  
Hi, good evening, I'm Paul Christianson, Kim's husband. Thank you very much for the opportunity to speak. I will keep it very short since we're at the end of the session. I'm a U.S. Navy veteran for clear water. My wife and I own property in Lake County and we will be building a house and moving to this region in about five years. And this type of mining does not belong in Minnesota. The toxic pollution from the mines will last hundreds of years, as we've heard. There's no guarantee that it will be cleaned up, even though they say it will. PolyMet and Glencore are only in this for short term profit. Please do not issue the permits. Thank you.

Julius Salinas  
Citizen  
My name is Julius Salinas, J u l i u s, S a l i n a s. And my father was a World War II combat vet, my uncles were combat vets. And there's Purple Hearts involved there. In 1971 and '72, those summers I worked at U.S. Steel. I made eight bucks an hour and I sure appreciate that. I support miners, but I do not support this mine.

Julius Salinas  
Citizen  
Insurance companies are in business to make money and they've proved to be very successful. They do well because they make the claim, doing the homework, reviewing the science and mathematical probability associated with risk before they're willing to accept them.

Julius Salinas  
Citizen  
According to PolyMet's own research the proposed copper-nickel mine would be in production for 20 years, but the proposed mine project is a con. The risk is clear, but is being clouded by the promise of money. How much is a clean environment worth to our children? The business plan is to go through the motions of appearing to care for the health of people, communities and the environment in order to receive required approvals that both unnecessarily expose every living thing in the Lake Superior watershed. Irreparable damage when the toxic waste is -- 99 percent is waste. This is not a sound decision and --

Julius Salinas  
Citizen  
Due to its incredibly high probability of contaminating the land and resources in ceded territories, this is not a sound decision. This proposed mine would also violate treaty rights granted to indigenous peoples by the U.S. government.

Julius Salinas  
Citizen  
The risk is clear, but is being clouded by the promise of money. How much is a clean environment worth to our descendents? How much money will it cost to have clean water and healthy habitat for plants and animals?

Julius Salinas  
Citizen  
The business plan is to go through the motions of appearing to care for the health of people, communities and the environment in order to receive required approvals that both unnecessarily expose every living thing in the Lake Superior watershed. Irreparable damage when the toxic waste is -- 99 percent is waste. This is not a sound decision and --

Julius Salinas  
Citizen  
The toxic liquid waste will need to be treated for 500 years. What are the odds of just one leak in 500 years? The proposed mine project is a con.

Julius Salinas  
Citizen  
The business plan is to go through the motions of appearing to care for the health of people, communities and the environment in order to receive required approvals that both unnecessarily expose every living thing in the Lake Superior watershed. Irreparable damage when the toxic waste is -- 99 percent is waste. This is not a sound decision and --

Alex Spitzer  
Citizen  
Hello, my name is Alex Spitzer, I'm a senior at the University of Minnesota. I'm studying environmental law. I'm originally from Chicago. One of the main reasons I wanted to come to the university of Minnesota is because Minnesota has been known for its progressiveness when it comes to environmental issues. And I refuse to stand by and let Minnesota be bullied into disregarding its environmental principals by corporations like PolyMet and Glencore.

Alex Spitzer  
Citizen  
These corporations don't care about what happens to Minnesota citizens, which is why it is your responsibility to intervene and protect them. Anyone who truly looks at and understands the science behind this project would undoubtedly see that it would be devastating for our state.
Alex Spitzer  
Citizen  
Copper-nickel mining is not like other mining. It is much more environmentally risky and dangerous than other kinds of mining. There has never been a copper-nickel mine built on a water rich environment that has not resulted in toxic water pollution. The U.S. Environmental Protection Agency has concluded that during the time the sulfide mine is operating, the rate of failure of pollution collection systems is 93 percent. After the mine closes, there's a 100 percent rate of failure of pollution collection. Seepage from PolyMet's copper-nickel sulfide mine, pits, tailings and other waste containing sulfate and toxic heavy metals would last for over 500 years.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Alex Spitzer  
Citizen  
That is long – PolyMet would have to be treating the seepage for over twice the age of this country. Claiming that PolyMet would responsibly take care of the pollution for that long is foolish. Additionally, PolyMet has admitted that millions of gallons of contaminated waste water from the mine site and tailings site would be released untreated into ground water. The seepage would pollute drinking water, wetlands, rivers and would increase downstream mercury contamination of fish. We need to stand our ground and protect Minnesota natural resources, taxpayers, and downstream properties. I love Minnesota and I would like to live here the rest of my life. I am not asking you, I am begging you, not just for me, but for my future family as well, please do not allow these foreign corporations to come here, destroy our environment and poison our communities.

The project includes engineering controls such as stockpile liner systems, seepage capture systems and wastewater storage and conveyance systems that are designed to limit and manage impacted water from the facility so that it does not impact groundwater or surface water. The effectiveness of these controls was evaluated in the EIS and the water quality permit requires their installation/operation.

The Annual Comprehensive Performance Evaluation Report required by the permit will provide an assessment of the performance of the engineering controls, including liner systems, using permit-required monitoring results and internal operational data to ensure that pollution of groundwater and surface water does not occur.

Brian Hanson  
CEO, APEX  
Well, it's not very often I get the last word, so that's great. My name is Brian Hanson, B-r-i-a-n, H-a-n-s-o-n. I'm a resident of Duluth and I grew up in Grand Rapids. I'm also the CEO of APEX, private sector led business development engine for Northeast Minnesota and Northwest Wisconsin. APEX investor members represent over 80 of the most influential companies in the region with a collaborative approach to promoting sustainable economic growth.

Today I'm here to urge the DNR and MPCA to respect the long, fair, and informative process that's been completed by issuing the permit to mine, along with related permits for the PolyMet NorthMet project. And please do so in a timely manner.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Brian Hanson  
CEO, APEX  
Back in 2013 APEX invited PolyMet's CEO, Jon Cherry, to speak with our group about the NorthMet project. Mr. Cherry informed our group about the quality of the copper, nickel, and precious minerals deposit. He talked about the massive recycling effort required to reuse the existing mining facilities of former LTV plant. He informed us that construction alone would require two million hours of work with thousands of tradespeople on site. He also spoke with pride about the 360 family sustaining jobs and 600 additional indirect jobs estimated to be created by the project.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Brian Hanson  
CEO, APEX  
All of that was great, but you know what was particularly interesting to the people in that room, people like me learning about the project, the permitting process and the protection of our environment. Mr. Cherry shared the details of four state and federal agencies working together on an array of permits designed to protect our environment. He talked about how PolyMet's staff and consultants, many of whom live and work right here in Duluth, working together to create a plan that would address potential issues and provide a basis for solid permits. Based on the information provided and with the input of APEX members, including chemists, engineers, and scientists, APEX members concluded that a resolution of support for the PolyMet NorthMet project was in order. And that resolution was passed in January of 2014.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Brian Hanson  
CEO, APEX  
Since then APEX has closely and carefully monitored the project, including the draft environmental EIS, the final EIS, and now these draft permits. In my assessment, the correct steps have been taken to move forward with the NorthMet mine permits. The DNR and PCA are issuing draft permits because PolyMet's mine can comply with strict state and federal environmental standards while protecting our land and water. Their detailed work includes more than ten years of diligent study and review. Let's get on with it folks. Thank you.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Doretha Reisenweber  
Citizen  
Water is life for you, me - all life. You of all must enforce proper stewardship of water for the future. Thank you Dorie R

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Another situation not referred to in the PolyMet plans or draft permits, prompts this concern. "What if other mining companies (for example Twin Metals/Antofagasta, Teck or Encampment) use the processing plant and operate beyond PolyMet's suggested twenty years? What would be the controls on PolyMet’s responsibility for mine closure? Would it be, in its, mandated to devolve to other companies? What legally binding assurances are there of reclamation, if and when PolyMet is no longer involved? Please make sure reclamation is fully covered regardless of ownership."

The monitoring requirements of the NPDES/SDS permit are effective upon issuance of the permit; this would include the construction period.

Concerns about the PolyMet Fact Sheets follow. In the Project Overview, page 1 regarding the 3 phases—particularly 2/ Mining operations: Apparently monitoring of water is to occur only during the mining phase. During construction Duluth Complex ores which are high in sulfide would be disturbed, thus increasing the chances of polluting groundwaters, surface waters and wetlands especially in the event of extreme precipitation. Those waters should continuously be monitored within, along the perimeters and beyond the perimeters of the company's property both prior to and during the many aspects of construction, not just during the mining operations and closure phases. It would be environmentally responsible, if the company would be required 1. to monitor and 2. to report on water quality (in real time) to the enforcing agencies throughout all phases: construction, operation and closure. Insist on that or deny the permits.

The permit does not authorize a discharge from an unproven or innovative treatment system. MPCA has reviewed the proposed WWTS technology and determined that it is capable of achieving the required effluent quality. The MPCA has added language to the permit to require construction of the WWTS components as proposed in the application. Construction of anything other than what is described in the permit will require a modification of the permit, with public notice and comment.

The permit complies with state and federal permitting rules and is independent of speculation on the future of state regulatory agencies.

Another concern is found on page 2: "PolyMet's goal is to transition to non-mechanical treatment, if the company is able to demonstrate to the satisfaction of the DNR and MPCA that a non-mechanical system could comply with all water quality standards. However, the DNR and MPCA are charged with protecting natural resources, thus setting up internal conflicts which might prevent the duty to protect the environment. I have often heard that the state legislature may establish a separate agency to be charged with the environmental protection aspect of such industries, leaving the DNR and MPCA to work separately on the promotion of natural resources for industries. Is the permit/contract written in such a manner as to transfer the job of environmental protection to a separate or different agency? If not, please correct the appropriate, binding legal documents to that effect to protect the public’s interest.

The permit does not authorize a discharge from an unproven or innovative treatment system. MPCA has reviewed the proposed WWTS technology and determined that it is capable of achieving the required effluent quality. The MPCA has added language to the permit to require construction of the WWTS components as proposed in the application. Construction of anything other than what is described in the permit will require a modification of the permit, with public notice and comment.

The permit complies with state and federal permitting rules and is independent of speculation on the future of state regulatory agencies.

Next please consider RECLAMATION. The DNR/MPCA should not accept an indefinite time line such as suggested here: "... mining so areas can be reclaimed as soon after initiation of operation as practical." The company should claim immediately, or provide the agencies an acceptable explanation forthwith of the specific extenuating circumstances delaying the reclamation.

The monitoring requirements of the NPDES/SDS permit are effective upon issuance of the permit; this would include the construction period.

The extent to which such a proposal could affect the terms and conditions of the PolyMet permit would also be subject to review, and may result in supplemental environmental review of the PolyMet project and/or modification of the PolyMet permit, with public notice and comment.
Further, I note that wetlands mitigation would use wetland bank credits “as appropriate.” The state agencies charged with oversight should delineate what “as appropriate” means and not leave the issue in the hands of the permits. The agencies need to demand specific and accountability. It seems there is a long history within the agencies of passing the buck and not demanding accountability. This is not acceptable on the agencies’ part. In the case of PolyMet, the DNR and MPCA are dealing with Minnesota’s water quality. Deny these permits.

I would be remiss not to mention the reclamation “happy talk” — to wit: “provide for subsequent land uses such as wildlife habitat, timber production and recreation.” From my reading about sulfide mining over the past years, AMD seepage and, worse yet, major breaches leading to environmental devastation have occurred in New Guinea, South America, Mt. Polley, BC, Canada, and elsewhere throughout the world. What “subsequent land uses” is PolyMet planning? Even Minnesota, is not exempt from the laws of nature, no matter what one believes to be the strength of our ever-degraded environmental protection laws, much of which came from our own state’s lawmakers. Take special note of Reps. Nolan, Emmer and Waltz legislation and our illustrious president for the recent legislative and executive travesties inflicted upon Minnesota—HR 3115 and HR 3905 and the evisceration of the EPA.

The reclamation section further goes on to claim there would be “monitoring and maintaining of bodies of water.” Yet, in the “environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Another aspect of concern is DAM SAFETY. I’ve commented on it in previous letters, except for the portion on Minnesota Rules 6115.0410, subp. 8 “potential hazard to health, safety and welfare of the public and the environment...” YEARLY? The reporting should be monthly or, better yet, weekly even during the non-growing season. Dirt might be moved, water channels and roads disturbed, etc. Require that the accounting be accurate and up-to-date. Keep the mining company accountable to the agencies. I suggest weekly reports, even if they simply report “no change at such and such area from date of last report.” I think the water is at serious risk from PolyMet’s proposed mining project. Weekly reports to agency staff tasked with evaluating the reports at the onset and throughout reclamation on positively or negatively affected aspects and areas should be required to be sent to and evaluated by agency staff tasked specifically with evaluating the reports and enforcing violations or “slip-ups.” Looking the other way or letting problems slip through the cracks and fissures is not acceptable on either's part. Our water quality is at grave risk.

Another concern is VAST AMOUNTS OF WATER! Now consider the cumulative appropriations of water should Twin Metals/Antofagasta, Teck and Encampment begin mining the Duluth Complex. Such a drawdown would surely conflict with Minnesota statutes or regulations.

White Bear Lake, MN, has already experienced an OVER APPROPRIATION of water (Aug. 2017 news coverage of lawsuit). Who is the DNR overseeing this? How might OVERLOOK this PolyMet situation? Maybe too many divisions over too many years were working on the problem and/or miscommunicated, but, in the White Bear Lake over appropriation, there were citizens who tried to get someone to pay attention and fix the problem, before it became any worse. That is what the public comments on the PolyMet draft permits are for, too. I shall be more than charitable and circumspect in saying that it is human to make mistakes. It is not difficult to wonder, if someone in one or both agencies were to become unable to perform the difficult tasks assigned thus unfortunately resulting in the selling short of our precious water quality and our natural resources with the resultant perpetual (admittedly 500 years) water pollution. This is unacceptable. Deny the permits.

Deny PolyMet draft dam permits. Looking at the revised permit to mine, p. 354, Flotations Tailings Basin, lines 10-12 discuss a PMP rainfall event (35” in 72 hours) as rare and “estimated to range from 100,000 to 1 billion years. (Reference [40]) Climate change is real—unconvenient truth the drafts should not overlook.” "Facts do not cease to exist, because they are ignored.” (Aldous Huxley) Recent extreme rain events in the US and throughout the world demand review and recalculations. The 100,000 to 1 billion year time frame is ridiculously far off the mark. It does not appear to be a typo. Deny the permits. Permit review did consider extreme storm events. Mine water sumps and ponds typically have normal operating capacity for the 100-year, 24 hour precipitation event (approximately 5.2 inches), and have additional capacity within the freeboard as a safety factor. In the case of a larger 500-year or 1000-year storm event, water can be transferred to the Equalization Basins if needed, where sufficient freeboard capacity is available to contain the aggregate volume of a 100-year storm event (estimated at 7.0 inches of precipitation in 24 hours) without an overflow.
I have been direct about my concerns. The DNR and the MPCA are responsible to the people of Minnesota, both to
and for wet tailings both of which are NOT RECOMMENDED industry practices? In fact since the Mt. Polley, BC breach
in 2014, those practices are repeatedly cited as specifically NOT recommended, most recently in November of last year
by the UNEP (UN Environmental Programme).

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during
the environmental review process and do not reference specific sections
of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made
to the draft permit in response to these comments.

Comment noted. This comment pertains to issues considered in the
development of the DNR Dam Safety permit. No changes were made to
the draft permit in response to this comment.

What other suspect or substandard practices are the permits masquerading as standard practice? On p. 357, 11.4.7.1
Existing Conditions describes construction atop the decades-old LTV tailings site. How does that make for a solid
foundation? On page 359 the last two lines read “is designed to keep the hydraulic head on the lower liner system very
low.” “Very low?” The document should specify below what scientific metric of low whether in inches or centimeters.” Accurate measurements matter when attempting to construct systems to prevent toxic overflows.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during
the environmental review process and do not reference specific sections
of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made
to the draft permit in response to these comments.

Comment noted. This comment pertains to issues considered in the
development of the DNR Dam Safety permit and Permit to Mine. No
changes were made to the draft permit in response to this comment.

These draft permits keep putting the cart in front of the horse...waiting until they are forced to act, when, lo and
behold, it might be too late to act effectively to prevent long-lasting, negative impacts. Someone keeps putting the fox
in charge of the chicken coop....the permittee in charge of writing the permits. How irresponsible! Minnesota’s water is
at risk and yet the citizens are expected to trust that PolyMet will be able to do it right, and that the agencies will
enforce protections. Look at Table 11-1 on page 364—8 boxes contain “N/A.” If that means not available, as it
commonly does in other material, how can the DNR or the MPCA or any other expert reviewing the chart find that to
be sufficient information on which to grant any permit? In what business model would “N/A” be deemed acceptable
for an industry, poisoning such grave environmental risks? Deny these draft permits.

Comment noted. Comments related to this theme generally pose
questions or contain statements about issues previously considered during
the environmental review process and do not reference specific sections
of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made
to the draft permit in response to these comments.

Comment noted. This comment pertains to issues considered in the
development of the DNR Dam Safety permit and Permit to Mine. No
changes were made to the draft permit in response to this comment.

I have been direct about my concerns. The DNR and the MPCA are responsible to the people of Minnesota, both to
current and future citizen/stakeholders, for maintaining our clean water legacy. Copper-nickel sulfide mining
companies are beholden to their shareholders to maintain a profit margin. But at whose expense and to what lengths
are the copper-nickel sulfide mining companies willing to go to make money? Less than 1% of the ore mined contains
the minerals the mining companies are seeking. Metal markets fluctuate. Mining booms and busts leaving communities
broken and resources depleted, destroyed, even devastated in the case of copper-nickel sulfide mining. Deny the
permits.

Comment noted. Comments related to this theme generally pose
questions or contain statements about issues previously considered during
the environmental review process and do not reference specific sections
of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made
to the draft permit in response to these comments.

Comment noted. This comment pertains to issues considered in the
development of the DNR Dam Safety permit and Permit to Mine. No
changes were made to the draft permit in response to this comment.

Would PolyMet or any of the other mining companies want to operate in Minnesota, if we truly had stringent
environmental protection laws? Environmental laws have been all but eviscerated since the Clean Water Act. Each
state legislative session for some years has attempted to whittle away at Minnesota’s environmental protection
statutes and regulations.

Another question to consider is would PolyMet or the other mining companies want to mine these low grade ores
here, if Minnesota had very little water? I think not. Water is required in abundance to mine. Water which Minnesota
apparently is willing to sell for cheap—$8 for how many thousands or is it millions of gallons??? Water is life. Do not
give away future generations’ clean water legacy. Deny all of PolyMet’s draft permits.

Please, protect the waters. A sustainable future for Minnesota depends upon this. Deny PolyMet’s draft permits. Thank
you for deliberating over these questions and concerns. Yours for maintaining our water legacy.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Name</th>
<th>Role</th>
<th>Comment Text</th>
</tr>
</thead>
</table>
| 453        | Doretta Reisenweber | Citizen | **To the MN DNR and the MN PCA:**

Once PolyMet operations contaminate the water, no amount of financial assurance will return the treated water to the original purity of the waters in their pre-mining state, but then, who would know? Were water quality baselines established as part of the permitting process? Of course, water quality is not the issue in these comments. The issue of concern in these comments is the lack of financial protection in the permitting process. Hence I ask the agencies to deny the PolyMet permits. |

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments. |

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments. |

| 454        | Doretta Reisenweber | Citizen | **Something to consider is that PolyMet, which has no mining experience whatsoever itself, has not pointed to any copper-nickel sulfide mine, which has operated for even ten years without polluting the water. No amount of money, if financial assurances and bonds, etc. were more than empty promises, has been shown to return to the original purity the water in the closed sulfide mine sites, which top the EPA’s Superfund list, the clean-up costs for which are estimated to be up to $54 Billion. Deny the permits.** |

Minnesota’s taxpayers including those downstream would be put at financial risk from the DNR’s lax permitting. A 27% upstream dam failure risk, such as PolyMet’s upstream-type dam plans call for, is too big a risk for centuries of water pollution. Deny the permits. |

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments. |

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments. |

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |

| 455        | Doretta Reisenweber | Citizen | **DNR’s permit indicates that PolyMet could receive a permit by putting up a mere $75 million, when the cost of PolyMet’s closure and treatment for the first operating year is estimated to be $544 million. Where did the $544 million come from? [DNR, Draft Conditions, PTM] How many years would it take to earn that amount? That is scarcely 14 cents on the dollar.[J ust] Who is the DNR working for—PolyMet or the people? The Minnesota DNR should not be enabling this risky business knowing full well the very real potential for failure. Let PolyMet itself or Glencore ante up the money, but do not grant PolyMet a penny. Deny the permits.** |

The Minnesota rule 6132.100 on copper-nickel mines demands up front “financial assurance” to cover closure and long-term treatment in case the project folds the first year of operations prior to a mining permit being issued. Yet, reports I have read indicate Trump issued an executive order to the EPA early in December of 2017 requiring no financial assurance from hardrock and coal mines. If the president were to have rescinded the financial assurance requirement, might that put Minnesota requirements in a predicament? [Earthjustice, Dec. 04, 2017, “Trump EPA Abandons Safeguards Protecting Taxpayers from Mine Cleanup Cost: Agency decision leaves communities at risk and taxpayers facing multi-billion dollar bill for toxic releases.”] How would such an executive order affect Minnesota law? We need a solid answer in the tumultuous times of the Trump administration. PolyMet has estimated it would require $72.6 million merely to clean up existing pollution at the old LTV taconite tailings site, before even taking into account the clean-up costs of PolyMet’s newly-generated pollution. [PolyMet Form 20-F Annual Financial Report to U.S. SEC, for year ending Jan. 31, 2016] That looks like the DNR is telling PolyMet it is OK to put up less than $3 million to cover costs for PolyMet’s own copper-nickel mine, before it receives a mining permit. Who benefits from that sort of financial deal-making? Not the taxpayers. Not the agencies, which are not liable for any problems. Who benefits? It appears to be the mining company. Is that a surprise, when the mining company also appears to be writing the permits? |

I object to state agencies granting an under-resourced, under-financed company like PolyMet with zero mining history carte blanche. Deny the permits. |

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments. |

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments. |
Before even considering a permit to mine application, Minnesota law 613.1100 requires that a copper-nickel mining company verify that it has liability insurance “in an amount adequate to compensate persons who might be damaged as a result of the mining operation or any reclamation or restoration connected with the operation.” It’s supposed to protect both folks who own land downstream and the employees. However, neither agencies nor the people seem to have any idea what the actual costs of PolyMet’s potential environmental liability insurance would be. Nonetheless, the DNR would grant PolyMet a permit to mine with a mere $10 million in liability policy to cover leaks, spills and dam failure. [DNR, Draft Conditions, PFM] What?!? In the thousands of pages nowhere are mentioned the costs and dangers to downstream property owners, the drinking water, the whole of the Fond du Lac reservation, or the cities from Hoyt Lakes downstream to Duluth and Lake Superior were the dam to fail. No health impact study, no economic impact study... irresponsible! No, not until a year after deposit of tailings do the DNR draft permits require PolyMet to compute liability costs.

Wouldn’t those costs be borne by Minnesota taxpayers, if PolyMet fails to have enough insurance until a year after tailings are deposited? If this were a boat, it would have so many leaks, it could not float. Deny the permits.

Why should the above lack of sufficient liability insurance be a red flag for the Minnesota DNR? The Imperial Metals company had put up $75 million in bonds for the failed Mt. Polley mine in British Columbia, Canada. That is $63 million more than the DNR is requiring for PolyMet’s proposed NorthMet, a very similar mine. Indeed that was not enough. So far, reclamation costs for the 2014 Mt. Polley dam collapse has run over $100 million. After four years it is still not “cleaned up.” In November of 2017, Moody’s rated Imperial Metals as “a very high default risk.” So how would PolyMet rate with Moody’s? Look at the similar and sharp downward trajectory PolyMet’s plan and the DNR’s draft permit for PolyMet to mine place Minnesota on. Both indicate catastrophic dam failure risk and underfunded financial liability. There are dangerous similarities between Mt. Polley and PolyMet. Deny the permits.

I enclose a copy of Rebecca Otto’s statement to the DNR on PolyMet’s draft permits. It was read at the February 8, 2018 hearing in Duluth. Otto makes it abundantly clear that these permits should be denied. Minnesota’s current State Auditor concludes: the draft PolyMet permit to mine does not protect the public interest, puts people downstream at risk, and leaves taxpayers unprotected. As drafted, the PolyMet permit to mine doesn’t protect Minnesotans and should be rejected by the DNR.

Both of the attached provide thoughtful, expert commentary urging the DNR to deny these permits. For myself as well as current and future Minnesotans, I urge you to deny PolyMet’s draft permits.

Thanking you for your attention, I am yours for a better Minnesota,

Doretta Reisenweber

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.
Dear Mr. Stine,

Now, the MPCA draft section 401 certification accepts PolyMet's "exclusions" and junk science to erroneously claim that the PolyMet sulfide mine project would not endanger the environment and human health. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

It appears that the DNR and MPCA have allowed PolyMet/Barr Engineering to dictate what will and will not be considered in the permits. If that is the case, it is irresponsible. How often have both agencies looked the other way only to have the people face huge environmental and health costs? Cases in point include US Steel's Superfund site in the St. Louis River and the millions being spent trying to clean it up in recent years, the state's court battle with 3M over PFC's and the greatly reduced fine brought to light just this past week, the exceedance of water withdrawal from Forest Lake-August 2017, and numerous variances and violations overlooked for decades. It is time the people demand strict protection of our waters. From all of the facts environmental organizations and citizens are putting forth and from what I have learned, I insist that the agencies deny PolyMet's draft permits and protect future generations' water.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

It is, but it IGNORES THE COST OF NOT PROTECTING OUR CLEAN WATERS IN MINNESOTA'S NORTHEAST. An ounce of prevention is worth a pound—make that tons—of cure. Have the agencies considered the cost of allowing the waters of northeastern Minnesota to become polluted by toxins from copper-nickel sulfide mining? Have the agencies factored in costs for "trying" to treat the water basically forever, human health impacts (due to rising mercury levels and heavy metals), devastation of plant and animal life, the elimination of the way of life for those peoples whose lives depend to large degree on "living off the land?"

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I oppose this permit! Please DENY the PolyMet permit!

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

State agencies refused to evaluate impacts on human health from the PolyMet mine project using an open and public health impact assessment (HIA) process, even though 30,000 Minnesota medical and health professionals asked for an HIA to assess pollution threats including brain damage to fetuses, infants and children from mercury contamination of fish.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

Now, the MPCA draft section 401 certification accepts PolyMet's "exclusions" and junk science to erroneously claim that the PolyMet sulfide mine project would not endanger the environment and human health.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.
Citizen

The PolyMet draft NPDES/SDS permit and draft 401 certification would conflict with federal and state laws and would erroneously claim that the PolyMet sulfide mine project would not endanger the environment and human health. The MPCA draft water pollution permit for the PolyMet sulfide mine project wouldn't even provide appropriate monitoring; PolyMet's contaminated wastes to groundwater and then to drinking water and surface water from mine pits, waste rock stockpiles, tailings basins and other sulfide mine waste storage facilities. The project includes engineering controls such as stockpile liner systems, seepage capture systems and wastewater storage and conveyance systems that are designed to limit and manage impacted water from the facility so that it does not impact groundwater or surface water. The effectiveness of these controls were evaluated in the ES and the water quality permit requires their installation/operation. The Annual Comprehensive Performance Evaluation Report required by the permit will provide an assessment of the performance of the engineering controls, including liner systems, using permit-required monitoring results and internal operational data to ensure that pollution of groundwater and surface water does not occur.

This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.

The MPCA draft section 401 certification for the PolyMet copper-nickel mine project. The proposed NPDES/SDS permit is weak and fails to control the biggest threat from sulfide mining – the seepage of contaminated wastes to groundwater and then to drinking water and surface water from mine pits, waste rock stockpiles, tailings basins and other sulfide mine waste storage facilities.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Please accept your Agency's mission as a protector of Minnesota waters, fish, wild rice, wildlife, wetlands and human health not the protector of foreign mining companies seeking profit at our expense. On behalf of the people of Minnesota and clean water, I ask you to reject and deny the draft water pollution (NPDES/SDS) permit and the draft 401 certification for the PolyMet copper-nickel sulfide mine project.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

I strongly urge the MPCA to deny water pollution (NPDES/SDS) permit and deny the Section 401 certification for the PolyMet copper-nickel mine project.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Here are my reasons that the PCA should reject PolyMet’s permit applications for their earthen tailings dam, their liquid slurry pipeline pumping operation and their open pit sulfide mine near the headwaters of the St Louis River:

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

For starters, it is critically important to understand that the foreign Penny Stock company called PolyMet has a current share price of $0.63 per share, down from $1.50 per share in 2014. PolyMet, a total amateur in the business, has never operated a single mine in its short corporate life nor has it earned a single penny from mining. Their only income comes from selling shares to speculators and borrowing money from investors to pay their executives and employees. In addition, PolyMet, being an inanimate money-making corporation (that by definition has no conscience), cannot be trusted to tell the public about all the risks to the environment (including wildlife, fish, water, soil and air) that their exploitation of the earth could generate.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Therefore PolyMet can be expected to hide the fact that their operations could easily cause a massive environmental catastrophe similar to what happened at Mount Polley, British Columbia in 2014 (carefully study the article further below for the frightening details). Mount Polley was a state of the art copper mining operation and had a state of the art tailings pond with state of the art earthen dams holding back the millions of cubic meters of highly toxic heavy metals in the slurry that burst through and devastated, permanently, the downstream creeks, previously pristine lakes and rivers and destroyed billions of dollars of property and economic values.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Every citizen stakeholder that is potentially adversely affected by PolyMet’s operation deserves to be fully informed by (theoretically) unbiased regulators such as the MN PCA about the potentially catastrophic pollution risk to the water users who happen to live downstream from the massive tailings lagoon, whose (eventual) 250 foot high earthen dam is at a high risk of failing in some way or other sometime in the near future, especially in the event of a large deluge of rain, an earthquake or a design flaw that could cause the earthen dam to dissolve, leak, over-top or structurally fail in some other way, including the probably high likelihood of being damaged by sabotage. The risks will exist for 500 years (or eternity, whichever comes first for human life on earth), since the toxic metals (see list below) in the lagoon will never degrade into non-toxic forms.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

In addition, the vulnerable pipeline that will carry the toxic sludge from the processing plant to the slurry pond is at high risk of sabotage, with serious environmental contamination that could possibly be even worse than the bursting of a dirty frac oil pipeline such as could happen from the foreign pipeline company Enbridge as it transports dirty oil from the tar sands in Canada or from the Bakken oil fields in North Dakota. I don’t believe that PolyMet has dealt with the possibility of sabotage.

The project, including the pipeline referenced in the comment, is on private property upon which public access is not authorized. The pipeline in question is within the main processing area where project activities are concentrated and unauthorized access would be easily detected. Further, if the pipeline was damaged, any spills would flow to the disposal facility and would not leave the site.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Up to this point, both PolyMet and Twin Metals (and all of the governmental agencies that have been involved in the approval process) have been seriously negligent in educating the public about all the potential lethal dangers of either the pipeline or the massive amount of toxic liquids that will forever cause the deaths of any water bird that lands on the lake-like lagoon (a la Butte, Montana’s ever-lasting poisonous mining tailings “pond” and the nearby defunct Berkeley open pit mine (now a toxic “lake”) that has had its water pumps shut down and is now nearly filled to the brim with poisonous water that has high levels of dissolved toxic metals and a pH approximating that of stomach acid).

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

It seems to me that the MN PCA (and the DNR and Forest Service) would be exceedingly naive if it trusts PolyMet’s promises to treat the water from the tailings pond by some unaffordable, pie-in-the-sky reverse osmosis or other de-watering plan that has not yet been tried on a commercial level. Those promises are theoretical and should not be trusted.

Reverse osmosis is a long-established water treatment technology that is used in a wide variety of applications, including mining, world-wide. To demonstrate that membrane treatment technologies were capable of meeting treatment targets for the PolyMet project, the company conducted a 6-month pilot testing program using seepage water from the existing tailings basin. For a portion of the test, additional metals were added to the test influent to more closely simulate projected effluent quality (i.e., wastewater that would be expected from the mining of sulfide-bearing ore). Results of the pilot testing were used in MPCA’s engineering review of the treatment system design, and MPCA determined the proposed design is capable of providing the necessary level of treatment.
To more fully understand the importance of the ongoing Butte, Montana disaster, I attach below an aerial view photo of Butte's serious Superfund site that will be impossible for the EPA to remediate. Every attempt to de-acidify or alkalize the tailings lagoon has failed miserably. And now, the future of the city of Butte, which was once happily promised jobs, jobs, jobs by the copper bosses, is extremely bleak. Butte, whose rivers and streams experience regular fish kills due to the copper mine-caused water contamination, is becoming de-populated. Could the same thing happen to downstream communities in northern Minnesota? (See my article about the Butte environmental catastrophe that was published at http://www.scoop.co.nz/stories/HL1612/S00062/poisoned-snow-goose-in-butte-toxic-nature-of-coppermining.htm.)

The DNR, the PCA and the Forest Service are surely ethically - and also legally, I hope - obligated to adequately educate and fully inform every citizen that relies on the drinking water that is in the nearby aquifers about all the dangers of extracting (and grinding up into a fine powder) low-grade copper sulfide or nickel sulfide ore (99% of which is hazardous waste material), whether the risks are catastrophic or minor.

One cannot expect the full disclosure of all risks by any corporation, whether it is a major trans-national mining corporation like Glencore or Antofagasta or a rookie Penny Stock company like PolyMet or Twin Metals (neither one of which have ever earned a penny at mining anything). Of course, their share-holders and corporate executives would not stand for totally full disclosure, because such information could adversely affect their investments or the company’s prestige.

Regulatory agencies like the PCA and DNR are ethically obligated to inform those of us whose precious and increasingly threatened water is at high risk of being contaminated, especially if the culprits are foreign corporations that have investors who don’t live here. The St Louis River – and thus Lake Superior – is definitely at risk of contamination if the dam fails or the pipeline breaks or the pipelines are sabotaged. Any such failure – whether gradual or sudden - will impact millions of people, animals and plants downstream.

In the worst case scenario (the Mount Polley scenario), the St Louis River watershed (and therefore Lake Superior) will be poisoned to such a degree that it will never be remade or usable for fishing, hunting, farming, wild rice harvesting, canoeing, swimming and drinking by those overwhelmingly large numbers of area residents that will never benefit from a copper mine. Even a trillion dollar escrow account posted by PolyMet would be woefully inadequate to meet the costs of fully trying to clean up an environmental catastrophe such as happened at Mount Polley. The chances of the failure of an earthen tailings dam with walls that are planned to rise to 250 feet high which would result in an massive environmental disaster in northern Minnesota will significantly increase every time the dam needs to be raised. The gradual raising of an earthen dam to the towering heights of 250 feet (just try to imagine that!) by large bulldozers that will probably use the easily available sand and soil from the area (probably including the finely-ground-up powdery tailings material that would otherwise be part of the liquid sludge that winds up inside the lagoon). Please study the state-or-the-art tailings lagoon at Mount Polley, which had soluble walls that only rose to 130 feet. Any earthen dam wall is at risk of dissolving in a torrential rain, and the raising of each bulldozed level will necessarily have to be narrower and narrower and therefore increasingly more likely to leak, liquify, over-top and/or burst.

The conditions of permits required by both DNR and MPCA are designed to minimize impacts from day-to-day activities as well as minimize the risk of catastrophic failures occurring. For example, the design of wastewater sumps and storage basins authorized by the NPDES/SDS permit takes into account the accumulation of water from large storm events. Dam safety issues are directly addressed in the DNR’s Dam Safety permit and financial assurance conditions are included in the DNR’s Permit to Mine.

The public needs to understand that the liquid slurry that is piped into the lagoon by a pipeline system of undesignated length or safety will contain toxic levels of some of the following common sulfide-mining, highly toxic heavy metal by-products (that are only safe if they remain buried in the ground as un-processed sulfide ore). The poisonous waste metals that commonly occur – mixed in where copper sulfide and nickel sulfide ores are mined include Lead, Arsenic, Zinc, Cadmium, Vanadium, Antimony, Manganese and Mercury, most of which often exist as sulfide ore, as opposed to the mostly oxide-containing ore bodies where iron mining is done. The above list of hazardous waste minerals were the ones that were present in large quantities in the contaminated sludge in the sludge lagoon that first totally destroyed Mount Polley’s Hazeltine Creek and then heavily and permanently contaminated Polley Lake, Quesnel Lake and then the Quesnel and Fraser Rivers. en route to the Pacific Ocean.
493  Gary G. Kohls  Citizen  Duluth residents, representing the largest concentrated population that could be adversely affected by a copper/nickel tailings/lagoon disaster upstream, need to be fully informed that, in the event of a leak or full-fledged collapse of the dam, the fishable, swimable St Louis River and eventually Duluth's drinking water from Lake Superior will be contaminated, perhaps mortally and irretrievably. The over 100,000 people who would have their lives disrupted heavily out-number the small number of miners who would be "lucky enough" to land on of the scarce, temporary jobs that might destroy their lives and livelihood. Earthen dams are notorious (albeit well hidden from public view) for dissolving and collapsing, especially in the presence of certain weather circumstances that are out of the control of any mine operator. One only has to consider the frequent flash floods that result from a sudden deluge of rain similar to the one Duluth experienced a few years ago - and which are increasingly common all over our warming, climate-unstable planet.

To back up this testimony, I offer the following videos - plus an eye-opening article about the Mount Polley environmental disaster of 2014, which should make the DNR decision-makers reject PolyMet's permits. Mount Polley is considered the worst environmental catastrophe in the history of Canada. And it was man-made (actually corporate-made).

Thank you for your attention. Gary G. Kohls, MD, Duluth, MN

494  Gary G. Kohls  Citizen  This comment is supplemented by supporting articles and video links.  Conclusion statement. No response needed.

495  Lori Andresen  Save Our Sky Blue Waters  These comments and requests are being submitted on behalf of the following conservation organizations: Save Our Sky Blue Waters, Save Lake Superior Association, Wetlands Action Group. On 3/16/2018, I emailed copies of these documents to the MPCA's Anne Moore and the info.pca@state.mn.us email address listed on the MPCA website. I talked with numerous individuals at the MPCA offices, including Anne, about when the public comment period ended for the PolyMet project. Staff I spoke with at the MPCA assumed it must be midnight, since the website said the MPCA's public comment period for the PolyMet NorthMet draft permits was open until March 16, 2018. The website does not give a definitive time for when the comment period closes, just the March 16 date. The MPCA's website does not say the comment period closes at 4:30pm, which is totally misleading to the general public.

How many people weren't able to send/upload their comments because the MPCA did not specifically say what time on 3/16/2018 the comment period closed and found out too late to submit a comment because the MPCA shut down the website portals early?

Thank you.

496  Elaine Palcich, LeRagger Lind, Bob Tammen  Wetlands Action Group, Save Our Sky Blue Waters  These comments are being submitted on behalf of the following conservation organizations: Save Our Sky Blue Waters, Save Lake Superior Association, and Wetlands Action Group (hereinafter, "Organizations"). The Organizations submit these comments and Petition and Request for a Contested Case Hearing on the Minnesota Pollution Control Agency (MPCA) proposed Clean Water Act Section 401 Water Quality Certification for the Section 404 (Wetlands) Permit for PolyMet Mining, Inc.'s proposed NorthMet Project. The Conservation Organizations believe that the NorthMet Project may result in water quality standard violations on several bases. Some of these are covered by the Petition for Contested Case Hearing on the NPDES/SDS Permit that will be submitted by Minnesota Center for Environmental Advocacy, et al. We are also requesting a contested case hearing on the Water Quality Permit for the proposed PolyMet-NorthMet Mine. Background statement for comments and petition for contested case hearings to follow. No response needed. Specific comments are addressed individually.

497  Elaine Palcich, LeRagger Lind, Bob Tammen  Wetlands Action Group, Save Our Sky Blue Waters  Save Our Sky Blue Waters (SOSBW) is a Duluth based grassroots non-profit organization dedicated to protecting the waters, forests, wildlife and local communities of Minnesota’s Arrowhead Region. The Arrowhead Region has been known as one of the most magnificent areas of the state, for its majestic forests, wetlands, and waters and because it contains the headwaters of three great watersheds: north to Rainy River, east to Lake Superior, and south to the Mississippi. The protection of these valuable resources is SOSBW's core mission. SOSBW developed in response to proposed copper-nickel sulfide mining and exploration in northeastern Minnesota and has consistently participated at all levels in the ongoing environmental review and approval process involving the proposed PolyMet NorthMet Mine proposal. Protecting the health of the St. Louis River watershed and Lake Superior is a key component of the mission of SOSBW. Save Our Sky Blue Waters' members live, depend upon, enjoy, recreate, fish, eat and gather locally from the lands and waters, and own property in the area that would be adversely impacted by PolyMet's proposed mine.

Background statement for comments to follow. No response needed. Specific comments are addressed individually.
498 Elanne Palcich, LeRoger Lind, Bob Tammen

Save Lake Superior Association (SLSA) is headquartered in Two Harbors, MN with members residing in the three states and a province on Lake Superior’s shoreline and watershed. SLSA has about 250 members, many of whom fish and recreate along the North Shore of Lake Superior, in its watershed, and in the St. Louis River estuary. The mission of SLSA is to prevent further degradation of Lake Superior and to promote its rehabilitation. SLSA was formed in 1969 to stop the discharge of taconite tailings into Lake Superior by Reserve Mining Company. This waste material contains many of the same toxins such as mercury and asbestos fibers that would be generated by the mining and processing of sulfide ore by PolyMet. As stakeholders SLSA is concerned about the potential destruction of natural habitat and the pollution of both air and water in the watershed of Lake Superior, and ultimately the Lake itself, should PolyMet be permitted. Lake Superior and its watershed are downstream and downstream from current taconite and proposed sulfide mining, both of which emit these toxic substances. Even now SLSA’s members, friends, and families, especially children, must limit their fish consumption due to the continuing pollution. Many are unaware of the danger and continue to consume fish as part of their daily diet. SLSA’s members, and others who visit the local parks, streams, trails, shoreline, and the lake itself, are unknowingly exposed to these toxins. The release of more toxins by new mining operations would exponentially increase the pollution of the air we breathe and the water we drink.

Specific comments are addressed individually.

499 Elanne Palcich, LeRoger Lind, Bob Tammen

Wetlands Action Group (WAG) represents citizens of Northeast Minnesota seeking to protect the region’s waters, wetlands and watersheds. WAG became active following an improper decision by St. Louis County commissioners in 2006 to enter into an agreement for a wetlands mitigation plan for the PolyMet mine. Legal action by WAG and local citizens nullified this agreement. WAG has continued to follow, make comments, and attend meetings and hearings on the PolyMet proposal along with simultaneous wetland actions set in place to facilitate mining. Its members and supporters depend upon the water, wetlands, forests, and ecological resources of our area, and its mission is to preserve these resources for present and future generations. WAG's members who recreate, fish, eat wild rice, live in this area, or otherwise enjoy the Arrowhead region would be harmed by PolyMet’s mine if it were approved.

Our groups believe the permits for PolyMet’s proposed sulfide mine must be denied. The proposed permits cannot and do not protect future generations from the long-term impacts of sulfide mining.

Specific comments are addressed individually.

500 Elanne Palcich, LeRoger Lind, Bob Tammen

PolyMet’s permits are written to allow contamination up to the site’s boundary line, which encompasses many square miles. In Minnesota, groundwater belongs to the public even when it is located within private property, just as surface water does. The permits need to address how polluted water from the PolyMet site will impact ground water. The permit includes provisions intended to prevent the groundwater from being polluted. See response to Comments Water-510 and Water-248. The permit ensures that groundwater outside the seepage capture system will not become polluted.

Because no new facts were presented, the MPCA adequately addressed the issue, and there is no reasonable basis for a dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); See Matter of Solid Waste Permit for the NSP Red Wing Ash Disposal Facility, 421 N.W.2d 398, 404 (Minn. Ct. App. 1998) (hereafter “Red Wing”), In the Matter of Amendment No. 4 to Air Emission Facility Permit , 454 N.W.2d 427, 430 (Minn. 1990) (hereafter Amendment No. 4.) (holding that the petitioner must show evidence can be produced contrary to the proposed action) In addition, the MPCA has adequately addressed the issue. Therefore, a contested case hearing would not aid the Commissioner. Minn. R. 7000:1900, subp. 1(C). (C); In re City of Owatonna’s NPDES/SOS Proposed Permit Reissuance for Discharge of Treated Wastewater , 672 N.W.2d 921, 929 (Minn. Ct. App. 2004) (hereinafter “City of Owatonna”) (holding “a genuine question concerning whether the MPCA adequately addressed the disputed fact issues” provides grounds for a hearing). Furthermore, this comment does not fall within the scope of the NPDES permit or 401 certification.

501 Elanne Palcich, LeRoger Lind, Bob Tammen

The Environmental Impact Statement (EIS) promised that an underground wall built to contain and collect groundwater in the most polluted areas will be at least 90 percent effective. The permits deem the system acceptable if it works under “average annual conditions,” effectively disregarding the potential for snowmelt and heavy rainfall to flush pollution through cracks in the wall. The permits provide no standards and no fines if the system fails — even if surface streams become polluted as a result.

The MPCA has removed the “temporary conditions” language and has revised the language of the permit in light of the comment to state that if an inward gradient is not reestablished within 14 days of detection, it is a violation of the permit. The permit also requires monitoring of the Category 1 stockpile paired wells/piezometers weekly following a 100-year storm event to ensure that monitoring and any necessary preventative maintenance occur promptly.

In the event of noncompliance with the permit, the assessment of penalties is determined through the MPCA’s enforcement process. As with any NPDES/SOS permit in Minnesota, penalties are not “pre-established” as a term of the permit. MPCA enforcement actions include corrective actions to be taken by the regulated party.

Because no new facts were presented, the MPCA adequately addressed the issue, and there is no reasonable basis for a dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000:1900, subp. 1(A), (C); see Red Wing; Amendment No. 4; cf. City of Owatonna.
<table>
<thead>
<tr>
<th>Page</th>
<th>Name</th>
<th>Group</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>502</td>
<td>Elanne Palcich, LeRoger Lind, Bob Tammen</td>
<td>Wetlands Action Group, Save Our Sky Blue Waters</td>
<td>The most disturbing aspect of this plan is that there is no end point. Modeling suggests that the underground barriers will need to stay intact – along with a continuously operating pump-and-treat system – for centuries. Also continuing for a thousand years or more are the dangers presented by the tailings basin dam. It is unconscionable to allow more liquid tailings to be stored on an outdated and contaminated existing tailings basin. We object to the State of Minnesota sanctioning this threat to future generations living downstream. This issue has been addressed in the Cross-Media analysis and 401 certification and is not an NPDES/SDS permit issue. See the 401 response to comment document.</td>
</tr>
<tr>
<td>503</td>
<td>Elanne Palcich, LeRoger Lind, Bob Tammen</td>
<td>Wetlands Action Group, Save Our Sky Blue Waters</td>
<td>Air emissions have not been adequately addressed. These include arsenic, mercury, sulfur, blasting compounds, and metals and dust from the blasting, hauling, crushing, and hydrometallurgical process. This issue has been fully addressed in the environmental review process, the air quality permit and, as it may relate to water quality, in the Cross-Media analysis. This comment does not raise issues that fall within the scope of the NPDES/SDS permit. The NPDES/SDS permit regulates point source discharges to water.</td>
</tr>
<tr>
<td>504</td>
<td>Elanne Palcich, LeRoger Lind, Bob Tammen</td>
<td>Wetlands Action Group, Save Our Sky Blue Waters</td>
<td>Synergistic effects upon human and environmental health have not been addressed. Cumulative impacts are missing, resulting in weak and/or faulty environmental conclusions (errors). Health impacts were considered during the environmental review process. See FEIS section 7.3.4. The NPDES permit and 401 certification do not provide for conducting the health impact assessment requested. The cumulative impacts issue has been fully addressed in the environmental review process and the Cross-Media analysis. This comment does not present any specific facts to support the position that cumulative impacts are missing or that environmental conclusions are faulty. This comment does not fall within the scope of the NPDES permit or 401 certification.</td>
</tr>
<tr>
<td>505</td>
<td>Elanne Palcich, LeRoger Lind, Bob Tammen</td>
<td>Wetlands Action Group, Save Our Sky Blue Waters</td>
<td>Air emissions will exacerbate water quality violations, but have not been figured in. This issue has been fully addressed in the Cross-Media analysis, which led to conditions in the 401 certification. This comment does not present any specific facts to support the commenter’s position or to provide a reasonable basis to dispute the MPCA’s conclusion on the permit. The NPDES/SDS permit regulates point source discharges to water. Therefore, the comment is outside the commissioner’s jurisdiction for this NPDES/SDS action.</td>
</tr>
<tr>
<td>506</td>
<td>Elanne Palcich, LeRoger Lind, Bob Tammen</td>
<td>Wetlands Action Group, Save Our Sky Blue Waters</td>
<td>Rail spillage is not adequately considered, although this would have broad ramifications for toxicity to the environment and water resources. This issue has been addressed in the 401 certification and is not an NPDES/SDS permit issue. See the 401 response to comment document.</td>
</tr>
<tr>
<td>507</td>
<td>Elanne Palcich, LeRoger Lind, Bob Tammen</td>
<td>Wetlands Action Group, Save Our Sky Blue Waters</td>
<td>It is contradictory to consider wetlands as mitigation for toxic metals without considering the over-all impacts to the ecological health of the wetlands themselves, and the biocystems that are dependent upon them. This issue has been addressed in the 401 certification and is not an NPDES/SDS permit issue. See the 401 response to comment document.</td>
</tr>
<tr>
<td>508</td>
<td>Elanne Palcich, LeRoger Lind, Bob Tammen</td>
<td>Wetlands Action Group, Save Our Sky Blue Waters</td>
<td>Baseline monitoring/modeling must be done on wetlands that would be impacted by PolyMet’s mining. This issue has been addressed in the Cross-Media analysis and 401 certification and is not an NPDES/SDS permit issue. See the 401 response to comment document.</td>
</tr>
<tr>
<td>509</td>
<td>Elanne Palcich, LeRoger Lind, Bob Tammen</td>
<td>Wetlands Action Group, Save Our Sky Blue Waters</td>
<td>Mercury is a concern for the entire Great Lakes basin. No new or increased loads or discharges of mercury should be allowed. The conclusion that this project will not contribute additional mercury to the Lake Superior basin is in error. See response to Comment Water-198.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>This may raise a factual issue, but the commissioner does not have jurisdiction to determine adequacy of conditions in the Permit to Mine. The MPCA commissioner cannot grant a hearing on the Permit to Mine contents. Minn. R. 7000.1900, subp. 1(B). Because there is not a reasonable basis underlying the claimed dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C).</td>
</tr>
<tr>
<td>509</td>
<td>Elanne Palcich, LeRoger Lind, Bob Tammen</td>
<td>Wetlands Action Group, Save Our Sky Blue Waters</td>
<td>Mercury is a concern for the entire Great Lakes basin. No new or increased loads or discharges of mercury should be allowed. The conclusion that this project will not contribute additional mercury to the Lake Superior basin is in error. Because no new facts were identified, the MPCA adequately addressed the issue, and there is no reasonable basis for a dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4; cf. City of Owatonna.</td>
</tr>
</tbody>
</table>
Comment noted. Requests for a contested case hearing were evaluated according to current state law.

The MPCA relies on its technical review of the permit application and plans submitted to determine if proposed wastewater treatment systems will adequately treat waste from the proposed industry. The MPCA has reviewed the available information, including an engineering review, and concluded the permit conditions can be met and the WWTS will function as designed. The incorporation of adaptive management as a failsafe does not invalidate the requirements for compliance. Adaptive management is regularly used in complex environmental scenarios to ensure standards are met while allowing flexibility. In this case, the underlying requirement must be met; the adaptive management is intended to develop strategies to maintain compliance.

This issue has been addressed in the Cross-Media analysis and 401 certification and is not an NPDES/SDS permit issue. See the 401 response to comment document.

This issue has been addressed in the Cross-Media analysis and 401 certification and is not an NPDES/SDS permit issue. See the 401 response to comment document.

This issue has been addressed in the Cross-Media analysis and 401 certification and is not an NPDES/SDS permit issue. See the 401 response to comment document.

This issue has been addressed in the Cross-Media analysis and 401 certification and is not an NPDES/SDS permit issue. See the 401 response to comment document.

This issue has been fully addressed in the Cross-Media analysis. See the 401 response to comment document. The nickel that is not extracted from the ore is primarily the nickel that is associated with the silicate mineral olivine. Nickel in olivine is specifically addressed in the cross-media analysis.

This issue has been addressed in the Cross-Media analysis and 401 certification and is not an NPDES/SDS permit issue. See the 401 response to comment document.

Because no new facts were identified, the MPCA adequately addressed the issue, and there is no reasonable basis for a dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1000, subp. 1(A), (C); see Red Wing; Amendment No. 4; cf. City of Owatonna.

WaterLegacy is a Minnesota 501(c)(3) non-profit organization founded to protect Minnesota’s water resources, wetlands, wildlife, habitats and the communities that rely on them, particularly from the threat of copper-nickel mining in sulfide-bearing ore in Northeastern Minnesota. Many of plaintiff’s board members, advisory committee members and supporters live in Northeastern Minnesota and use the Superior National Forest and the waters and habitats of the Embarcadero River, Partridge River and St. Louis River watersheds for a variety of recreational and aesthetic purposes including hiking, canoeing, kayaking, cross-country skiing, horseback riding, dog sledding, wildlife viewing, solitude and photography.
<table>
<thead>
<tr>
<th>Page</th>
<th>Author</th>
<th>Role</th>
<th>Section</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>518</td>
<td>Paula Goodman</td>
<td>Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>Several of WaterLegacy’s members have canoed up the South Branch Partridge River and the Partridge River from forest roads and have otherwise walked and canoed onto the site of the proposed PolyMet NorthMet Copper-Nickel Mine Project (&quot;PolyMet Project&quot;). They have enjoyed the proposed PolyMet mine site and the sinuous reaches of the Upper Partridge River in proximity to the site for their beauty, for recreation, for hunting, and to gather wild plants. Background statement for comments to follow. See detailed responses to comments below.</td>
</tr>
<tr>
<td>519</td>
<td>Paula Goodman</td>
<td>Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>Many members of WaterLegacy have gathered wild rice or have fished downstream of the proposed PolyMet Project in the Embarrass River and Embarrass River chain of lakes, the Partridge River, Colby Lake and the St. Louis River. Some of these members belong to environmental justice communities and rely on the wild rice they gather and on wild-caught fresh fish from these watersheds for sustenance. Some of our members have conducted scientific investigations of waters and habitats in the Partridge River and St. Louis River downstream of the proposed PolyMet Project. At least one of our members works as a wilderness guide, specializing in immersive wilderness experiences that include teaching plant and animal ecology, tracking, hunting, and traditional gear and transportation. He has taken at least two groups canoeing and portaging up the Partridge River toward the proposed PolyMet mine site. Background statement for comments to follow. See detailed responses to comments below.</td>
</tr>
<tr>
<td>520</td>
<td>Paula Goodman</td>
<td>Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>Some of our members live in Hoyt Lakes, and drink municipal water drawn from Colby Lake. Other members of WaterLegacy own lakeshore property within the Embarrass River chain of lakes or riparian property on the Embarrass River or St. Louis River downstream of the proposed PolyMet Project, where they recreate, swim, canoe, kayak, cross-country ski, fish, support sustainable ecological practices, and obtain moral and spiritual as well as economic value from preserving the property they own. Other members of WaterLegacy are doctors and other health professionals concerned about the impacts of PolyMet pollution on the health of their patients and the Northeastern Minnesota communities in which they live and serve. Background statement for comments to follow. See detailed responses to comments below.</td>
</tr>
<tr>
<td>521</td>
<td>Paula Goodman</td>
<td>Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>WaterLegacy’s mission, goals and objectives would be adversely impacted by the MPCA’s approval and issuance of the Draft NPDES/SDS Permit MN0071013 (&quot;Draft NPDES/SDS Permit&quot;). Our mission, goals and objectives would also be adversely impacted by the MPCA’s approval and issuance of the Draft Clean Water Act Section 401 Certification (&quot;Draft 401 Certification&quot;). As explained in our Comments below, issuance to PolyMet of a permit for its water pollution and MPCA certification to the federal government that the State of Minnesota supports a federal Clean Water Act permit for PolyMet wetlands destruction would severely impact Minnesota water resources in the Partridge River, Embarrass River and St. Louis River watersheds, the quality of water in Minnesota’s Lake Superior basin and the health and well-being of plant, animal and human communities who rely on these fresh water resources. Background statement for comments to follow. See detailed responses to comments below.</td>
</tr>
<tr>
<td>522</td>
<td>Paula Goodman</td>
<td>Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>The interests of WaterLegacy’s individual members in a wide range of recreational, aesthetic, cultural, life-sustaining, economic and spiritual activities would be adversely affected by MPCA action to approve and issue the Draft NPDES/SDS Permit and/or to approve and issue the Draft 401 Certification for the PolyMet Project. Not only our members who own or rent property immediately downstream of the property, but many other members of WaterLegacy have continuing and important connections with the waters and natural resources on the site of and downstream of the proposed PolyMet copper-nickel mine project. WaterLegacy’s members intend to continue their recreational, aesthetic, cultural, life-sustaining, economic and spiritual activities connected to the waters and other natural resources that would be adversely affected by issuance of a water pollution permit and Clean Water Act certification to PolyMet for its proposed open-pit copper-nickel sulfide ore mining and processing project. Background statement for comments to follow. See detailed responses to comments below.</td>
</tr>
<tr>
<td>523</td>
<td>Paula Goodman</td>
<td>Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>Specific Actions Requested from MPCA by WaterLegacy: The MPCA will consider the request before making its final decision.</td>
</tr>
<tr>
<td>524</td>
<td>Paula Goodman</td>
<td>Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>WaterLegacy requests that the MPCA reject and deny the Draft Clean Water Act Section 401 Certification (&quot;Draft 401 Certification&quot;) for the PolyMet Project. The MPCA will consider the request before making its final decision.</td>
</tr>
<tr>
<td>525</td>
<td>Paula Goodman</td>
<td>Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>WaterLegacy requests that the MPCA grant our Petition for Contested Case Hearing submitted in furtherance of WaterLegacy’s mission and the representation of our members whose individual interests would be impaired by the approval and issuance of the Draft NPDES/SDS Permit and/or the Draft 401 Certification for the PolyMet Project. The MPCA will consider the request before making its final decision.</td>
</tr>
</tbody>
</table>
The PolyMet project is Minnesota’s first copper-nickel sulfide ore mine project to reach the permitting stage. Many other copper-nickel mine projects are in various stages of exploration and feasibility analysis in Minnesota. It is understood both that the PolyMet project would serve as the “snowplow” behind which other copper-nickel mine projects would advance and that the standards set for the PolyMet NPDES/SDS permit and Section 401 Certification would become precedent for future copper-nickel projects. For this reason, it is particularly important that the MPCA “get it right” and establish standards that will protect natural resources across a broad swath of northeastern Minnesota, from southwest of Duluth to the Boundary Waters watershed.

Mines resulting from seepage from mine pits or waste facilities. The Minnesota Legislature has enacted special interest regulations, in July 2015, WaterLegacy filed a formal Petition for Withdrawal of Program Delegation from the State of Minnesota for NPDES Permits Related to Mining Facilities. The EPA prepared a comprehensive protocol to investigate this petition in March 2016, and its investigation is still pending. Since July 2015, the MPCA has neither reissued any of the State’s expired mining permits nor enforced violations of surface water quality standards at existing mines resulting from mining seepage from mine pits or waste facilities. The Minnesota Legislature has enacted special interest legislation preventing the MPCA from listing impaired waters or requiring permittess to spend money in order to comply with Minnesota’s sulfate water quality standard that protects wild rice. The MPCA has also issued 401 certifications even in the most egregious case where mining company seepage from mine pits and tailings waste had resulted in violation of Minnesota water quality standards, the company had violated its permit for a quarter of a century, and the permit had been expired and out of date for over a decade.

The EPA cautioned that 13 out of the 14 copper mines operating in the United States had experienced “failures to collect and treat seepage that resulted in water quality degradation.” Such degradation resulted from various factors, including “including inadequate pre-mining data, poor prediction of mitigation needs, inadequate design, improper operation, and equipment failure.” The EPA emphasized that prediction failures resulted in water collection and treatment failure, despite permits including “mitigation measures intended to prevent such occurrences.”

It cannot be assumed that the sulfide mining Superfund sites highlighted by EPA to have a potential remediation cost as high as $54 billion were attributable to “direct discharge” of pollutants to surface waters. Many of the most extreme cases where sulfide mine projects have had toxic results requiring hundreds of millions of dollars to remEDIATE remained as a legacy of seepage from mine pits, waste rock stockpiles and tailings facilities long after the company had filed for bankruptcy, leaving its liabilities for the taxpayers. In the course of analyzing the potential for a copper mine in Bristol Bay, Alaska, the EPA cautioned that 13 out of the 14 copper mines operating in the United States had experienced “failures to collect and treat seepage that resulted in water quality degradation.” Such degradation resulted from various factors, including “including inadequate pre-mining data, poor prediction of mitigation needs, inadequate design, improper operation, and equipment failure.” The EPA emphasized that prediction failures resulted in water collection and treatment failure, despite permits including “mitigation measures intended to prevent such occurrences.”

Many of the factors singled out by EPA as leading to prediction failures and thus to water quality degradation would sound eerily familiar to anyone who has followed the PolyMet environmental review process: waste rock leachate concentrations derived from humidity tests, use of simplifications to model surface water and groundwater hydrology, water quality models that assume that mining would not affect background water quality, use of average receiving water flow without considering low dilution during low-flow periods, water quality criteria that fail to address chemical interactions or are out of date, non-representative tested rock and tailings samples, and the absence of tests for sensitive aquatic insect species.

The EPA concluded that the probability of potential failure of water collection and treatment during operations for a copper mine is 93%. Post-closure collection and treatment failures are yet higher and, if the mine site were to be abandoned, EPA concluded that sulfide mining’s track record suggested that failure of water collection and treatment becomes “certain.”

Overall, the EPA concluded that the probability of potential failure of water collection and treatment during operations for a copper mine is 93%. Post-closure collection and treatment failures are yet higher and, if the mine site were to be abandoned, EPA concluded that sulfide mining’s track record suggested that failure of water collection and treatment becomes “certain.”

The MPCA has failed to update expired mining permits and variances and to enforce violations of water quality standards resulting from mining seepage from tailings and waste rock storage and from mine pits. In response to these failures of regulation, in July 2015 WaterLegacy filed a formal Petition for Withdrawal of Program Delegation from the State of Minnesota for NPDES Permits Related to Mining Facilities. The MPCA has neither reissued any of the State’s expired mining permits nor enforced violations of surface water quality standards at existing mines resulting from seepage from mine pits or waste facilities. The Minnesota Legislature has enacted special interest legislation preventing the MPCA from listing impaired waters or requiring permittess to spend money in order to comply with Minnesota’s sulfate water quality standard that protects wild rice. The MPCA has also issued 401 certifications even in the most egregious case where mining company seepage from mine pits and tailings waste had resulted in violation of Minnesota water quality standards, the company had violated its permit for a quarter of a century, and the permit had been expired and out of date for over a decade.
Methylmercury is inadequate for NPDES/SDS permitting or for Section 401 certification. The antidegradation analysis performed for the PolyMet Project with respect to pollutants other than mercury and increase mercury impairments, and degrade water quality by increasing mercury levels, precluding NPDES permit issuance or assurances for 401 certification under federal and state law.

2. The Draft NPDES/SDS permit for the PolyMet Project violates the Clean Water Act and its implementing regulations by failing to perform appropriate analysis or establish permit conditions to prevent discharge to surface water through hydrologically connected groundwater from causing or contributing to an exceedance of Minnesota water quality standards.

3. The Draft NPDES/SDS permit for the PolyMet Project violates the Clean Water Act and Minnesota law by providing inadequate monitoring to detect if PolyMet discharge through groundwater causes or contributes to violations of Minnesota water quality standards or results in unpermitted discharge.

4. The Draft NPDES/SDS permit for the PolyMet Project violates the Clean Water Act, its implementing regulations and Minnesota law by failing to set limits for direct discharge to surface water with the reasonable potential to cause or contribute to violation of Minnesota water quality standards.

5. The PolyMet Project is likely to cause or contribute to violations of Minnesota water quality standards for mercury, increase mercury impairments, and degrade water quality by increasing mercury levels, precluding NPDES permit issuance or assurances for 401 certification under federal and state law.

6. The antidegradation analysis performed for the PolyMet Project with respect to pollutants other than mercury and methylmercury is inadequate for NPDES/SDS permitting or for Section 401 certification.
<table>
<thead>
<tr>
<th>Page</th>
<th>Name</th>
<th>Office</th>
<th>Legacy</th>
<th>Comment</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>542</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law</td>
<td>Offices/Water</td>
<td>7. The Draft 401 Certification for the PolyMet Project is premature given the substantive deficiencies of the Draft NPDES/SDS Permit; the absence of an up-to-date Section 404 application; and the lack of a current evaluation of the effects of Project water appropriations on the Upper Partridge River headwaters.</td>
<td>See detailed responses to comments below.</td>
</tr>
<tr>
<td>543</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law</td>
<td>Offices/Water</td>
<td>This comment is supplemented with a lengthy discussion section and a Petition for Contested Case Hearing.</td>
<td>Comment noted. Requests for a contested case hearing were evaluated according to current state law.</td>
</tr>
<tr>
<td>543-AA</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law</td>
<td>Offices/Water</td>
<td>This comment is supplemented with a lengthy discussion section and a Petition for Contested Case Hearing.</td>
<td>Comment noted. Requests for a contested case hearing were evaluated according to current state law.</td>
</tr>
<tr>
<td>543-AB</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law</td>
<td>Offices/Water</td>
<td>The Clean Water Act requires the MPCA to set enforceable NPDES permit limits to prevent discharge through groundwater to hydrologically connected surface waters from causing or contributing to a violation of State surface water quality standards, including degradation, applicable to waters of the United States. ... The surface waters potentially impacted by sources of contamination from the PolyMet mine site and tailings site are waters of the United States, under traditional Clean Water Act definitions, Supreme Court decisions and federal regulations. The Partridge River, Embarrass River and Second Creek and connected lakes are traditional navigable waters that are currently used, or were used in the past or may be susceptible to use in interstate and foreign commerce, and tributaries to such waters in the headwaters of the St. Louis River, the largest United States tributary to Lake Superior, which is an international as well as interstate water body. The creeks at the PolyMet mine site and plant site, to the extent they are not traditional navigable waters, are tributaries to such waters; the wetlands at the PolyMet mine site and plant site are wetlands adjacent to traditional navigable waters and to tributaries to such waters; and the creeks and wetlands at both locations are waters the use, degradation or destruction of which could affect waters. The Whitewater Reservoir is an impoundment of waters of the United States. As with the tailings pond in the Hecla Mining Co. case, the coal ash ponds and lagoons in the Duke Energy Carolina and Tennessee Clean Water Network cases and the sedimentation pond requiring an NPDES permit in the Pocahontas Land Corp. case, there are many potential pollution sources at the PolyMet mine site and plant site where process waters and wastes will be confined and conveyed by pipes, ditches, channels, conduits, or other discernable, confined and discrete conveyances. These proposed point sources include the tailings storage facility and the hydrometallurgical residue facility at the plant site; and sumps, ponds, equalization basins, waste rock stockpile drainage lines and collection systems and, eventually, the mine pits themselves at the mine site ... The PolyMet mine pits will also become unlined point sources for discharge to surface water through groundwater. During the operations phase of the project (or if early closure is required), the East Pit and Central Pit would be backfilled with Category 4, Category 2/3 and Category 1 waste rock and saturated overburden and flooded through pipes conveying water from the plant site in order to permit subsurface storage of reactive mine waste. During closure whenever that begins the West Pit would also be flooded with water conveyed through pipes from the PolyMet plant site.</td>
<td>See response to Comment 543-AB. This comment raises a legal issue, not a factual issue. The comment interprets federal law as applied to the facility. Because the comment raises legal and not factual issues, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).</td>
</tr>
<tr>
<td>543-AC</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law</td>
<td>Offices/Water</td>
<td>The EPA has repeatedly instructed MPCA that NPDES permits must identify, describe and regulate contaminated water from both mine site and plant site point sources discharged to surface waters of the United States through hydrologically connected ground water. The EPA's comments on the PolyMet preliminary supplementary draft environmental impact statement (PSDEIS) explained, &quot;Section 301 of the CWA prohibits point source discharge to surface waters, either directly or via directly connected ground water, unless the discharge complies with a NPDES permit.&quot;43 EPA further advised that the Clean Water Act defines &quot;discharge of a pollutant&quot; as any addition of any pollutant to navigable waters from any point source...as a result, &quot;an NPDES permit is required at both the Mine and Plant Sites, with limits and monitoring requirements applied at the points of discharge.&quot;</td>
<td>See response to Comment 543-AB.</td>
</tr>
</tbody>
</table>
EPA identified nine mine sites sources of contaminated wastewater seeping from the mine property through groundwater that required regulation under an NPDES permit including mesopits, waste rock stockpiles, the ore surge pile, the Overburden Storage and Laydown Area, and wastewater equalization basins. The EPA explained that for "pollutants that leave the mine property via groundwater", a "level of detail" will be required for NPDES permitting in order to determine water quality based effluent limits and establish control and mitigation measures that ensure attainment of Minnesota’s water quality standards in the Partridge River and other downstream surface waters.46

The EPA emphasized that surface water criteria as well as groundwater criteria must be applied to mine site pollutants, when the contaminated groundwater enters the Partridge River.47 As the PolyMet environmental review process continued, the EPA understood that surface water criteria become applicable at the first location where discharges reach surface waters, including jurisdictional wetlands:48

However, as EPA has stated previously, the pollutants originating from the mine site features may discharge to jurisdictional wetlands and tributaries prior to reaching the Partridge River.49 As Section 610 prohibits any point source discharge of pollutants to waters of the United States, either directly or via directly connected ground water, unless the discharge complies with a NPDES permit. Waters of the United States include jurisdictional wetlands and tributaries. See 40 CFR 122.2.

Recommendations: The FEIS should reflect the fact that a NPDES permit is required before the pollutants from the mine site reach waters of the U.S. (including jurisdictional wetlands and tributaries).49

In a spring 2015 memorandum to MPCA, the EPA was very clear in its insistence that the MPCA NPDES permit for the PolyMet project specifically cover discharges to surface waters that will occur through subsurface flow or hydrologically connected groundwater. EPA began by stating, "EPA has consistently interpreted the Clean Water Act (CWA) to apply to discharges of pollutants from a point source in surface water including those that occur via hydrologically connected groundwater.40 EPA stated that the memo’s "clarification on discharges that occur via subsurface flow or hydrologically connected groundwater that EPA provided in the above referenced National Pollutant Discharge Elimination System (NPDES) program and in accordance with the Clean Water Act (CWA), all discharges to surface waters from this tailings basin... In this case the tailings basin is a point source which, according to MPCA’s own documentation is discharging pollutants to nearby surface waters in the land and Black River watershed via direct, unlined surface seeps and subsurface pathways.56

Although the MPCA has yet to comply with the EPA’s direction, for at least five years the EPA has also advised the MPCA in connection with the U.S.

Although the MPCA has yet to comply with the EPA’s direction, for at least five years the EPA has also advised the MPCA in connection with the U.S. Steel Minitax tailings storage facility that “Section 301 of the CWA prohibits point source discharges to surface waters, either directly or via directly connected ground water, unless the discharge is in compliance with an NPDES permit. When the MPCA posted a pre-public notice draft NPDES permit for the Minitax tailings basin in 2014, the EPA cautioned that the Clean Water Act "requires an NPDES permit for "the full extent of the discharges to surface water to this facility,"5

In 2016, when the MPCA proposed a draft NPDES permit for the Minitax tailings basin that only applied surface water quality controls to surface seeps, the EPA was very clear. EPA is concerned that the draft permit as written does not address, under MPCA’s approved National Pollutant Discharge Elimination System (NPDES) program and in accordance with the Clean Water Act (CWA), all discharges to surface waters from this tailings basin... In this case the tailings basin is a point source which, according to MPCA’s own documentation is discharging pollutants to nearby surface waters in the land and Black River watershed via direct, unlined surface seeps and subsurface pathways.56

As explained in more detail in the next section, the proposed unlined Poly Met tailings basin, unlined Category 1 waste rock stockpiles, unlined mine pits, and unlined overburden storage and laydown area and pond would all provide discharge pollutants to groundwater that is hydrologically connected to surface water. Even lined sedimentation ponds, sumps and basins for wastes and wastewater at the mine site and plant site would have some degree of discharge to groundwater from liner leakage that must be evaluated to determine propagation to the nearest surface waters in proximity to pollution sources.

The Clean Water Act requires the MPCA to set enforceable NPDES permit limits to prevent Poly Met mine site and plant site discharge through hydrologically connected groundwater to surface waters, including proximate wetlands, creeks and tributaries in the Partridge River and Embarrass River watersheds from violating surface water quality standards.58

Any discharges that are not specifically authorized by this permit are prohibited. Additionally, the MPCA added a prohibition against WWTS discharges that violate water quality standards. See response to Comment 723 for further discussion on groundwater-surface water interaction.

To the extent this comment questions the need for limits for hydrologically connected groundwater, it raises a legal issue. The scope of NPDES coverage under the Clean Water Act is a question of law and a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1A.

To the extent this comment questions the efficacy of the pond liners, it raises a factual issue, but the comment does not raise new facts. The MPCA has already considered the liners needed to protect water quality and imposed permit limits to do so. Because there are no specific new facts, there is no reasonable basis for a dispute and a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1C; see Red Wing; Amendment No. 4.
The Draft NPDES/SDS permit for the PolyMet Project violates the Clean Water Act and its implementing regulations by failing to perform appropriate analysis or establish permit conditions to prevent discharge to surface water through hydrologically connected groundwater from causing or contributing to an exceedance of Minnesota water quality standards.

Although the MPCA NPDES/SDS Fact Sheet acknowledges that there are mine site and plant features with the potential to affect groundwater, there is no information in any of the volumes of PolyMet’s NPDES/SDS Permit Application characterizing the chemical composition of various wastes or sources of potential pollution to groundwater or surface water. Neither the MPCA’s Fact Sheet nor the Draft Permit identify the chemical composition of any potential pollution source or even the chemical composition predicted for various waste streams constituting the influent for the Poly Met wastewater treatment system (WWTS). Without such information, any exercise in determining reasonable potential is, at best, wishful thinking. Even for discharge subject to water quality treatment, the resulting effluent is a function of the initial level of contamination as well as the efficacy of removal. Where pollutants will be released to groundwater untreated from thousands of acres of permanent unlined tailings and waste rock stockpile facilities, as well as stored in highly contaminated basins, detailed information on the concentration of contaminants, the volume of their likely release, and the paths by which they would soonest reach surface waters is essential to determine which pollutants in which sources have the reasonable potential to cause or contribute to a violation of water quality standards.

Data contained in other Poly Met permit applications and in environmental review documents is relevant and representative data that should have been used by the MPCA to analyze the reasonable potential of PolyMet’s discharge to hydrologically connected groundwater to violate surface water quality standards. The comment identifies other information the MPCA should consider, such as other permit applications and the EIS. MPCA did fully consider information from the EIS and to the extent that information from other permit applications was relevant to the NPDES/SDS permitting process, that information was also considered by MPCA. This comment raises a factual issue; however, no new information is identified. Because there is no reasonable basis for a dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

In addition, it cannot be emphasized enough that the MPCA and other regulatory agencies should have required monitoring of proximate stream and wetlands hydrology for the past thirteen years to identify the most likely pathways for discharge to groundwater to reach surface water and the geologic conditions influencing that flow. Arguably, the failure to require such monitoring, before permit issuance as well as during operations provides an insurance policy to PolyMet that Clean Water Act violations and harm to ecosystems or human beings won’t be detected and proven for decades. By then, Poly Met could well be long gone.

Monitoring has been conducted over the past 13 years at numerous locations. The comment states that additional data should have been considered in drafting the permit. The EIS incorporated a wide range of water quality and other data in its effects analysis. This same data, plus additional data collected during the permitting process, was considered by MPCA and was sufficient for permitting purposes. This comment raises a factual question; however, it does not provide a reasonable basis for dispute. The comment did not raise any new facts for the MPCA to consider and no new information is presented. Therefore, there is no reasonable basis for a dispute and a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

PolyMet’s modeling of seepage concentrations at the tailings toe is likely to underestimate actual tailings chemistry. Leachate from copper-nickel tailings from MinnAMAX bulk sampling was not considered in modeling of Poly Met North Met tailings seepage. 72 Mi AMAX tailings leachate contained levels of cobalt more than 30 times the tailings seepage concentration predicted for the Poly Met project, levels of nickel more than 21 times the predicted Poly Met concentrations, and sulfate concentrations more than 11 times higher than predicted Poly Met concentrations.

The DNR did consider the MinnAMAX data as part of the GoldSim modeling process for the EIS, the results of which were directly considered in the NPDES permitting process. See FEIS at 5-62. This comment raises a factual question; however, no new information is identified and a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.
To the extent that the comment relates to the capture efficiency of the FTB and Category 1 seepage capture systems, it raises a factual question, but provides no reasonable basis for dispute. The comment questions the efficacy of controls required in the NPDES permit and presumes failure of control systems without justification. The same issues were raised in the EIS and DNR, in consultation with MPCA, considered those issues. See RGU Consideration of Comments on the FEIS at 169. See response to Comment Water-711, explaining why maintaining an inward gradient ensures no release.

The comment does not raise any new facts for the MPCA to consider at the permitting stage, it merely disagrees with MPCA’s conclusion. Therefore, a hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

543-AK Paula Goodman Maccabe Just Change Law Offices/Water Legacy

Although the MPCA seems to have accepted PolyMet’s claims,78 experts challenged these assumptions during the course of environmental review. Geologist J.D. Lehn criticized the “ cursory and simplistic treatment” of the role that bedrock fractures play in the transmission of groundwater at the tailings site, the assumption of a “no-flow boundary” beneath the tailings waste facility and the resulting implication that groundwater flow through bedrock at the tailings site “is so insignificant that it can be conceptually ignored.”79 Mr. Lehn also explained that geology at the tailings site would not be favorable for a trench to be “keyed into” bedrock and cobbles (often huge boulders) would impede construction of an effective slurry trench.80 Anthony Runkel, the Chief Geologist for the Minnesota Geological Survey, echoed the concern that fracture zones of relatively high hydraulic conductivity and multiple flow systems within bedrock had not been modeled.81 He noted that faults are known to be common across much of mapped extent of the Giants Range Batholith, including in the plant site/tailings basin area, and nearby fractures in the same bedrock have transported pollutants for miles with significant environmental effects.82

Engineer and hydrologist Donald Lee cautioned that lack of data on bedrock groundwater at the tailings basin precludes calculation of how much groundwater is currently flowing in bedrock at the site; in addition, increased seepage and hydraulic head created in the tailings piles during PolyMet operations could result in more water flowing deeper into groundwater.83 Dr. Lee explained that PolyMet’s claim that a slurry wall would be nearly impermeable for the indefinite future were unjustified.84 After reading predictions for tailings basin performance, Dr. Lee determined, “The analytical support for these conclusions is based on assumptions of performance that are not justified or supported by data.”85

For more than five years, Water Legacy requested disclosure of any evidence received from PolyMet showing that the inexpensive slurry system it proposed could achieve the claimed capture efficiency. PolyMet’s 2017 Permit to Mine Application cites a single three-page Barr memo from 2012 to support its claims that a slurry wall and containment system is commonly used and will capture seepage from its tailings basin.86 However, this 2012 memo doesn’t support PolyMet’s claims for seepage capture efficiency. Instead it provides a cautionary tale.

In 2014, it was reported, “Industry is working to address the tailings seepage issue, budgeting more than $1 billion in tailings-reduction technology.”80 By January 2018, provincial regulators estimated that cleanup of oil sands facilities represented a $27 billion liability.81 Unsurprisingly, “Critics say the industry could end up sticking taxpayers with the bill, estimated at $27 billion.”82 Minnesota has some experience with seepage containment at taconite tailings basins. Pollutants from the U.S. Steel Minntac tailings basin have seeped from groundwater to downstream wetlands, rivers and lakes, affecting water quality and beneficial uses for a quarter of a century.83 At the LTV SMC tailings facility, surface seepage collection has been unsuccessful in preventing groundwater transport of pollutants for miles with significant environmental effects.84

To the extent that the comment relates to the capture efficiency of the FTB and Category 1 seepage capture systems, it raises a factual question, but provides no reasonable basis for dispute. The comment questions the efficacy of controls required in the NPDES permit and presumes failure of control systems without justification. The same issues were raised in the EIS and DNR, in consultation with MPCA; considered those issues. See RGU Consideration of Comments on the FEIS at 169. See response to Comment Water-711, explaining why maintaining an inward gradient ensures no release.

The only mine tailings seepage example offered as an example of successful use of slurry walls to keep mine tailings seepage out of downstream water is the Fort McMurray tailings pond seepage containment system in Alberta Canada. To quote Barr, Another example is the installation of a soil-bentonite cutoff wall around the perimeter of a mine tailings pond located in the province of Alberta, Canada. The cutoff wall is approximately 100-feet deep and 3 feet wide, and has a hydraulic conductivity on the order of 100-7 cm/sec. The cutoff wall was used to isolate the tailings pond from downstream surface water features including wetlands and the Athabasca River.87 However, information available since 2012 demonstrates that Fort McMurray tar sands tailings seepage containment has had disastrous results.

Canadian news media reported four years ago that federal research found that “toxic chemicals from Alberta’s vast oil sands tailings ponds are leaching into groundwater and seeping into the Athabasca River” despite a seepage collection system that includes ditches and cut-off walls to capture seepage and runoff water, groundwater interception wells and pumps to return captured water to the tailings ponds.88 Canadian federal research used chemical profiling to confirm that the source of contaminants in the Athabasca River was oil sands process-affected water from tailings ponds welling up through groundwater to the Athabasca River.

In 2014, it was reported, “Industry is working to address the tailings seepage issue, budgeting more than $1 billion in tailings-reduction technology.”80 By January 2018, provincial regulators estimated that cleanup of oil sands facilities represented a $27 billion liability.81 Unsurprisingly, “Critics say the industry could end up sticking taxpayers with the bill, estimated at $27 billion.”82 Minnesota has some experience with seepage containment at taconite tailings basins. Pollutants from the U.S. Steel Minntac tailings basin have seeped from groundwater to downstream wetlands, rivers and lakes, affecting water quality and beneficial uses for a quarter of a century.83 At the LTV SMC tailings facility, surface seepage collection has been unsuccessful in preventing groundwater transport of pollutants for miles with significant environmental effects.84

Engineer and hydrologist Donald Lee cautioned that lack of data on bedrock groundwater at the tailings basin precludes calculation of how much groundwater is currently flowing in bedrock at the site; in addition, increased seepage and hydraulic head created in the tailings piles during PolyMet operations could result in more water flowing deeper into groundwater.83 Dr. Lee explained that PolyMet’s claim that a slurry wall would be nearly impermeable for the indefinite future were unjustified.84 After reading predictions for tailings basin performance, Dr. Lee determined, “The analytical support for these conclusions is based on assumptions of performance that are not justified or supported by data.”85

For more than five years, Water Legacy requested disclosure of any evidence received from PolyMet showing that the inexpensive slurry system it proposed could achieve the claimed capture efficiency. PolyMet’s 2017 Permit to Mine Application cites a single three-page Barr memo from 2012 to support its claims that a slurry wall and containment system is commonly used and will capture seepage from its tailings basin.86 However, this 2012 memo doesn’t support PolyMet’s claims for seepage capture efficiency. Instead it provides a cautionary tale.

543-AI Paula Goodman Maccabe Just Change Law Offices/Water Legacy

The only mine tailings seepage example offered as an example of successful use of slurry walls to keep mine tailings seepage out of downstream water is the Fort McMurray tailings pond seepage containment system in Alberta Canada. To quote Barr, Another example is the installation of a soil-bentonite cutoff wall around the perimeter of a mine tailings pond located in the province of Alberta, Canada. The cutoff wall is approximately 100-feet deep and 3 feet wide, and has a hydraulic conductivity on the order of 100-7 cm/sec. The cutoff wall was used to isolate the tailings pond from downstream surface water features including wetlands and the Athabasca River.87 However, information available since 2012 demonstrates that Fort McMurray tar sands tailings seepage containment has had disastrous results.

Canadian news media reported four years ago that federal research found that “toxic chemicals from Alberta’s vast oil sands tailings ponds are leaching into groundwater and seeping into the Athabasca River” despite a seepage collection system that includes ditches and cut-off walls to capture seepage and runoff water, groundwater interception wells and pumps to return captured water to the tailings ponds.88 Canadian federal research used chemical profiling to confirm that the source of contaminants in the Athabasca River was oil sands process-affected water from tailings ponds welling up through groundwater to the Athabasca River.

In 2014, it was reported, "Industry is working to address the tailings seepage issue, budgeting more than $1 billion in tailings-reduction technology."80 By January 2018, provincial regulators estimated that cleanup of oil sands facilities represented a $27 billion liability.81 Unsurprisingly, "Critics say the industry could end up sticking taxpayers with the bill, estimated at $27 billion."82 Minnesota has some experience with seepage containment at taconite tailings basins. Pollutants from the U.S. Steel Minntac tailings basin have seeped from groundwater to downstream wetlands, rivers and lakes, affecting water quality and beneficial uses for a quarter of a century.83 At the LTV SMC tailings facility, surface seepage collection has been unsuccessful in preventing groundwater transport of pollutants for miles with significant environmental effects.84

Engineer and hydrologist Donald Lee cautioned that lack of data on bedrock groundwater at the tailings basin precludes calculation of how much groundwater is currently flowing in bedrock at the site; in addition, increased seepage and hydraulic head created in the tailings piles during PolyMet operations could result in more water flowing deeper into groundwater.83 Dr. Lee explained that PolyMet’s claim that a slurry wall would be nearly impermeable for the indefinite future were unjustified.84 After reading predictions for tailings basin performance, Dr. Lee determined, “The analytical support for these conclusions is based on assumptions of performance that are not justified or supported by data.”85

For more than five years, Water Legacy requested disclosure of any evidence received from PolyMet showing that the inexpensive slurry system it proposed could achieve the claimed capture efficiency. PolyMet’s 2017 Permit to Mine Application cites a single three-page Barr memo from 2012 to support its claims that a slurry wall and containment system is commonly used and will capture seepage from its tailings basin.86 However, this 2012 memo doesn’t support PolyMet’s claims for seepage capture efficiency. Instead it provides a cautionary tale.
On the south side of the tailings facility, the need for a reasonable potential analysis is even more obvious. South Toe seepage daylighting to surface water almost immediately. As stated in the Poly Met FEIS, along the southern side, bedrock and surface topography create a narrow valley at the headwaters of Second Creek. Due to this topography and experience on the site, it is expected that all existing seepage from the Tailings Basin to the south emerges as surface seepage within a short distance of the embankment toe.95

The MPCA’s NPDES/SDS Fact Sheet confirms that “seepage from the tailings basin is continuing.,”96 and that “pumpback systems are effective at capturing and removing surface seepage, but they are not designed to capture the seepage from the existing tailings basin to the surficial groundwater aquifer.”97 Yet more problematic, the MPCA reveals, “Unlike the seepage capture systems along the northern and western sides of the tailings basin, the South Seepage Management System will capture almost exclusively surface seepage.”98

Based on the underlying hydrogeology, groundwater seepage from the south side of the Poly Met copper-nickel mine tailings facility could be voluminous. Geologist J.D. Lehr examined U.S. Geological Survey topographic maps from 1949 that predate taconite tailings basin construction.

These maps show that about one-third of the area currently beneath the southern portion of the Tailings Basin or about 1,100 acres, historically drained to the south and formed the headwaters of Second Creek.99 These maps illustrate the historic and potential drainage flow.100

To the extent that the comment relates to the capture efficiency of the FTB South seepage capture system, it raises a factual question, but provides no reasonable basis for dispute. The comment questions the efficacy of controls required in the NPDES permit and presumes failure of control systems without justification. The comment notes that existing flow from the south side of the basin is greater than zero, but also cites the fact sheet statement that the goal of the existing system is not to eliminate discharge. The same issues were raised in the EIS and DNR, in consultation with MPCA, considered those issues. See RGU Consideration of Comments on the FEIS at 169.

Recent Data Monitoring Reports, long after surface seepage pumpback at the SD026 south outfall of the existing LTVSMC was instituted, confirm that flow from the tailings facility may remain at high levels. During 2017, flow at the LTV SM C measuring station SD026, where the tailings basin constitutes the headwaters of Second Creek averaged 3.36 million gallons per month. Applying the gallons per minute (gpm) metric to the 2017 DMR data, south side tailings flow to Second Creek averaged 766.8 gpm. Even in 2016, a year where seepage collection may have been more effective, flow from the existing LTVSMC tailings basin to the headwaters of Second Creek averaged 140 gpm.101

As noted above, to date Poly Met and the agencies have predicted 0 gpm of groundwater flow from the tailings basin to Second Creek.102

Although MinnAMAX data previously cited suggests that Poly Met underestimates the level of tailings seepage contamination,103 even PolyMet’s predictions predict solute concentrations in South Toe Tailings Basin seepage far exceeding Minnesota water quality standards. The Poly Met Permit to Mine Application predicted mine year 20 South Toe concentrations of nickel at 1.249 parts per billion (μg/L) – more than 24 times the aquatic life surface water quality standard of 52 μg/L, and levels of copper at 695 parts per billion - nearly 75 times the water quality standard of 9.3 μg/L. Lead, a particularly dangerous neurotoxin with no safe level, would reach levels of 100 parts per billion -- more than 31 times the aquatic life water quality standard of 3.2 μg/L. South Toe Tailings Basin seepage is also predicted by Poly Met to have sulfate concentrations of 553 parts per million (mg/L) - more than 55 times the water quality standard of 10 mg/L applicable in downstream wild rice to protect wild rice for wildlife as well as human beneficial use.104

The MPCA has provided no justification for its failure to perform a reasonable potential analysis to determine, under the Clean Water Act and the Great Lakes Initiative, whether PolyMet’s discharge to groundwater of nickel, copper and lead, among other pollutants would cause or contribute to exceedances of Minnesota water quality standards in Second Creek.
The most egregious failure to conduct a reasonable potential analysis and set water quality-based effluent limitations to protect surface water pertains to PolyMet's proposed tailings facility, including but not limited to its discharge to Second Creek through groundwater. However, there are other sources of contaminated seepage to groundwater that similarly require analysis and potential control.

Even under PolyMet's assumptions that lower-sulfur rock can be readily characterized and sorted, Category 1 waste rock stockpile seepage contains solute concentrations far exceeding water quality standards. In Mine Year 20, PolyMet predicts that nickel concentrations in Category 1 seepage would be 2.238 μg/L, nearly 77 times the surface water quality standard of 29 μg/L, and copper concentrations would be 237 μg/L, more than 45 times the water quality standard of 5.2 μg/L. Sulfate concentrations would be 1,393 parts per million (mg/L), 139 times Minnesota's water quality standard that protects wild rice downstream in the Partridge River. Concentrations of lead would be 11 μg/L, more than eight times the aquatic life water quality standard of 1.3 μg/L and concentrations of arsenic, a class 1 carcinogen, would be 100 μg/L, nearly twice the water quality standard of 53 μg/L, to protect aquatic life and 50 times the downstream water quality standard of 2 μg/L, applicable to Colby Lake. 105

Dr. Lee concluded, "The proposed drainage system is unlikely to work as anticipated." 114 Neither the PolyMet NPDES/SDS Permit Application nor the Permit to Mine Application specifies limits on the amount of untreated seepage that will be released from the Category 1 waste rock pile. PolyMet has proposed that "compacted soil" could serve as the barrier for seepage capture. 111 The Category 1 drainage system would rely only on gravity for seepage collection, and PolyMet admitted that along the west, north, and east sides of the stockpile, there may be areas where drain pipe could not be installed at an elevation low enough to ensure that groundwater will not flow beneath the cutoff wall. 112

By Mine Year 75, chemical concentrations in Category 1 seepage would not have attenuated. Nickel concentrations would increase slightly to 2.230 μg/L, approaching 77 times the water quality standard of 29 μg/L, and copper concentrations would remain at 237 μg/L, more than 45 times the water quality standard of 5.2 μg/L. Arsenic would remain at 100 μg/L, nearly twice the aquatic life standard of 53 μg/L, and 50 times the downstream health-based standard of 2 μg/L. In addition, by Mine Year 75, sulfate concentrations would double to 2,793 mg/L, 279 times the wild rice sulfate standard of 10 mg/L. Lead concentrations would increase nine times to a level of 100 μg/L, a level which is 77 times the water quality standard of 1.3 μg/L. 106

The Category 1 waste rock pile is proposed as a 526-acre permanent, unlined facility. 107 The PolyMet FEIS predicted that, during operations, more than 98% of groundwater seepage from the Category 1 waste rock pile would be captured by the containment system or flow through groundwater into the mine pits. 108 PolyMet and the FEIS also assumed that the geomembrane cover that would eventually be placed on the rock pile would reduce infiltration by more than 99% (from 360 gpm to 2.8 gpm). 109

Although the FEIS characterized the Category 1 seepage capture system as a "low-permeability cut-off wall keyed into bedrock," 110 PolyMet has proposed that "compacted soil" could serve as the barrier for seepage capture. 111 The Category 1 drainage system would rely only on gravity for seepage collection, and PolyMet admitted that along the west, north, and east sides of the stockpile, there may be areas where drain pipe could not be installed at an elevation low enough to ensure that groundwater will not flow beneath the cutoff wall. 112

Dr. Lee evaluated the efficacy of the proposed seepage collection system for the Category 1 waste rock pile. The gravity driven drainage system for moving collected water to the NE and SW corners of the stockpile with subsequent pumping to the WWTF will not work as currently proposed. The bedrock surface is uneven and not uniformly sloped. The conductivity of the cutoff wall for the Category 1 facility is quite high. The effect of freeze thaw and other degradation mechanisms on the long-term performance of the cutoff wall have not been fully considered in the modeling. The degradation of the cutoff wall over hundreds of years is a certainty, but the consequences are not established. 113

Dr. Lee concluded, "[T]he proposed drainage system is unlikely to work as anticipated." 114 Neither the PolyMet NPDES/SDS Permit Application nor the Permit to Mine Application specifies limits on the amount of untreated seepage that will be released from the Category 1 waste rock pile. PolyMet defers setting "the required performance of the groundwater containment system" to final designs not included in its permit application. 115 Although PolyMet claims that geomembrane cover systems are widely used the Company admits, there has not been significant demand for geomembranes in waste rock stockpile covers. 116 The longest studies on geomembrane degradation cited by PolyMet were 10 years in duration. 117 But the geomembrane Poly Met proposes would have to resist degradation for hundreds of years, if not forever.

PolyMet's claims for the efficacy of the Category 1 seepage collection system are based on the same Barr 2012 Containment Memo on which PolyMet used to claim tailings seepage success. 118 PolyMet cites no examples demonstrating that an inward gradient has been maintained for decades, let alone hundreds of years, to prevent leakage of groundwater through a soil or slurry trench.
There are other features at the Poly Met plant site and the mine site which raise serious concerns about discharge through groundwater to hydrologically connected surface water. The hydrometallurgical waste facility (HRF) would receive 313,000 tons of residue annually and would contain highly toxic and concentrated wastes.

Neither PolyMet’s NPDES/SDS Application nor the Company’s Permit to Mine Application disclose the chemical composition of HRF residues. However, PolyMet produced a technical report several years ago chara terizing hydrometallurgical waste residue. This report did close that copper concentrations in the residue would be 945 parts per million - more than 100,000 times Minnesota’s water quality standard for copper (0.3 parts per billion) set to protect fish in surface water near the proposed plant. Total sulfate would be 13.78% of the residue or 14.91% when residue is combined with gyspum. In other words, residue would have a staggering 138,000 to 149,100 mg/L of sulfate. The level of sulfate in HRF residue would, thus, be more than 10,000 times Minnesota’s wild rice sulfate standard of 10 mg/L, applicable downstream in the Partridge River. Poly Met has also identified a number of toxic and reactive chemicals that would be used as hydrometallurgical plant consumables.

PolyMet’s Facility Mercury Mass Balance Analysis states that 164 pounds of mercury would be deposited in the HRF each year. If the Poly Met autoclave processing were to operate for 18 years, as currently proposed in the PTM Application, 127 by the time it closes the hydrometallurgical residue facility would contain an astonishing 2,952 pounds of mercury. To get a sense of the significance of this amount of mercury, the water quality standard for mercury in Minnesota’s Lake Superior basin is 1.3 nanograms per liter (ng/L); and one would need more than 450 billion nanograms to equal just one pound.

To the extent that the comment relates to the design of the HRF, it raises a factual question, but provides no reasonable basis for dispute. The design components of the HRF were raised in the EIS and DNR, in consultation with MPCA, considered those issues. See RGU Consideration of Comments on the FEIS at 188. The issue of foundation stability was considered in the EIS and requirements for a detailed process of investigation, design and MPCA approvals are included in the draft permit to address that issue. The MPCA and DNR worked with a third-party consultant to evaluate the stability of the HRF foundation and construction methods. In addition, the MPCA added language in part 5.181.234 of the draft permit to state that if the MPCA determines that site conditions at the proposed HRF location preclude the construction and operation of the HRF in compliance with applicable water quality standards, construction of the HRF at that location is prohibited.

To the extent that the comment relates to the purported need for an evaluation of reasonable potential on potential seepage from the HRF, it is a legal issue. Whether groundwater that reaches surface water is within the scope of the NPDES permit program is a legal issue. Therefore, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).

To the extent that the comment relates to the scope of the comment, it merely disagrees with MPCA’s conclusion. Therefore, a hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.
The mine site sumps, ponds, and equalization basins are potential sources of seepage to surface water through hydrologically connected groundwater. As a result of liner leakage, while the mine pits and the overburden (capstone and storage area) are confluent sources of potential contamination. The equalization basins will have a single liner and a rate of leakage approximately 10 times that of the ore surges pits and category 2, 3, and 4 waste rock piles.144

Solute concentrations in the mine site East (“Low”) Concentration and West (“High Concentration”) Equalization Basins are useful to understand the level of contaminants that would result from copper-rich mining in the Partridge River headwaters. The East Equalization Basin would aggregate seepage from the mine pits, haul roads, rail transfer hoppers and Category 1 waste rock stockpile. During operations, this “Low” Concentration Basin would contain wastewater more than three orders of magnitude above water quality standards. Copper concentrations of 7,451 μg/L would be 1,425 times Minnesota’s water quality standard and nickel concentrations of 24,600 μg/L would be 848 times the water quality standard. Manganese concentrations of 2.23 mg/L would be 2 times Minnesota’s health-based limit in drinking water. 136

The West Equalization Basin would aggregate seepage from the Ore Surges Pits and the Category 1/3 waste rock stockpiles. During operations, this Basin would contain reactive wastes more than four orders of magnitude above water quality standards. The wastewater in this Basin would have copper concentrations of 110,000 μg/L, more than 21,250 times Minnesota’s water quality standard that protects aquatic life; nickel concentrations of 405,000 μg/L, more than 13,000 times the water quality standard; and lead concentrations of 361 μg/L, nearly 278 times the water quality standard. Manganese concentrations of 39.5 μg/L would be 3.5 times Minnesota’s health-based limit. 136

Sulfate concentrations in the East Equalization Basin would be 2,450 mg/L, 245 times the wild rice sulfate standard, and sulfate concentrations in the West Equalization Basin would be 9,010 milligrams per liter (mg/L), more than 900 times the wild rice sulfate standard applicable downstream in the Partridge River. 137

The MPCA failed to perform a reasonable potential analysis for any mine site or plant site discharge to surface water through hydrologically connected groundwater. The Draft NPDES/SDS Permit also provides no enforceable conditions that would control such discharge.

The design components of the wastewater collection and storage system at the Mine Site were raised in the EIS and DNR, in consultation with MPCA, considered the issues in the comment. See RGU Consideration of Comments on the FEIS at 175. The proposed equalization basin design was reviewed by MPCA and determined to be consistent with requirements applied statewide for similar industrial wastewater pond applications. The comment does not raise any new facts for MPCA to consider, it merely disagrees with MPCA’s conclusion. Therefore, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing. Amendment No. 4.

To the extent that the comment relates to the purported need for an evaluation of reasonable potential on potential seepage from the EQ basins, it is a legal issue. Whether groundwater that reaches surface water is within the scope of the NPDES permit program is a legal issue. Therefore, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).

The commenter questions whether controls required in the NPDES permit are enforceable. The MPCA revised the language of the permit in light of the comment to state that a direct discharge from the south seepage management system to former SD026 is prohibited. See draft permit at 5.175.52. In addition, the MPCA has added the following requirements to the permit to address concerns regarding requirement for constructing/upgrading the South Seepage Management System: “The Permittee shall construct the FTB South Seepage Management System as an upgrade or replacement of the existing temporary surface seepage pumpback system located upstream of former Cliffs Erie outfall SD006. The South Seepage Management System shall be designed and constructed to collect seepage from the FTB in this area such that there will be no direct discharge of seepage to surface waters.”

Because there is no issue of fact, no specific new facts were raised, and the MPCA adequately addressed the comment, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); see Red Wing. Amendment No. 4; cf. City of Owatonna .

The commenter questions whether controls required in the NPDES permit are enforceable. The MPCA revised the language of the permit in light of the comment to state that an inward gradient was not reestablished within 14 days of detection, it is a violation of the permit. The permit also requires monitoring of the Category 1 stockpile paired wells/ piezometers weekly following a 100-year storm event to ensure that monitoring and any necessary preventative maintenance occur promptly.

Because there is no issue of fact, no specific new facts were raised, and the MPCA adequately addressed the issue, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); see Red Wing. Amendment No. 4; cf. City of Owatonna .

Although the Draft Permit states, “The Permittee shall maintain an inward hydraulic gradient across the FTB Seepage Containment System as determined from water level measurements from the paired monitoring wells and piezometers,” this condition is qualified to take into account “temporary conditions that may result from short-term precipitation or snowmelt events.”141 Should either a decrease in pumping rates or monitoring detect that an inward gradient is not being maintained at the tailings seepage containment system, this engineering failure would not constitute an enforceable violation of the Draft NPDES/SDS permit. Such a finding would merely trigger a long and non-exclusive list of potential mitigation measures and submittal of a Seepage System Contrective Action Evaluation Report. 142 A permit violation could, theoretically, be found if PolyMet reported in an Annual Comprehensive Performance Report that an inward gradient was not being maintained to prevent impact to ground or surface waters from the tailings seepage system, submitted a mitigation plan, the MPCA disapproved the plan and PolyMet did not address the MPCA’s disapproval within a deadline specified at that time. 143

The commenter questions whether controls required in the NPDES permit are enforceable. The MPCA revised the language of the permit in light of the comment to state that an inward gradient is not reestablished within 14 days of detection, it is a violation of the permit. The permit also requires monitoring of the Category 1 stockpile paired wells/piezometers weekly following a 100-year storm event to ensure that monitoring and any necessary preventative maintenance occur promptly.

Because there is no issue of fact, no specific new facts were raised, and the MPCA adequately addressed the issue, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); see Red Wing. Amendment No. 4; cf. City of Owatonna .

The MPCA Fact Sheet states for the hydrometallurgical residue facility that “no leakage is expected through the lower composite liner.”144 But the Draft NPDES/SDS Permit imposes no limit on discharge of HRF pollutants through groundwater. The Draft Permit only states, “Direct discharge from the HRF Pond and/or the HRF Leakage Collection system to surface waters or to the FTB is prohibited.”145 The Draft Permit provides a lengthy investigation work plan for a preload design, but no specifications that would result in revocation of the authority already granted in the permit that the “HRF is permitted to receive hydrometallurgical residue and process water.”146 Both the DNR and the MPCA propose to issue permits for the HRF, although neither agency nor permit has resolved concerns regarding the site, its unstable foundation, and the risks of dam instability and liner deformation releasing highly toxic wastes from the HRF.

The commenter questions whether controls required in the NPDES permit are enforceable. In light of the comment, the MPCA added language in part 5.381.234 of the draft permit to state that if the MPCA determines that site conditions at the proposed HRF location preclude the construction and operation of the HRF in compliance with applicable water quality standards, construction of the HRF at that location is prohibited.

Because there is no issue of fact, no specific new facts were raised, and the MPCA adequately addressed the issue, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); see Red Wing. Amendment No. 4; cf. City of Owatonna .
The Draft NPDES/SDS Permit states for the mine site Category 1 seepage containment system, as with the tailings system, that "The Permittee shall maintain an inward hydraulic gradient across the Category 1 Waste Rock Stockpile Groundwater Containment System as determined by comparing water level measurements from the paired monitoring wells and piezometers" and that this condition should take into account "temporary conditions that may result from short-term precipitation or snowmelt events." 147 If monitoring detects that an inward hydraulic gradient is not being maintained at the Category 1 seepage containment system, this engineering failure, as at the tailings basin, would not be an enforceable violation of the Draft NPDES/SDS permit. The finding could lead to potential mitigation measures.

148 But, irrespective of the ineffectiveness of containment, the only way a permit violation could be triggered would be if PolyMet disclosed in an Annual Comprehensive Performance Report that failure to maintain the inward gradient resulted in a "measurable" impact to groundwater, proposed a corrective plan and schedule, the MPCA disapproved the plan and PolyMet failed to address the Agency's d1. supravol 1.49

The commenter questions whether the "prohibition of discharge" provisions in the NPDES permit are enforceable. In light of the comment, the MPCA reevaluated and clarified the phrasing of the requirements in the permit prohibiting a direct discharge from the mine site/FTB pond/FTB seepage capture system and believes the requirements are enforceable. See parts 5.175.31, 5.175.52 and 5.175.75 of the draft permit. Because there is no issue of fact, no specific new facts were raised, and the MPCA adequately addressed the issue, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); see Red Wing; Amendment No. 4; cf. City of Owatonna.

The EPA has emphasized to the MPCA that, if the PolyMet NPDES permit does not cover discharge through groundwater to hydrologically connected surface water "then the company will be discharging without a permit in violation of the CWA." The EPA explained, repeating discussions that the Agency had had many times before with both the MPCA and PolyMet: [T]here is no minimum threshold of predicted pollutant load needed to trigger the requirement to submit a permit application. The CWA [Clean Water Act] does not include exemptions that would limit NPDES permit coverage to only "excess" wastewater discharges that are deemed to have a "statistically significant" impact on receiving waters at property boundaries. There is no exclusion or exemption for discharges from facilities based on technology or engineering controls. Failure to obtain NPDES coverage for discharges of pollutants to waters of the United States would place the discharger at risk of violating the CWA. 155

Of course, a violation of the Clean Water Act could only be prosecuted if it were detected. That is why monitoring of surface water quality in relationship to groundwater seepage of pollutants is so important.

The EPA has emphasized to the MPCA that, if the PolyMet NPDES permit does not cover discharge through groundwater to hydrologically connected surface water "then the company will be discharging without a permit in violation of the CWA."154 The EPA explained, repeating discussions that the Agency had had many times before with both the MPCA and PolyMet: [T]here is no minimum threshold of predicted pollutant load needed to trigger the requirement to submit a permit application. The CWA [Clean Water Act] does not include exemptions that would limit NPDES permit coverage to only "excess" wastewater discharges that are deemed to have a "statistically significant" impact on receiving waters at property boundaries. There is no exclusion or exemption for discharges from facilities based on technology or engineering controls. Failure to obtain NPDES coverage for discharges of pollutants to waters of the United States would place the discharger at risk of violating the CWA. 155

Of course, a violation of the Clean Water Act could only be prosecuted if it were detected. That is why monitoring of surface water quality in relationship to groundwater seepage of pollutants is so important.

The comment raises a factual issue regarding adequacy of the monitoring network and states conclusions regarding the permit; however, the comment does not identify specific facts and no new information is presented. Because the comment does not provide evidence to dispute MPCA’s analysis, the comment does not provide a reasonable basis for dispute and a contested case hearing would not aid the Commissioner. Minn. R. 7000.1900, subp. 1(A); see Red Wing; Amendment No. 4; To the extent the comment raises issues of compliance with the Clean Water Act or state law, it raises legal issues not subject to a contested case hearing. Minn. R. 7000.1900, subp. 1(A).

To the extent this comment questions the adequacy of the EIS (as opposed to the adequacy of the draft NPDES permit), the comment is outside the jurisdiction of the MPCA commissioner and is not the subject of this action. Minn. R. 7000.1900, subp. 1(B).
543-BA Paula Goodman Maccabe Just Change Law Offices/Water Legacy Failure to provide sufficient monitoring to evaluate compliance with surface water quality standards conflicts with regulations implementing the Clean Water Act. Federal regulations, applicable to state NPDES permits, require monitoring "sufficient to yield data which are representative of the monitored activity." 158 State compliance evaluation programs should be capable of identifying noncompliance with permit requirements, verifying the adequacy of sampling and monitoring and protecting surface waters and public health. 159 State must also have remedies for enforcement of violations of State permit and program requirements. 160 These regulatory requirements would be meaningless if a state's monitoring was so deficient that no violations would be detected.

Minnesota rules similarly require that every permit issued by the MPCA contain monitoring requirements "that are sufficient to yield representative data to determine whether there is compliance with the terms and conditions of the permit or compliance with Minnesota and federal pollution control statutes and rules." 161 Minnesota statutes contain civil and criminal penalties to enforce violation of MPCA permits, 162 remedies that would become moot if permit violations could not be detected.

See response to Comment 543-AZ. With respect to legal requirements for developing a permit, the permit complies with federal and state requirements for NPDES permits.

543-BB Paula Goodman Maccabe Just Change Law Offices/Water Legacy Although any mine site discharge to surface water through hydrologically connected groundwater may be permit violation under the Clean Water Act, mine site surface water quality monitoring seems to be designed to preclude detection of such a violation. The map below163 shows the mine site layout, along with the potential sources of contamination. Lined features, which could leak to groundwater, include the Ore Surge Pile and the Category 2/3 Waste Rock Stockpile (yellow), sumps and ponds (small pink squares) and the Equalization Basins (blue). These sumps, ponds and basins could also overflow during heavy rain events. Unlined features with higher seepage rates to groundwater include the Category 1 Waste Rock Stockpile (yellow), the West, Central and East Mine Pits (gray) and the Overburden Storage and Laydown Area (yellow lines). Mine pits would not seep during dewatering but could seep to groundwater during temporary as well as final closure or due to seasonal and rain events.

The proposed PolyMet mine site contains many wetlands and several small creeks that could be hydrologically connected to the sources of mine site contamination of groundwater. This map illustrates some of these proximate surface water features: 164 The map below shows the location of the only surface water monitoring sites near the mine site proposed in the Draft NPDES/SDS Permit: 165 Proposed monitoring sites for baseline conditions are shown in green and proposed sites to identify surface water impacts are red. The sites on Longnose Creek and Wyman Creek are intended to monitor impacts of "dil or leakage from the tailing facility and pipeline between the mine site and the plant site. 166 The single surface water site proposed to monitor impacts from discharge through groundwater to surface water from the entire mine site is identified on this map as SW004C: This monitoring site is located on the Partridge River approximately a mile south of the mine site. 167

The comment concludes that the monitoring location is inadequate to detect groundwater discharges by relying on facts already considered by the MPCA. The MPCA evaluated the surface water monitoring needed at the facility during the development of the permit, considered the facts presented in the comment, and determined that the proposed location was adequate to evaluate effects from the mine site. Also see response to Comment Water-711-B. To the extent this comment questions the adequacy of the EIS (as opposed to the adequacy of the draft NPDES permit), the comment is outside the jurisdiction of the MPCA commissioner and is not the subject of this action. Minn. R. 7000.1900, subp. 1(B).

543-BC Paula Goodman Maccabe Just Change Law Offices/Water Legacy Surface water quality monitoring to detect impacts to surface water as a result of both direct discharge and discharge through groundwater to waters of the United States at the tailings waste facility is similarly deficient. The Draft NPDES/SDS Permit would authorize 11 discharge outfalls at the four-and-a-half mile square tailings facility, each of which is indicated in orange and is at or near the edge of the facility.

As the map shows, the Draft NPDES/SDS Permit would provide five surface water quality, monitoring stations, the nearest one of which is about a mile from the northern edge of the tailings facility. 168 As evident in the map above, there are streams originating much closer to the tailings facility than the surface monitoring stations selected. In addition, similar to the mine site, there are wetlands up to the very edge of the sources from which tailings site contamination would originate - both the discharge outfalls and the seepage containment system.169

The MPCA evaluated the surface water monitoring needed at the facility during the development of the NPDES/SDS permit and determined that the monitoring in the draft permit is adequate to evaluate effects from the plant site and that additional surface water monitoring in wetlands is not necessary. The comment considers the same information that the MPCA considered and reaches a different conclusion. In addition, the MPCA's 401 Certification for the project does include wetland monitoring. Also see response to Comment Water-711-B. Because there are no new facts to consider, and there is no reasonable basis for dispute, a hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

543-BD Paula Goodman Maccabe Just Change Law Offices/Water Legacy After several commenters explained that seepage could also escape from the east side of the tailings facility due to changes in elevation and hydraulic head, Poly Met represented and the Poly Met final EIS asserted that the collection system on the east side of the tailings facility would capture 100% of both surface seepage and groundwater seepage. 170 The Draft NPDES/SDS Permit proposes no surface water monitoring sites to the east of the tailings facility.

The MPCA evaluated the surface water monitoring needed at the facility during the development of the NPDES/SDS permit. The comment considers the same information and reaches a different conclusion. Because there are no new facts to consider, and there is no reasonable basis for dispute, a hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.
The Draft Permit suggests that monthly inspection of HRF pond and HRF leakage collection system will “evaluate the effectiveness of the liner and Leakage Collection System.” Although there are monitors for internal waste streams at the hydro metallurgical residue facility (HRF), there are no monitoring sites at all that could detect liner leakage at the HRF: no bedrock groundwater monitoring sites, no surficial aquifer monitoring sites and no surface water quality monitoring sites. The MPCA evaluated the surface water monitoring needed at the facility in the development of the NPDES/SDS permit. The MPCA evaluated the groundwater monitoring needed at the facility, including the FTB and Category 1 stockpile, in the development of the permit. The comment considers the same information and reaches a different conclusion. Because there are no new facts to consider, and there is no reasonable basis for dispute, a hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

Similarly, there are no monitoring sites of any kind - groundwater or surface water -- to detect leakage of the Equalization Basins, the highly contaminated single-lined ponds on the southern edge of the Poly Met mine site. The MPCA relies on typical liner characteristics to assume, without verification, that leakage will be minimal, and will affect neither groundwater nor nearby surface water. The MPCA evaluated the monitoring needed at the facility in the development of the NPDES/SDS permit. The MPCA evaluated the groundwater monitoring needed at the facility, including the equalization basins, in the development of the permit. A monitoring well is located immediately adjacent to the basin system, so additional wells to monitor effects from the Equalization Basins are not necessary. The permit requires an annual evaluation of the suitability of the existing groundwater monitoring network, based on actual data, to adequately monitor groundwater flows from the mine site. The comment considers the same information and reaches a different conclusion. Because there are no new facts to consider, and there is no reasonable basis for dispute, a hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

The Poly Met Draft NPDES/SDS permit must be revised to include many additional surface water monitoring sites on the mine site and in wetlands and streams in proximity to mine site sources of contamination in order to determine if Poly Met is violating the draft permit prohibition of discharge of pollutants to surface water. Surface water monitoring sites should consider the groundwater contours of the mine site, which reflect a reduced groundwater gradient on all sides of the mine, 174 the 100-year flood plain for the mine site that overlaps the Category 1 seepage containment system and its sump, 175 and the many faults and fractures identified at and in the vicinity of the mine site, shown on this map as well as on the attached exhibit. 176 The MPCA evaluated the monitoring needed at the facility, including around the tailings basin and Category 1 stockpile, in the development of the permit. As described in response to Comment Water-711, the primary purpose of the paired piezometers and monitoring wells located adjacent to the barrier in the FTB and Category 1 stockpile capture systems is to monitor water levels to verify that an inward gradient across the barrier is being maintained. Monitoring of the monitoring well pairs for sulfate, chloride, specific conductance and TDS is sufficient to assess whether any unencapped seepage is moving beyond the barrier; additional monitoring for metals is redundant and not needed. Because there are no new facts to consider, and there is no reasonable basis underlying a dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A).

Surface water monitoring sites located in wetlands should specifically measure sulfate, mercury, methylmercury and water fluctuations, among other parameters to address concerns about increased mercury contamination resulting from the PolyMet project. All monitoring data is reported to the MPCA on monthly Discharge Monitoring Reports (DMRs) which is posted online on the MPCA website (available at https://www.pca.state.mn.us/quick-links/eda-surface-water-data) and is also available by request to the agency. Because there is no factual dispute, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A).

MPCA’s current plan to have only three surficial aquifer monitoring wells downstream of the tailings site179 is also insufficient. Additional monitoring sites in the plant site surficial aquifer are required to identify likely flowpaths from groundwater seepage to surface water. Such monitoring of surface and groundwater is also important to assess the impacts on both human health and natural resources in the event of spillage, overflow or partial or complete dam failure at the tailings site. Surface water monitoring sites located in wetlands should specifically measure sulfate, mercury, methylmercury and water fluctuations, among other parameters to address concerns about increased mercury contamination resulting from the Poly Met project.

Locations of groundwater monitoring sites should be re-evaluated to ensure that they follow potential pathways from sources of contamination along faults and fractures. In particular, the Draft NPDES/SDS Permit should locate surficial groundwater monitoring stations radiating out from the seepage collection systems for the Category 1 waste rock seepage at the mine site and the tailings seepage at the plant site. See response to Comment 543-BK.
### 543-BL Paula Goodman Maccabe
- **Just Change Law Offices/Water Legacy**
- The Poly Met Draft NPDES/SDS permit should also include strategically located groundwater and surface monitoring sites to ascertain whether the liners for the HRF are leaking. Particularly since this waste facility is proposed to contain highly toxic wastes, including a large mass of mercury, on an unsuitable site with an unstable foundation, effective leakage capture must be verified, not assumed. Similarly, the Draft NPDES/SDS Permit should require surficial groundwater and surface monitoring sites to ascertain whether liners for the Equalization Basins and other mine site sources of contamination are performing as hoped. The MPCA evaluated the surface water monitoring needed at the facility in the development of the NPDES/SDS permit. The MPCA evaluated the groundwater monitoring needed at the facility, including the HRF, in the development of the permit. The comment considers the same information and reaches a different conclusion. However, in light of the comment, a provision has been added to the permit that requires the HRF Liner Plan to include a specific analysis of the suitability of the proposed monitoring to detect leakage from the HRF. The final permit includes language requiring the permittee to include into the HRF design a lysimeter under the HRF sump or other monitoring device capable of monitoring potential impacts and to assess the suitability of the proposed monitoring prior to construction of the HRF. Any potential leachate bypassing the HRF double liner system would be captured by the FTB Seepage Capture System and treated prior to discharge.

### 543-BM Paula Goodman Maccabe
- **Just Change Law Offices/Water Legacy**
- In addition to the deficiencies in the location of monitors, there are gaps in the nature of parameters proposed to be monitored. The Draft NPDES/SDS Permit sets a priority on groundwater monitoring at and around the seepage containment systems at the tailings facility and the Category 1 waste rock stockpile and in monitoring to detect northward flow. The parameters tested in these monitors should be expanded. The Draft Permit proposes that monitoring at the tailings seepage trench and the Category 1 seepage trench would include only water levels within the containment trench, would include no metals or parameters indicative of copper-nickel mining or processing outside the trench. 180 Such limitations would hamper the use of seepage data to determine whether pollutants found in bedrock groundwater, surficial aquifer or in surface water monitoring originated from seepage failure and whether action would need to be taken in order to avoid violation of water quality standards. In order to determine the role of seepage in contamination of groundwater or surface water, metals including at least the following should be monitored at both the tailings seepage system and the Category 1 seepage system: arsenic, cadmium, copper, lead, mercury, nickel and zinc. In addition, an effort should be made to identify and monitor for parameters that are chemical signatures for the Poly Met mining project. The MPCA evaluated the monitoring needed at the facility, including around the tailings basin and Category 1 stockpile, in the development of the permit. As described in response to Comment Water-711, the primary purpose of the paired piezometers and monitoring wells located adjacent to the barrier in the FTB and Category 1 stockpile capture systems is to monitor water levels to verify that an inward gradient across the barrier is being maintained. Monitoring of the monitoring well pairs for sulfate, chloride, specific conductance and TDS is sufficient to assess whether any uncaptured seepage is moving beyond the barrier; additional monitoring for metals is redundant and not needed.

### 543-BN Paula Goodman Maccabe
- **Just Change Law Offices/Water Legacy**
- Another, even more significant deficiency in the quality of monitoring is the monitoring to evaluate northward flow, which will only detect water levels and no other parameters. 181 Given potential changes affecting hydrology from operations at the Northshore Mine Peter Mitchell Pit, even if changes in water levels were detected in groundwater north of the Poly Met mine site, attribution would be difficult absent additional information as to the constituents of that groundwater. Again, monitoring the suite of metals associated with copper-nickel mining and the particular rock formations at the proposed Poly Met mine site would provide evidence of the source of the flow and yield the data necessary to represent the monitored activity. The MPCA evaluated the monitoring needed at the facility, including that needed to ascertain whether a north flow may occur in the future, in the development of the permit. Similar to the approach around the tailings basin and Category 1 stockpile described in response to Comment Water-711, the purpose of the north flow path wells is to monitor the hydrogeologic conditions such that it can be confidently predicted whether a north flow path may develop in the future. This can be accomplished by monitoring current and future groundwater elevations along the potential north flow path; monitoring of groundwater quality is not needed to accomplish this purpose.

Because there are no new facts to consider, and there is no reasonable basis for dispute, a hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

Because there are no new facts to consider, and there is no reasonable basis underlying a dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

Because there are no new facts to consider, and there is no reasonable basis underlying a dispute, a hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.
The Draft NPDES/SDS permit for the PolyMet Project violates the Clean Water Act, as it is implementing regulations and Minnesota law by failing to set limits for direct discharge to surface water with the reasonable potential to cause or contribute to violation of Minnesota water quality standards. Federal regulations require that any new copper-nickel mine project must comply with new source performance standards which provide technology-based effluent limitations (TBELs). 182 The only effluent limits proposed in the draft permit for the PolyMet copper-nickel mine project are based on TBELs and apply to 5100E, the mining treatment system for surface discharge from the tailings site wastewater treatment system (WWT). 183 WWT treatment discharged at the contaminant levels allowed under new source performance standards would far exceed Minnesota water quality standards. At the PolyMet copper-nickel tailings site, the new source TBELs for zinc is more than 4 times Minnesota's water quality standard (120 μg/L); the TBEL for arsenic is 4 times Minnesota's standard (15 μg/L); the TBEL for cadmium is 10 times Minnesota's standard (2.5 μg/L); the TBEL for copper is 16 times Minnesota's standard (9.3 μg/L); the TBEL for lead is almost 94 times Minnesota's applicable standard (1.3 ng/L); and the level of mercury in discharge allowed by the TBELs for mercury is more than 760 times the level to which mercury is limited under Minnesota water quality standards for the Lake Superior Basin (1.3 μg/L). 184 Minnesota's water quality standards were enacted and approved by the Legislature. 186 Each NPDES permit must include technology-based effluent limitations (TBELs), where applicable. 187 But these TBELs serve as a floor, not a ceiling. Generally, the Clean Water Act uses two different types of standards “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Technology-based standards and water quality standards. 33 U.S.C. § 1321(a). Technology-based standards set a minimum level of treatment that must be performed by those who discharge pollutants into waters. That level is predetermined by EPA to be both technologically available and economically achievable. In contrast, water quality standards depend on the purpose for which a particular body of water is used. 40 C.F.R. § 131.1(b). States are primary for establishing and revising water quality standards, but they must also submit those standards to EPA for approval. 188 Each NPDES permit must also include water quality-based effluent limitations (WQBELs) and requirements in addition to or more stringent than technology-based standards to the extent necessary to achieve water quality standards established under section 303 of the Clean Water Act, including state narrative criteria for water quality. 189 Federal courts have consistently held that the TBELs are insufficient to attain or maintain water quality standards, the CW A requires NPDES permits to include additional water quality-based effluent limits (“WQBELs”) when federal regulations implementing the Clean Water Act, limitations must control all pollutants or pollutant parameters which “are or may be expected to cause or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.” 190 By definition, a water designated as impaired for a pollutant or failure to attain a narrative criterion already represents an excursion above water quality standards.

Minnesota rules require that an NPDES permit issued by the MPCA “must contain conditions neces[s]ar[ies] for the permittee to achieve compliance with all Minnesota or federal statutes or rules.” 191 As explained in Section 2 of these comments, even using PolyMet’s modeling and projections, if seepage from the PolyMet flotation tailings basin (FTB) were not treated, that discharge would cause or contribute to the violation of both State numeric and narrative water quality criteria.

The MPCA has not disregarded the potential of Poly Met FTB pollutants to violate Minnesota water quality standards. What the Agency maintains is that the water quality treatment proposed and pilot-tested by Poly Met would reduce the levels of pollutants in FTB seepage sufficiently so that there would be no reasonable potential for direct discharge from the tailings facility to cause or contribute to violation of Minnesota water quality standards. 193

There are several problems with this rationale: A) PolyMet has not actually “pilot tested” treatment of influent similar to that proposed at its copper-nickel mine project. PolyMet’s SDSD permits public record contains evidence of similar treatment at a similar scale; B) Even if the treatment proposed by Poly Met were likely to be effective in reducing other metals, there is a reasonable potential that effluent from its wastewater treatment plant would cause or contribute to violation of mercury standards for mercury-in-receiving waters that are already impaired by elevated mercury in fish and in the water column; C) The MPCA has performed no analysis to determine if the specific conductance predicted for WWTS effluent would cause or contribute to toxicity, reflected in fish assessment impairments in the Embarrass River; and D) The NPDES/SDS Permit places no limitations on surface water discharge from the existing LTVSMC tailings facility, which will transfer to Poly Met prior to the construction of a seepage collection system or treatment facility. Each of these deficiencies must be corrected before an NPDES/SDS permit can be issued to PolyMet in compliance with federal and state law

The comment interprets the Clean Water Act. The MPCA concurs that NPDES permits must comply with federal and state requirements. The final permit meets those requirements. To the extent this questions the MPCA’s substantive determination of the need for water quality-based effluent limits, see response to Comments 543-BD and Water-718-A. This comment raises an issue of law, not fact. The comment does not provide new facts or evidence for the MPCA to consider, and there is no reasonable basis underlying any dispute. Therefore, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4.

The comment relies on the information provided in the NPDES application, which the MPCA has reviewed and considered during project development. Specifically, MPCA reviewed design modeling and pilot testing information referenced in the comment and determined it was sufficiently similar to the expected WWTS influent for the proposed project. The design modeling provided in the permit application accounted for variability in the volume and quality of the wastewater that are expected to occur as the Project progresses. It demonstrated the proposed design is capable of optimizing the discharge will meet the Operating Limits proposed in the draft permit.

To demonstrate that membrane treatment technologies were capable of meeting treatment targets, the company conducted a 6-month pilot testing program using seepage water from the existing tailings basin. For a portion of the test, additional metals were added to the test influent to more closely simulate projected effluent quality. Results of the pilot testing were used in the MPCA’s reasonable potential analysis and again, determined the proposed design is capable of meeting the Operating Limits proposed in the draft permit. The MPCA concluded that there is not reasonable potential for the discharge to cause or contribute to an excursion above water quality standards.

See MPCA’s detailed responses in response to Comments Water-717 through Water-720-E.

This comment raises a legal issue regarding applicability of water quality-based effluent limits. The comment questions MPCA’s interpretation of the Clean Water Act. Therefore, a contested case hearing is not appropriate on this issue. Minn. R. 7000.1900, subp. 1(A). This comment raises a legal issue regarding applicability of water quality-based effluent limits. The comment questions MPCA’s interpretation of the Clean Water Act. Therefore, a contested case hearing is not appropriate on this issue. Minn. R. 7000.1900, subp. 1(A). To the extent this questions the MPCA’s substantive determination of the need for water quality-based effluent limits, it raises an issue of policy regarding the MPCA’s chosen method to evaluate reasonable potential. See response to Comment Water-718-A. However, the comments did not introduce any new facts or provide a reasonable basis for the dispute that would meet the criteria for a contested case hearing. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4. MPCA’s detailed responses in response to Comments Water-717 through Water-720-E and below demonstrate that there is no reasonable basis and a contested case hearing would not aid the commissioner on this issue. Minn. R. 7000.1900, subp. 1(C).
### 543-BR Paula Goodman Maccabe Just Change Law Offices/Water Legacy

The data cited by MPCA is deficient and is not the full extent of data available in this record to evaluate the reasonable potential for exceedances. The estimated effluent characteristics reported by PolyMet to the EPA on Form 2D are either "based on treatment target" or on the "GoldSim model WWTS influent." It is stating that effluent characteristics will be based on a target a discharger hopes to attain is a tautology, not performance-based information. Even if PolyMet's influent modeling were verifiable, rather than based on exclusion of pertinent data, 196 a demonstration of removal efficacy would be required to find that there is no reasonable potential for exceedance. Absent effective removal, the concentrations of many parameters in predicted wastewater treatment system (WWTS) influent far exceed applicable water quality standards. 197 Although the MPCA NPDES/SDS Fact Sheet refers to "pilot" testing of PolyMet's proposed wastewater treatment technology for tailings seepage, this is a misnomer. The only pilot treatment cited by PolyMet in its October 2017 NPDES/SDS Application is a 2013 test conducted for seven months on water from a seep and a shallow well at the existing LTV SMC taconite tailings facility, not on Poly Met copper-nickel mine flotation tailings. 198 Concentrations of parameters are quite dissimilar. Where the LTV SMC seepage had copper and nickel concentrations averaging less than 3 μg/L, PolyMet WWTS influent is predicted to have copper concentrations up to 200 times higher and nickel concentrations up to 300 times higher. 199

The comment claims that MinnAMAX data was excluded and should have been considered in the permit development. As discussed above in response to Comment 543-AJ, the MinnAMAX data was considered in the GoldSim water quality model, which itself was part of the information that MPCA reviewed in developing the permit. Because the comment did not identify new facts, or provide a reasonable basis for a dispute, a contested case hearing would not aid the Commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

### 543-BS Paula Goodman Maccabe Just Change Law Offices/Water Legacy

The influent flow rate for this test ranged from 19 to 22 gallons per minute (gpm), more than two orders of magnitude smaller than the predicted flow rate (3,030 gpm) for the Poly Met wastewater treatment system. 200 Some of the significant problems with reverse osmosis efficacy, such as fouling of membranes, would be more significant with higher concentrations of metals and higher flows than in a small-scale test using taconite tailings. MPCA reviewed pilot testing information and determined it was sufficiently similar to the expected WWTS influent for the proposed project.

To demonstrate that membrane treatment technologies were capable of meeting treatment targets, the company conducted a 6-month pilot testing program using seepage water from the existing tailings basins, which was described in the permit application. For a portion of the test, additional metals were added to the test influent to more closely simulate projected effluent quality. Results of the pilot testing were used in the MPCA's reasonable potential analysis, and again MPCA determined the proposed design is capable of meeting the Operating Limits proposed in the draft permit. The MPCA concluded that there is not reasonable potential for the discharge to cause or contribute to an excursion above water quality standards. This raises an issue of fact, but the comment did not identify any new facts, or provide a reasonable basis for a dispute, a contested case hearing would not aid the Commissioner. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

### 543-BT Paula Goodman Maccabe Just Change Law Offices/Water Legacy

Poly Met seems to consider the results of this "pilot" testing sufficiently unreliable that it has proposed that wastewater treatment at its facility be considered "Adaptive Management." 201 Flexibility in operation of the mine water treatment trains will allow operators to adjust to changing or unforeseen conditions, as described in Section 2.2.4 of Reference (1). Because the actual water that will be generated by the Project will not be available until after the mine operations are initiated, pilot-testing with former LTV Steel Mining Company (LTVSMC) Area 5 pit water has been used to provide a basis for design (as described in Section 3.1 of Reference (10)). The composition of the actual mine water that will be realized at the Mine Site will likely vary from the pilot-test water source. For these reasons, treatment equipment has been selected such that component operation may be modified to account for unforeseen changes in influent water quality, reaction kinetics, sludge characteristics, or other factors that may modify the underlying chemistry in the process unit. 202

A treatment technology that a discharger describes as requiring flexibility due to unforeseen changes in influent quality and other factors does not obviate the need for efficient limitations to prevent excursions above water quality standards. Adaptive engineering risks decades of uncertainty, contaminant release, violations and unforeseen costs. The comment states a conclusion reached by the commenter. The comment did not identify new facts and the alleged issue is not material to the permit. The MPCA relies on technical review of the permit application and plans submitted to determine if proposed wastewater treatment systems will adequately treat waste from the proposed industry. The MPCA has reviewed the available information and believes the permit conditions can be met and the WWTS will work as designed. Whether PolyMet considers the pilot testing unreliable is not material to the permit, because the MPCA separately evaluated the pilot testing.

Adaptive management is commonly required in NPDES permitting to address issues as they arise. The incorporation of adaptive management as a failsafe does not invalidate the conditions; it allows a more rapid response in case of a problem. Because the comment did not identify any specific new facts, the dispute is not material, and there is no reasonable basis for a dispute, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A), (C); see Red Wing; Amendment No. 4.

### 543-BU Paula Goodman Maccabe Just Change Law Offices/Water Legacy

A treatment technology that a discharger describes as requiring flexibility due to unforeseen changes in influent quality and other factors does not obviate the need for efficient limitations to prevent excursions above water quality standards. Adaptive engineering risks decades of uncertainty, contaminant release, violations and unforeseen costs. See response to Comments 543-BQ and 543-BS. The MPCA regularly reviews wastewater treatment systems of various sizes. The comment did not provide evidence suggesting why MPCA's conclusion may be incorrect. This raises an issue of fact regarding the amount of information needed to make a decision, but the comment did not identify new facts for MPCA to consider or provide a reasonable basis for a dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4.
Pilot tests should have been required during the past 13 years since environmental review began, to test actual leachate from copper-nickel mine tailings. And now, in the permitting process, due diligence must be applied to review whether there are any similar treatment processes at a similar scale succeeding to such a degree as to support a massive new discharge source. As disclosed in the Form 2D information provided by Poly Met, existing secondary membrane treatment systems - those at the Eagle Mine and Calpine - are more than an order of magnitude smaller than what PolyMet has proposed. More information is needed to evaluate whether the Consol Buchanan Coal Mine primary membrane system (1900 gpm), required by EPA after $200 million in violations, has been constructed and, if so, what its operating removal rate has been. Similarly, the Queensland coal-seam gas desalination application (1,500 gpm) should be evaluated to determine its efficacy. The University of Queensland has reported, "Desalination of produced water is severely impacted by mineral scaling on reverse osmosis (RO) membranes." The University has begun a new project in May 2017 to address this problem.

See response to Comment 543-BQ. The comment identified alternative facilities that MPCA could review, but MPCA has extensive experience in reviewing wastewater treatment systems and the suggested sites process different wastes. The comment did not include any specific information regarding the applicability of those sites to the proposed facility. The MPCA has experience permitting other facilities using membrane filtration and the comment did not demonstrate why the sites with which MPCA has experience would be any less applicable than the natural gas/desalination sites identified in the comment.

The MPCA regularly reviews wastewater treatment systems of various sizes. The design modeling provided in the permit application accounted for variability in the volume and quality of the wastewater that will be expected to occur as the Project progresses. It demonstrated the proposed design can be optimized so the discharge will meet the operating limits proposed in the draft permit.

See response to Comments 543-8U and 543-BV. See response to Comments 543-8U and 543-BV.

See response to Comment 543-BU and 543-BV. The comment reviewed the same information that the MPCA reviewed and concludes there is no reasonable basis for dispute. A contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C).

Because there is no reasonable basis for a dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4.
The only "pilot" test done by PolyMet, the seven-month test of LTYSMC tailings, influent reported in 2013 by Barr, did no testing to evaluate mercury removal. Mercury was below detectable levels in the influent chosen for the test.212 Conclusions regarding mercury in Barr’s report were based on literature and inquiries to the membrane supplier; Barr reported, "Mercury removal by RO membranes is highly dependent on the type of membrane used. Mercury rejections [the percentage removed by treatment] ranging from 22 to 99.9% have been reported."213 The Barr 2013 report continued, Mercmy removal by RO is highly variable and dependent upon its specification and the membrane selection. For these reasons, its removal is difficult to quantify.214

PolyMet's NPDES/SDS application does not commit to any level of mercury removal efficacy for its proposed treatment. PolyMet states, "Some mercury removal is expected across the greensand filter. However, the influent concentration of mercury to the tailings basin seepage treatment train is expected to be below the WWTS discharge treatment target."215 To make this statement, PolyMet cites a "bench-scale study" of the effectiveness of flotation tailings in removing mercury.216 and states that the concentration of future FTB seepage "is expected to be similar to the concentrations in the seepage from the existing LTYSMC tailings basin, which is approximately 1.0 ng/L.217

The available information shows that Poly Met surface discharge from its WWTS, lacking treatment specific to mercury, meets the discharge water quality standard.218 The groundwater information presented in the comment was cited from the EIS (Table 4.2.2-13, pg 4-126) and was considered in the EIS evaluation. Additionally, if the clearly anomalous single value of 153 ng/L was removed from the calculation of the mean, the resulting mean would be 2.8 ng/L rather than 4.9 ng/L. If two additional values for which QA/QC criteria were not met were removed, the resulting mean would be 2.0 ng/L. This value is not meaningfully different from the projected tailings basin pond water and when the body of data is considered, including the number of nondetectable values reported from the wells, it supports the conclusion that the concentration of mercury in the influent to the WWTS is or near the 1.3 ng/L water quality standard. Additional reductions are expected through treatment, as described in response to Comment 543-BX. The MPCA considered this information in its reasonable potential evaluation to support its conclusion that the seepage captured by the FTB seepage collection system (which is the influent to the WWTS) would have low mercury concentrations prior to treatment and that the filtration and membrane treatment provided by the WWTS would be able to reliably meet the mercury water quality standard.

This raises an issue of fact, but the comment does not introduce any new facts. Because the comment does not provide new facts or provide a reasonable basis for dispute, and the MPCA has adequately addressed the issue, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(c); see Red Wing; Amendment No. 4; cf. City of Owatonna.
Recreational potential that direct discharge to surface water will exceed narrative standards preventing aquatic toxicity and contribute to fishes assessment impairment. Federal regulations require water quality has of effluent limitations to ensure compliance with state narrative water quality criteria as well as numeric criteria. 220 Where biologic indicators demonstrate impairments of aquatic life, and new mining discharge would contribute to an existing violation of narrative water quality standards, that discharge is prohibited. An MPCA permit must set conditions to prevent further impairment not only discharge to polatine-234.2 The Embarras River is listed under the Clean Water Act 303(d) program as impaired for fishes assessment from its headwaters to the St. Louis River, and a stressor identification has been done, including Spring Mine Creek and the Embarras River. Finding that “Both of these streams are discharge points for mining dewatering, and water quality sampling results from these streams show elevated specific conductance and sulfate concentrations” 225

Minnesota rules contain a numeric criterion for specific conductance to protect water quality for agricultural use as 226. These do not contain numeric criteria to regulate the impact from specific conductance, the combination of ionic pollutants known to adversely affect fish and aquatic insects 227. However, Minnesota rules do not contain specific criteria requiring protection of aquatic life from the toxic effects of pollutants through site-specific numeric criteria in the absence of broadly applicable numeric standards in order to protect class 2 waters for the propagation and maintenance of aquatic life. 228

Minnesota’s rules define “protection of the aquatic community from the toxic effects of pollutants” to mean “the protection of no less than 90 percent of all of the species in any aquatic community.” 229 The same characterization standard used by the EPA to develop the hazardous concentrations of specific conductivity detailed in its 2011 Conductivity Benchmark Report, its 2016 Field-Based Methods report, and in peer-reviewed publications.

Throughout the environmental review process, PolyMet refused to disclose predictions of specific conductance in any waste stream or the basis for such predictions. 233 The Fishes Assessment Impairment Criteria (FAIC) Limiting Specific Conductance report used in permitting for the PolyMet tailings facility and to contribute to the fishes assessment impairment in the Embarrass River. 232

The weight of evidence from EPA reports, peer-reviewed literature and data from the Minnesota ecoregion where the PolyMet Project would be located demonstrates that the level of specific conductance proposed to be released by the WWTS would exceed the level toxic to sensitive genera of aquatic insects (benthic macroinvertebrates) and the fishes that rely on them for food. A field-based method of determining aquatic life numeric criteria for specific conductivity was finalized in 2011. 243 Since 2011, environmental stakeholders have recognized that the MPCA set WQBEL limiting specific conductivity in wastewater discharge permits and conduct rulemaking to set numeric criteria for specific conduct in order to protect aquatic life. 244

The MPCA was aware of the referenced MPCA-produced report during the permit development and considered the comment. The MPCA revised the permit to include an effluent limitation for toxicity. Because the comment does not identify new facts or provide a reasonable basis for dispute, and the MPCA has adequately addressed the issue, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4; cf. City of Owatonna.

The level of specific conductance that PolyMet predicts from its modeling will be released in its wastewater treatment system (WWTS) effluent is 1753-960 μmhos/cm. 242 Even if this prediction could be verified, it is high enough to contribute to an impairment of aquatic insects in the wetlands and creeks where effluent would discharge from the PolyMet tailings facility and to contribute to the fishes assessment impairment in the Embarrass River.

The weight of evidence from EPA reports, peer-reviewed literature and data from the Minnesota ecoregion where the PolyMet Project would be located demonstrates that the level of specific conductance proposed to be released by the WWTS would exceed the level toxic to sensitive genera of aquatic insects (benthic macroinvertebrates) and the fishes that rely on them for food. A field-based method of determining aquatic life numeric criteria for specific conductivity was finalized in 2011. 243 Since 2011, environmental stakeholders have recognized that the MPCA set WQBEL limiting specific conductivity in wastewater discharge permits and conduct rulemaking to set numeric criteria for specific conduct in order to protect aquatic life. 244

The MPCA was aware of the referenced MPCA-produced report during the permit development and considered the comment. The MPCA revised the permit to include an effluent limitation for toxicity. Because the comment does not identify new facts or provide a reasonable basis for dispute, and the MPCA has adequately addressed the issue, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4; cf. City of Owatonna.
The EPA's Office of Research and Development reviewed the Johnson & Johnson Specific Conductance Evaluation and concluded in a memorandum dated February 6, 2016, that the weight of evidence supported the inference that effluents that increase specific conductivity to more than 300 μS/cm are likely to extirpate more than 5% of genera common to both Minnesota and Appalachia the esecretion EPA initially studied, and have adverse effects in northeast Minnesota waters.247

The EPA reviewed spreadsheet tools to conduct this analysis and predict stressor levels that extirpate genera and species.252

Since December 2016, the EPA has published in peer-reviewed journals the scientific basis for establishing the proposed specific conductivity limits.249 Appendix D to the EPA's 2016 report detailed the method that should be used by states to develop a numeric criterion for specific conductivity where there is sufficient water chemistry and biological data to calculate extirpation concentrations and hazardous concentrations.

Legacy OfficelWater Just Change Law

The EPA reviewed biological and specific conductivity for E2 Ecoregions across the United States, including Minnesota Ecoregion 50 (Northern Lakes and Forests), where the PolyMet Project would be located. The EPA map below shows Minnesota's Ecoregions, along with paired biological and water quality sampling sites.250

Although data in other Ecoregions was less robust, EPA found sufficient data to recommend a provisional specific conductivity value for aquatic life in Ecoregion 50, the Northern Lakes and Forests region in northeast Minnesota. In the Ecoregion where Poly Met proposes to locate its copper-nickel mine and flotation tailings facility, based on 734 samples, the EPA recommended a provisional hazardous concentration of 320 μS/cm to protect aquatic life from toxicity.251

The EPA's Office of Research and Development reviewed the Johnson & Johnson Specific Conductance Evaluation and concluded in a memorandum dated February 4, 2016, that the weight of evidence supported the inference that effluents that increase specific conductivity to more than 300 μS/cm are likely to extirpate more than 5% of genera common to both Minnesota and Appalachia the esecretion EPA initially studied, and have adverse effects in northeast Minnesota waters.247

The comment addresses conditions in an existing permit and consent decree. As explained in the fact sheet, the consent decree will continue to remain the regulatory control document until that time. See Fact Sheet at 75-78. The NorthMet permit does not authorize a discharge from the LTVSMC tailings basin.

Failure to set effluent limits for surface discharge from existing LTVSMC tailings. Although it seems at first glance that the Draft NPDES/SDS Permit precludes direct discharge to surface water from the PolyMet tailings basin, the actual limits are less inclusive. The Draft Permit states, "Water from the Tailings Basin will be recycled back to the Beneficiation Plant and will not be directly discharged during operations."253 The Draft Permit explains that the FTB (Flotation Tailings Basin) will contain flotation tailings generated during operation and will be constructed atop the existing LTVSMC tailings basin. The Draft Permit states "there will be no direct discharge from the FTB Pond to any receiving waters."254 Similarly, "Direct discharge to surface waters...from the FTB Seepage Containment System is prohibited."255 The Draft NPDES/SDS Permit prohibits deposit of nonferrous mining tailings in the FTB until its seepage containment system is operating, and requires PolyMet to maintain the existing pumpback systems for the former LTVSMC tailings basin until operation of the wastewater treatment system has begun.256

These provisions of the Draft NPDES/SDS Permit are not problematic on their own. However, the failure of the Draft Permit to set water quality-based effluent limitations for direct discharge from the existing LTV SMC tailings basin prior to the construction of the FTB and its seepage containment system fails to comply with the Clean Water Act, its implementing rules or Minnesota water quality standards. During the pendency of construction or under a scenario where the PolyMet Project does not proceed for any reason, existing LTVSMC tailings seepage discharge to surface waters would have the potential to cause or contribute to exceedances of Minnesota's water quality standards. The MPCA must conduct a reasonable potential analysis for existing LTVSMC discharge, and the Draft NPDES/SDS Permit must water quality-based effluent limitations (WQBELs) for any parameters that have the potential to cause or contribute to exceedances of Minnesota's numeric and narrative water quality criteria.

The MPCA was aware of the referenced review during the permit development and considered the comment. The MPCA revised the permit to include an effluent limitation for toxicity.

Because the comment does not identify new facts or provide a reasonable basis for dispute, and the MPCA has adequately addressed the issue, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4; cf. City of Owatonna .
The failure of the MPCA to establish WQBELs for the existing LT VSMC tailings discharge is particularly troubling given the Agency’s assertion in a memo contained in the PolyMet Permit to Mine Application that should the Poly Met copper-nickel mine project never become operational (scenario II), no treatment or mitigation would be required for potential exceedances of mercury sulfate alkalinity, hardness, total dissolved salts and specific conductance at the LT VSMC tailings facility. 257

For mercury, the MPCA offered that high concentrations of mercury exceeding Minnesota water quality standards in surface water surrounding the LT VSMC Basin “are most likely due to influences from precipitation and background concentration, not from seepage from the existing Basin.”258 Thus, under scenario II, “no treatment/mitigation is necessary in final closure for mercury.”259

For sulfate, MPCA proposed that high sulfate at the Basin “will likely not result in an exceedance of the calculated sulfate standard (or alternative sulfate standard in the proposed rule) if the MPCA proposed rule revision goes into effect.”260 If the proposed wild rice rulemaking revision were not completed, the MPCA offered, “another regulatory option available to the State would be to consider developing a site-specific standard based on the science at that time.”261 In any case, under scenario II, “no treatment/mitigation for sulfate would be required for protection of wild rice.”262

For a range of Class 3 and Class 4 pollutants from the LT VSMC tailings site - alkalinity, hardness, total dissolved salts and specific conductance, MPCA offered that the Agency “has made this rulemaking a high priority and expects to propose revisions in 2018.” Ann Foss, the memo’s author continued, “Based on current information, MPCA expects that these standards will either remain unchanged or become less stringent.”263 MPCA also suggested that, even if the rules were not weakened, “At any point, the MPCA can consider other regulatory options such as site-specific standards (SSS), a use attainability analysis (UAA), a use and value demonstration (UVD), or a variance.”264 Thus, if the Poly Met project did not become operational (scenario II), “no treatment/mitigation for alkalinity, hardness, TDS and specific conductance would be required.”265

Both factual and legal concerns are raised by this memorandum. Data comparing existing tailings pond and tailings toe mercury concentrations previously cited suggests that tailings as well as rainfall contribute to mercury exceedances. Sulfate standards based on the MPCA’s proposed rulemaking are no longer applicable. In January 2018, an Administrative Law Judge, with the concurrence of the Chief Judge, disapproved both repeal of Minnesota’s 10 parts per million (mg/L) wild rice sulfate standard and replacement of the standard with an equation-based formula. 266 Among other grounds, the ALJ concluded that repeal of Minnesota’s existing wild rice sulfate standard would conflict with the Clean Water Act and its implementing rules.267

Both factual and legal concerns are raised by this memorandum. Data comparing existing tailings pond and tailings toe mercury concentrations previously cited suggests that tailings as well as rainfall contribute to mercury exceedances. Sulfate standards based on the MPCA’s proposed rulemaking are no longer applicable. In January 2018, an Administrative Law Judge, with the concurrence of the Chief Judge, disapproved both repeal of Minnesota’s 10 parts per million (mg/L) wild rice sulfate standard and replacement of the standard with an equation-based formula. 266 Among other grounds, the ALJ concluded that repeal of Minnesota’s existing wild rice sulfate standard would conflict with the Clean Water Act and its implementing rules.267

A water quality standard may only be removed or made less stringent in compliance with the Clean Water Act and its implementing regulations, which require a scientific basis for the change and a demonstration that the uses of water for aquatic life, recreation and wildlife have all been preserved.268 There is extensive peer-reviewed science establishing that pollutants regulated in Minnesota under Class 3 and Class 4 rules (hardness, total dissolved salts and specific conductance) affect fish and other aquatic life so that removal or weakening of these standards would impair Clean Water Act protected uses.269

The EPA has advised MPCA that enforcement of Minnesota surface water quality standards is not discretionary under the Clean Water Act.270 And internal MPCA documents confirm that “Minn. sta. is required to enforce the state assembled and federally approved water standards, including the wild rice sulfate standard.”271 Whether the duration prior to Poly Met operations is three years or an indefinite period, the MPCA has no discretion under applicable federal or state law to leave direct discharge from the existing LT VSMC to waters of the United States unregulated.
543-CK

Paula Goodman
Maccabe

Just Change Law
Offices/Water
Legacy

The Poly Met Project is likely to cause or contribute to violations of Minnesota water quality standards for mercury, increase mercury impairments, and degrade
water quality by increasing mercury levels, precluding NPDES permit issuance or assurances for 401 certification under federal and state law. Benjamin Franklin
once said, "Half a truth is often a great lie." The Poly Met cross-media analysis of project impacts on water quality relative to mercury272 and the MPCA's
conclusion that PolyMet had demonstrated to the Agency's satisfaction that its sulfide mine would have no effects on mercury273 epitomize that maxim. The length
of PolyMet's report may create an impression ofrigor, and there are selective pieces of the mercury methylation problem that are highly detailed. But, the crossmedia analysis by Poly Met and its acceptance by the MPCA reflect a systematic and strategic exclusion of most of the factors that would result in a "perfect storm"
of Poly Met Project impacts on mercury release, methylation and transport to downstream receiving waters impaired due to mercury in the water column and
mercury contamination of fish. The ways in which mercury impacts are measured and modeled also minimize project impacts and increase the risk that the Poly
Met project will degrade water quality and endanger the environment and human health. Under federal and Minnesota law, Section 401 certification for a Clean
Water Act Section 404 wetlands dredge and fill permit can only be issued if there is a reasonable assurance that the activity as a whole will be conducted in a
manner that will not violate applicable water quality standards.274 For receiving waters downstream of the Poly Met Project or water within range of its local air
deposition of sulfate and mercury275 that are already impaired due to excessive mercury, the Draft NPDES/SDS Permit may not be issued, and certification may not
be granted if the project would cause or contribute to violations of Minnesota s standards limiting mercury in the water column and mercury that bioaccumulates in
fish tissue.276 For receiving waters not yet assessed as impaired due to mercury, the PolyMet Project cannot be permitted or certified if it would violate federal
regulations and state rules by allowing activities that lower the high quality of water with respect to mercury, when there are one or more pract icable alternatives,
including prevention or treatment, to prevent or lessen the degradation.277 In outstanding international resource waters (OIRWs) of the Lake Superior Basin,
including all receiving waters downstream of the Poly Met project, if a designated use of the water body is impaired, "there can be no lowering of the water quality
with respect to the GLI [Great Lakes Initiative] pollutants causing the impairment."278 In Lake Superior Basin waters impaired due to mercury in the water column
or methylmercury in fish tissue, no further impairment is allowed. Minnesota rules also require that the MPCA deny section 401 certification if the permitted facility
endangers human health or the environment and the danger cannot be removed by modifying permit conditions.279 Minnesota's section 401 certification and
permitting requirements are particularly salient for the Poly Met Project, an activity that would contribute to water quality violations and lower water quality in
mercury-impaired waters, degrade waters yet not assessed, increase the concentration of mercury in aquatic insects, fish, wildlife and the bodies of pregnant
women, fetuses, infants and children, and endanger the environment and human health. Bioaccumulation of methylmercury in the aquatic food chain harms
piscivorous (fish-eating) mammals and birds, along with insectivorous bats. 280 Vulnerable wildlife may include species protected by state law and under the federal
Endangered Species Act, such as the Northern Longeared Bat, for which the proposed Poly Met site and adjacent areas are critical habitat.28 1 The harmful effects
resulting from human consumption of methylmercury-contaminated fish are well-known. Dr. Margaret Saracino, a Duluth child and adolescent psychiatrist has
explained the particular vulnerability of fetuses, infants and children to morbidity resulting from methylmercury exposure: When pregnant women eat fish high in
methylmercury, the fetus is then exposed to this lipophilic heavy metal. The placenta is not protective and the blood brain barrier is not well formed until after age
two years, which makes fetuses, infants and young children most vulnerable to methylmercury's neurotoxic effects. Neurons in the developing brain multiply at a
rapid rate and are particularly vulnerable to toxic effects of heavy metals, hence brain damage is more likely to occur during this vulnerable time. Neurotoxicity is
also transferred to the infant through breast milk. The adverse effects of methylmercury depend on timing and amount of exposure. Methylmercury is a strong toxin
that influences enzymes, cell membrane function, causes oxidative stress, lipid peroxidation and mitochondria dysfunction, affects amino acid transport and cellular
migration in the developing brain. Exposure in utero can cause motor disturbances, impaired vision, dysesthesia, and tremors. Even lower level exposure can result
in lower intelligence, poor concentration, poor memory, speech and language disorders, and decrease in visual spatial skills in children exposed to methylmercury in
utero. Fetuses, infants, and young children are four to five times more sensitive to the adverse effects of methylmercury exposure than adults.282 From 2007-2011
the Minnesota Department of Health (MDH) conducted a study of Mercury in Newborns in the ake Superior Basin.283 Tbis was a large study testing a total of 1,465
babies in Minnesota, Wisconsin and Michigan. About 30% of the Minnesota babies born in the study area were tested. In this study, 10% of the newborns in
Minnesota's Lake Superior region had mercury levels above the EPA mercury dose limit, 3% of the Wisconsin newborns were above the mercury dose limit, and
From 2007-2011 the Minnesota Department of Health (MDH) conducted a study of Mercury in Newborns in the ake Superior Basin.283 Tbis was a large study
testing a total of 1,465 babies in Minnesota, Wisconsin and Michigan. About 30% of the Minnesota babies born in the study area were tested. In this study, 10% of
the newborns in Minnesota's Lake Superior region had mercury levels above the EPA mercury dose limit, 3% of the Wisconsin newborns were above the mercury
dose limit, and none of the Michigan samples exceeded the mercury limit. Babies born during the summer months were more likely to have an elevated mercury
level, which, the MDH explained, suggests that increased consumption of locally caught fish during the warm months is an important source of pregnant women's
mercury exposure in this region.284 Minnesota medical, nursing and health organizations representing more than 30,000 health professionals requested an open
and transparent public health impact assessment of risks from the Poly Met project. Among the public health concerns they identified were risks posed by increased
methylmercury contamination of fish.285 Their requests for a heallh impact assessment were denied by State Agencies.

543-CL

Paula Goodman
Maccabe

Just Change Law
Offices/Water
Legacy

The threat to water quality, aquatic life, wildlife and human health requires careful scrutiny of PolyMet's dismissal of
This comment addresses the 401 certification. See the 401 response to
This comment addresses the 401 certification. See the 401 response to
mercury and methylmercury impacts. Our concerns are cumulative, and they reflect the following important errors and comment document. No changes were made to the draft 401 certification comment document.
omissions in PolyMet's analysis: A) Exclusion of the impacts of sulfate and mercury groundwater seepage to wetlands in response to this comment.
and streams; B) Failure to evaluate the impacts of sulfate and mercury in surface water discharge or released to
wetlands; C) Failure to analyze the effects of changes in wetland and stream hydrology on mercury release,
methylation and transport; D) Exclusion of multiple sources of sulfur and sulfide air deposition at both the mine site
and the plant site; E) Exclusion of mine site mercury deposition, water bodies closest to mercury sources, and mercury
deposition to wetlands; (F) Misleading analysis of mercury methy lation in a single wetland of interest; ( G) Modeling
that systematically minimizes the cumulative potential for mercury and methylmercury impacts on water quality,
aquatic life, fish, wildlife and human beings.

543-CM

Paula Goodman
Maccabe

Just Change Law
Offices/Water
Legacy

Exclusion of impacts of sulfate and mercury seepage from groundwater. The "water component" of PolyMet's crossThis comment addresses the 401 certification. See the 401 response to
This comment addresses the 401 certification. See the 401 response to
media analysis of mercury and methylmercury specifically excludes the effects of mercury concentrations in tailings
comment document. No changes were made to the draft 401 certification comment document.
basin seepage, which PolyMet assumes "will be collected by the FTB seepage capture systems."286 The impacts of
in response to this comment.
mercury seepage cannot be included in the mercury analysis, since Poly Met has failed to characterize mercury in
wastes or wastewater either during environmental review or in either its Permit to Mine or NPDES/SDS permit
applications. Poly Met Permit to Mine Application appendices contained 26 separate tables estimating water quality in
various Project locations where water contacts waste, from the tailings toe to mine pits and waste rock seepage. None
of these tables estimated levels of mercury in the seepage or wastewater.287
In PolyMet's mass balance calculations for mercury, which provide its theoretical offset for mercury increases resulting
from air deposition, average mercury concentrations in seepage and groundwater, among other sources of loading
simply "were assumed constant between existing conditions and operating conditions."288

The comment primarily contains background information and perspective This comment addresses the 401 certification. See the 401 response to
on the 401 certification. See the 401 response to comment document for comment document.
detailed responses.


<table>
<thead>
<tr>
<th>543-CN</th>
<th>Paula Goodman</th>
<th>Just Change Law Offices/Water Legacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>As described in Section 2 of these comments, there is no question that the Poly Met Project will result in potential sources of seepage with elevated concentrations of sulfate. Sulfate concentration, sulfate seepage from either unlined sources (tailings storage, Category 1 waste rock stockpile, mine pits, OSIA peat storage area and pond) or lined sources (hydrometallurgical residue facility, mine site Category 2/3, Category 4 and One Surge piles and mine site sumps, ponds and equalization basins) none of these potential sources of sulfate loads were considered in PolyMet’s cross-media analysis.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This comment addresses the 401 certification. See the 401 response to comment document.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>543-CQ</th>
<th>Paula Goodman</th>
<th>Just Change Law Offices/Water Legacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>As explained previously, the Draft NPDES/SDS permit would not require PolyMet to capture additional groundwater seepage from the south side of the tailings basin captured by the east ting Cliffs Erie paupback system. Groundwater flow from this tailing site headwater of Second Creek averaged 766.8 gpm in 2017 and 140 gpm in 2016.295 In 2017 this groundwater seepage from the Second Creek south side headwaters alone was 38 times the total seepage predicted by Poly Met to escape uncaptured from containment systems at the tailings basin; even in 2016, the uncaptured seepage from the Second Creek south side of the tailings site was seven times the total predicted for the entire tailings site. 296 Sulfate concentrations predicted by PolyMet for South Toe tailings seepage are 553 mg/L, more than five times the average concentration of sulfate in LTVSMC tailings seepage.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This comment addresses the 401 certification. See the 401 response to comment document.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>543-CS</th>
<th>Paula Goodman</th>
<th>Just Change Law Offices/Water Legacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brian Branfreun, Ph.D., in his expert opinion on the Poly Met Project FEIS, concluded that “potential for seepage of sulfates and associated impacts to wetlands in the vicinity of both the project mine site and tailings basin” should not be discounted and that “Such seepage would enhance methyl mercury production in the project area and could also contribute directly to water quality impairments in sulfate-poor sediments downstream of the project site.” Brian Branfreun explained that “the small tributaries that are more proximal to the proposed NorthMet mine site location clearly demonstrate sulfate-limited conditions. The mean sulfate concentrations in Longnose Creek, West Pit Outlet Creek and Wetlegs Creek are 0.91, 2.6 and 3.9 mg/L respectively.” Increases in sulfate above these low background levels would promote mercury methylation in creek sediments in even in these relatively sulfate-poor and undisturbed tributaries.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This comment addresses the 401 certification. See the 401 response to comment document.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The "wetland of interest" where sulfur compound air deposition was modeled by PolyMet is located south of the Dunka Road in an alder thicket.306 The location of PolyMet's wetland of interest is shown on the map below.307 This wetland location is immediately adjacent to the east of the Equalization Basins (blue), which have a single liner and south of the Ore Surge Pile (yellow) with its sump and pond (pink).308

With this proximity, even if liners work as planned, they may seep to adjacent wetlands.

Although complete information on stormwater management is not provided in PolyMet's NPDES/SDS Application, PolyMet is proposing that water that has contacted surfaces directly disturbed by mining, such as drainage collected on the liners of the Ore Surge Pile or Category 2/3 waste rock stockpiles, will be intercepted by ditches, slacks, sumps, ponds and pipes, and will be conveyed by pipe to the plant site tailings facility or, in later years to help flood the East and Central mine pits.309 Water from construction and from the unlined Overburden Storage and Laydown Area (OSLA) that would contain peat as well as overburden, would also be channeled to the Construction Mine Water Basin, which also appears to be an unlined pond.310 PolyMet proposes that any mine site water not in direct contact with mining surfaces, OSLA storage or construction will be considered non-contact "stormwater." This stormwater will be given no special handling to protect surrounding waters from loading with chemical parameters. The stormwater "will be separated from mine water and controlled through a system of ditches, slacks and ponds and will discharge off-site either directly or after being routed through on-site sedimentation ponds to reduce total suspended solids (TSS)."311

Neither the Poly Met cross-media analysis nor any other document pertinent to the Draft NPDES/SDS Permit or the requested 401 certification evaluates the likely concentrations of chemical parameters in mine site "stormwater." However, it is likely, due to air deposition as well as any difficulty in routing water in ditches across the mine site, that mine site "stormwater" will have elevated levels of sulfate and metals, including mercury, as a result of mineral dust deposition.

Despite excluding from its analysis both the sulfide mineral deposition from blasting and that from wind erosion at the massive mine site waste rock stockpiles,312 PolyMet has predicted that total sulfide mineral deposition on some portions of the mine site within the watershed draining to its "wetland of interest" could exceed 1,000 milligrams per square meter per year (mg/m2/yr).313 This level is approximately four times that predicted by PolyMet for sulfide deposition to the "wetland of interest" itself.

A technical memorandum prepared by Barr Engineering pertaining to PolyMet's "wetland of interest" explains that this wetland will not be dewatered or experience drying and wetting cycles exacerbating mercury methylation because water levels are assumed to remain constant.314 Specifically, the memo explains that parts of the upland watershed on both sides of the Dunka Road will be removed by mine site infrastructure and will no longer contribute stormwater to the wetland, but, "Additional areas on the north of Dunka Road that do not currently drain to the wetland will have stormwater directed across Dunka Road and into the wetland during Project operations."315

This drainage to the "wetland of interest," presumably by a culvert under the road as well as by ditching, is illustrated by this drawing in the memo: 316

Neither the Barr hydrology memo nor the Poly Met cross-media analysis evaluate the effect of sulfate or mercury in mine site "stormwater" on mercury release or methylation within the "wetland of interest" or on any other wetlands to which mine site "stormwater" may be conveyed. However, from the perspective of solute chemistry, it is highly likely that all water channeled off the proposed PolyMet copper-nickel mine would effectively be "contact" stormwater. The consequences of this surface water drainage to the wetlands and streams adjacent to the proposed PolyMet mine must be considered in any cumulative analysis of the impacts of the mine on mercury release, methylation and transport.
Similarly, the PolyMet cross-media analysis assumes that there will be no overflow from any mine site features affecting the concentrations of surface water flowing to and through wetlands on and near the mine site. As described previously, the mine site Equalization Basins, which are located immediately adjacent to the “wetland of interest” as well as other surface waters have high concentrations of a number of solutes. 317 Poly Met predicts that the “Low” Concentration (East) Equalization Basin would have markedly elevated sulfate levels of 2,450 mg/L and the High Concentration (West) Equalization Basin would have sulfate levels of 9,010 mg/L per year.318

To provide a basis for comparison, although wetlands sulfate sampling at the mine site has not been provided, the PolyMet FEIS did provide water quality data for the three creeks to the south and west of the mine site. Mean sulfate concentrations were 0.91 mg/L in Longnose Creek, 2.6 mg/L in the unnamed creek identified by Poly Met as West Pit Outlet Creek, and 3.9 mg/L in Wetlegs Creek.319 With more than six orders of magnitude difference in sulfate concentrations, even a small leak or spill over from the Equalization Basins could have a substantial effect on mercury release from sediments and methylation in nearby wetlands and creeks.

The potential for overflow as a result of a storm event or flooding of mine site wastewater collection features is particularly salient since none of these features is designed to prevent overflow in the event of a maximum precipitation event. In fact, the Equalization Basins, the nearby pond for runoff of process water at the rail transfer hopper where ore is loaded, and the sumps collecting seepage from the Category 1 waste rock pile would be designed with the capacity to contain a 100-year, 24-hour rainfall event.320 Various sumps and mine-water ponds containing highly contaminated mine process water would be designed for a 10-year 24-hour rain event with an overflow back-up to accommodate only a 100 year 24-hour rainfall; these include sumps and ponds for the Category 2/3 waste rock pile, the Category 4 waste rock pile and the ore surge piles.321

The 100-year 24-hour rainfall used for these designs appears to be 5.2 inches.322 That level of rain is approximately half of the highest locally reported rainfall resulting in widespread flooding in northeastern Minnesota in June of 2012.323

The overburden storage and laydown area (OSLA) on the south side of the site, which will contain excavated peat with the potential to release mercury as well as mineralized overburden materials, would provide even less protection from flooding, since it is designed to accommodate only a 25-year 24-hour rain event.324 Prevention of overflow from the Equalization Basins and other wastewater storage locations at the mine site depends on pumping contaminated water through the pipeline between the mine and the plant site using pumps at the central pumping station.325 A sensor is proposed to provide a warning before Equalization Basins reach full capacity to prevent overfilling so that pumping to the plant site can be done at a faster rate.326

However, no redundant pumps or pipelines are planned to protect water quality in the event of an extended power outage or a storm event exceeding the 100 year 24-hour design volume.327 In a heavy rainfall, Poly Met proposes an emergency operating procedure where temporary portable pumps may be used to return mine water in various sumps to the mine pits and temporarily stop pit dewatering.328 No additional plans to prevent Equalization Basin overflow are described.

Neither PolyMet’s predictions for the “wetland of interest” nor any other discussion in the crossmedia analysis evaluated the impact of overflow from pollutant sources on the mine site, either directly into wetlands or into channels for non-contact “stormwater.”

PolyMet’s cross-media analysis states that the intentional discharge from the wastewater treatment facility (WWT) at the Poly Met tailings site was included in the mercury massbalance calculations for the Partridge River and Embarrass River watersheds.329 However this analysis was constrained by unsupported assumptions and monitoring failures. First, the WWTs discharge concentration assumed in the mass-balance calculations was 1.3 ng/L, the water quality standard applied to mercury in the Lake Superior Basin.330 As explained in Section 4 of these comments, PolyMet’s assumptions regarding low mercury levels in tailings effluent are unsupported and the Draft NPDES permit has required no treatment to effectively remove mercury before discharge of effluent to surface waters.331 Absent a water quality-based effluent limit on mercury intentional discharge, there is no basis to assume that mercury in tailings site discharge will not exceed 1.3 ng/L.
In addition, the cross-media analysis fails to consider the impacts of loading inorganic mercury directly to wetlands, the primary sites for methylation. Despite more than 13 years of planning for the NorthMet project, Poly Met has apparently failed to monitor the wetlands into which treated tailings basin seepage would be discharged. As summarized in the Barr memo on mercury mass balance calculation to explain why degradation analysis would be performed a mile or more away from the north side of the tailings facility, rather than the Trimble Creek and Unnamed Creek headwater wetlands, "No mercury monitoring has been conducted in these wetlands." This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

PolyMet's failure to monitor any wetlands near either the mine site or the tailings site and the failure of the Draft NPDES/SDS Permit to require such monitoring in the future will conceal any violations of permit conditions prohibiting discharge of untreated pollutants to surface water. PolyMet's failure to monitor existing mercury, methylmercury and sulfate levels in mine site and plant site wetlands has additional consequences for antidegradation analysis and evaluation of cumulative Project effects on mercury and methylmercury in receiving waters.

The effect on antidegradation analysis is immediately evident. On the north side of the tailings site, where the nearest monitoring sites were creeks a mile or more away, mercury discharge at 1.3 ng/L predicted levels would not result in degradation. On the south side of the tailings site, at Second Creek (SD026), where there was monitoring data for existing conditions, predicted mercury discharge of 1.3 ng/L would more than double the 0.6 ng/L existing concentration of mercury.

Yet more significant, the MPCA's failure to require monitoring of wetlands for mercury, methylmercury and sulfate prior to permit approval and throughout the course of Poly Met operations, closure and maintenance prevents effective cumulative analysis of whether Project activities will cause or contribute to mercury impairments and endanger Minnesota's environment and human health.

There is no question that the wetlands surrounding the Poly Met mine site and plant site are highly methylating environments.

Dr. Brian Branfireun has explained that the methylmercury data collected by Poly Met during environmental review demonstrates that the ratio of methylmercury to mercury in the Partridge and Embarrass Rivers surface water sampling sites and mine site creeks are all indicative of a highly methylating environment. This data shows the fraction of methylmercury in the Partridge River as 2.2% at SW-001, increasing to 14.6% at SW-004a and remaining at about 10% at the next two stations. For the two surface water sampling sites on the Embarrass River, mean percentages of methylmercury are 10.4% and 8.8%. Although Wyman Creek, which is impacted by mining, has the highest percentage of methylmercury (12.5% at PM-5), the relatively unimpacted mine site creek at o have high methylmercury ratios of 6.0% at Longnose Creek, 5.5% at proposed West Pit Outlet Creek and 9.6% at Wetlegs Creek.
Dr. Branfireun also emphasized, “The high percentage of methymercury in these surface waters speaks to sensivity of their watersheds to both a) hydrological impact from a change in either surface or subsurface hydrology, and b) deposition of any additional sulfate either from surface water flows, or wet/dry atmospheric deposition.” 336 The data also shows that “surface waters in the small tributaries at the proposed mine site, the Partridge, and the Embarrass Rivers are all strongly influenced by the presence of wetlands in their watersheds.” In fact, Dr. Branfireun stated that he is not professionally aware of any other surface waters where the fractions of methyl mercury as a percentage of total mercury are as high as the waters reported in documents prepared as part of PolyMet environmental review.337

Dr. Branfireun cited peer-reviewed literature explaining that in wetlands exposed to sulfate loading, “prolonged water table drawdowns lead to greater sulfate release in all treatments.” As a result of a natural drought in experimental wetlands, wetlands drawdown increased methymercury desorption and flux from peatlands, dewater sulfate-reducing bacteria activity that increased mercury methylation, and made sulfate “available for export to downstream aquatic systems (e.g. lakes and other wetlands) that could be equally susceptible to in situ methylation.”338

Based on his field experience and this important peer-reviewed study, Dr. Branfireun concluded for the NorthMet site that, “a significant proportion of bog wetlands that are within the zone of drawdown from the proposed mine proposed development would also exhibit sulfate regeneration and increased export of methylmercury, under natural rewetting cycles as well as storm events. 339 Hydrologic changes at both the mine site and tailings site would increase mercury and methymercury and release sulfate to downstream waters:

Development-induced change in hydrology, such as those proposed at both the NorthMet mine site and tailings basin, could amplify those drought-rewetting cycles (in terms of magnitude, frequency, or both). These implications should not be understated. Independent of any additional releases of uncapped sulfate or mercury from the proposed NorthMet development, dewatering of wetlands surrounding the tailings basin through seepage collection and even modest impacts on water table position by underdrainage of mine site peatlands through open pit dewatering could increase total mercury, methymercury and sulfate in the Partridge, Embarrass, and ultimately the St. Louis River. 340

Poly Met has not disputed that mine site wetlands, including the "wetland of interest" selected for review are highly methylating environments. The Poly Met cross-media report notes that potential export of methyl mercury from the "wetland of interest" under existing conditions was estimated at ~0.08 to 0.16 μg/m²/yr, which is 2 to 4 times higher than the estimates for similar boreal wetlands (0.03 to 0.04 μg/m²/yr) in the Marcell Experimental Forest studied in the peerreviewed literature. 343

One result of the elimination of dewatering, drying, and rewetting of wetlands from PolyMet’s cross-media analysis was to remove the potential that this process would enhance weathering and permit the release of sulfide minerals over a period of years. This assumption affects predictions of the release of sulfide from chalcopyrite particles although PolyMet’s modeling that all sulfide in pyrrhotite particles will react within a year is protective. 44

In addition, rather than analyzing the effects that hydrologic changes resulting from the NorthMet Project would have on the "wetland of interest" and other highly methylating wetlands, Poly Met proposed that targeted upland drainage would obviate the need to analyze the impacts of water fluctuations on its selected "wetland of interest." 345 Poly Met then failed to analyze the impacts of drying and rewetting on any other wetlands affected by dewatering at the mine site or due to tailings site seepage collection in any part of its cross-media analysis. This omission may be one of the most significant deficits in PolyMet’s cross-media analysis. As Dr. Branfireun explained with respect to the Poly Met Project, “Even relatively small changes in water table position and wetting and drying frequency in the ombrotrophic wetlands at the NorthMet mine site have the potential to impact sulfate and methymercury concentrations of receiving waters.”346
543-DI Paula Goodman Maccabe Just Change Law Offices/Water Legacy

Exclusion of multiple sources of sulfur and sulfide deposition at both the mine site and the plant site.

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

Increase in mercury methylation as a result of sulfur and sulfide emissions and deposition is the primary factor addressed by the PolyMet cross-media analysis. But, even PolyMet's evaluation of sulfur compound emissions suffers from exclusions that distort and minimize the effects of sulfur compounds on mercury methylation. PolyMet's air modeling for the cross-media analysis was performed according to the modeling protocol appended to the report.347 This Protocol excluded many significant sources of sulfur and sulfide deposition.

First, the cross-media modeling protocol excluded from analysis PM10 fine particulates from either plant site stacks or vehicle exhaust, whether on the plant site or mine site.348 asserting that stack particulate emissions are assumed to include only smaller PM2.5 particles based on the control technologies for sources at the facility.349 However, both PolyMet's air emissions permit application and the draft air permit itself undermine this claim. For both PM10 and PM2.5 particles, emissions control technology markedly reduces potential emissions. 350

543-DI Paula Goodman Maccabe Just Change Law Offices/Water Legacy

But, even with controls placed on stack emissions, PolyMet Project potential point source and fugitive air emissions of PM10 exceed those for PM2.5. As shown in the table below from the air emissions permit application, controlled point sources of particulates are much higher at the plant site than at the mine site and potential controlled point source total PM10 to particulates would be 168.34 tons per year, as compared to 164.43 tons per year of PM2.5 particles. 351

Controlled fugitive emissions sources at both the mine site and plant site, which include vehicle emissions as well as dust, model more than seven times as much PM10 as PM2.5 and include 262 tons per year of PM10 fugitive emissions at the plant site, as well as 454.90 tons per year at the mine site.352

The significance of excluding PM10 air emissions when evaluating the effects of local sulfide mineral deposition on mercury methylation is even greater than would be evident by the tonnage of sources alone. PM10 particles are heavier and are more likely to be deposited locally than PM2.5, impacting wetlands and proximate watersheds. As Barr explained in the application for PolyMet's air emissions permit, "Fine particles (PM2.5 and smaller) and gases tend to remain suspended for long periods of time (days to weeks) and travel away from the emission source: they are generally not associated with local deposition." 353

543-DI Paula Goodman Maccabe Just Change Law Offices/Water Legacy

PolyMet's cross-media modeling protocol also excludes wet deposition of stack emissions, and models only the dry deposition of gas-phase/erosion/fine particles (PM2.5), stating that, even if wet deposition sulfur emissions are important, since their volume is much less than that of dust, including them wouldn't change PolyMet's conclusions.354 This exclusion may only affect a few percent of the total sulfur mass, but once again the protocol decreases the likelihood that sulfur compounds in stack emissions will be deposited on local wetlands and watersheds.

543-DI Paula Goodman Maccabe Just Change Law Offices/Water Legacy

Next, at the mine site, the cross-media modeling protocol excluded from analysis fugitive dust generated both by blast hole drilling and by handling of overburden, one and waste rock.355 According to the PolyMet Permit to Mine Application, ore blasting will use approximately 8 million pounds of blasting agents (ammonium nitrate and fuel oil) annually, while planned waste rock movement, to place waste rock into stockpiles will use approximately an additional 7.3 million pounds of blasting agents.356 PolyMet's air emissions permit listed "blasthole drilling" as one of the primary sources of fugitive emissions. 357

Although there are no data in the record to quantify the significance of this omission, it is widely recognized that blasting is a large contributor to dust at open-pit mines. Modern surface mining often involves huge tonnages thus increasing the potential for greater dust hazard. Blasting is one of the operations that is carried out in most mines, and may produce very large quantities of dust. The dust cloud can be raised to substantial heights depending on the blasting parameters. The blasting dust cloud is normally visible for several minutes. Most of the dust settles in and around the mining area, although some may be dispersed to long distances before settling down. Some of the settled dust is raised again by mining activities such as moving vehicles. Depending on meteorological conditions this dust can disperse to substantial distances adversely affecting local communities. 358

543-DI Paula Goodman Maccabe Just Change Law Offices/Water Legacy

Dust resulting from wind erosion at mine site Category 1, Category 2/3 and Category 4 waste rock stockpiles was also excluded from the cross-media analysis modeling protocol.359 No rationale was provided in the modeling protocol or the cross-media analysis for this exclusion of sulfur deposition sources proximate to mine site wetlands. Tailings basin wind erosion from beaches was included in the modeling protocol. 360

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.
Receptors within large rectangular boundaries surrounding the mine pits and also encompassing a number of wetlands that will remain intact during Poly Met mine operations were excluded from cross-media modeling. The rationale provided for this exclusion was that it would eliminate “the complications” with trying to model a receptor within an emission source.361 These various mine site exclusions may help explain why PolyMet’s map of “total” sulfide mineral dust in Figure 7 has unexpectedly low predictions of sulfide in several areas. In addition to the red rectangles specifically mentioned for exclusion, sulfide mineral deposition depicted on vast areas adjacent to and downstream of the Project’s massive mine pits and stockpiles would reflect neither blast hole drilling, blasting of rock for handling or stockpile wind erosion. 362

The Poly Met FEIS concluded that surface water quality in the mine site Upper Partridge tributary streams (sulfate-limited Wetlegs Creek, Longnose Creek, and proposed West Pit Outlet Creek) “would be affected by ore spillage from the rail car although the FEIS did not analyze how ore spillage to wetlands or creek sediments would affect mercury methylation.364 The FEIS did state, ‘Approximately 543 acres of wetlands along the railroad corridor could be affected by releases of solutes resulting from rainfall contacting spilled ore and fines.’365 It is difficult to see these modeling exclusions as anything but a way to minimize rather than evaluate the effects of Poly Met Project sulfate deposition on mercury methylation. Based on maps of dust deposition and calculations of sulfate loading previously provided in environmental review or supplied for the draft air emissions permit, it is highly likely that modeling exclusions reduce the projections made for sulfide deposition in the “wetland of interest” selected by Poly Met and render these predictions unsound. Supplemental information from other parts of the Poly Met record is also useful to define which other wetland areas should have been investigated to obtain a more rigorous and comprehensive analysis of impacts on mercury and methylmercury exceedances and degradation that would result from permitting and certification of the Poly Met copper-nickel mine project.

The Poly Met cross-media analysis of mercury deposition adds to growing concern that its objective may be to dismiss concerns about Poly Met Project effects rather than evaluate them. This is accomplished by failing to analyze water bodies and monitoring locations likely to show effects from mercury deposition and by explicitly excluding mercury air deposition to wetlands. The Poly Met cross-media analysis states, “The primary potential source of mercury emissions for the Project is the Autoslave Stack, which will be located at the Plant Site.”366 Mercury emissions are concentrated at the plant site, particularly on the south side of the site, where the plant facilities are, contributing as much as 3 percent of mercury background concentrations south of the tailings site. The cross-media analysis notes that, in addition to increased surface discharge of mercury from the wastewater treatment system at Second Creek discharge point (DD002),367 “Methylmercury deposition from Project air sources is also focused in the Second Creek watershed.”368 Mercury air deposition isopleths are shown on the map below:369 The Poly Met cross-media analysis fails to evaluate mercury air deposition from plant site stack emissions at any site proximate to the emissions. The first site at which air deposition to Second Creek is evaluated is 11 miles downstream at MNW88370.

The Poly Met cross-media analysis states, “mercury stack emissions (Autoslave; fuel combustion) have not changed from those estimated in 2012, building and stack parameters related to the autoslave have not changed, and the air model and meteorological input data have not changed appreciably.” The 2012 modeling results were brought forward and used unchanged in the cross-media analysis. 371 In the intervening years neither PolyMet nor the MPCA saw fit to locate a monitoring site in closer proximity to mercury, sulfate dust and particulate air deposition in the Second Creek watershed.

Large Figure 13 above shows that the monitoring site on Unnamed Creek (PM 11) is within the isopleth showing elevated mercury deposition to wetlands. This site is listed in the cross-media table showing potential cumulative effect on total mercury loads and concentrations. But no methylmercury changes are calculated either at PM-11 or even at MNW88. The table suggests that methylmercury load increased “is not assessed at these locations but is incorporated downstream,” further from the site of potential impacts. 372
Although most of the lakes in the Embarrass River watershed are farther away, Heikkila Lake appears to be within the area where mercury stack emissions would represent up to 1% of background, and Sabin Lake far outside it. The map below shows the locations of Heikkila Lake and Sabin Lake.373

The exclusion of Heikkila Lake from cumulative analysis is troubling. Poly Met argues that the lake may not support a fish population, so that Sabin Lake was a better candidate for cumulative analysis. 374 Since Sabin Lake is outside the isopleth showing impacts of mercury air deposition, it would seem like a less appropriate candidate for analysis.

In addition to modeling sites with less proximity to plant site air emissions, rather than closer sites the Poly Met cross-media analysis completely excludes the impacts of mercury air deposition to uplands or wetlands, except at the "wetland of interest." 375 The analysis argues that "only mercury deposited directly to the water surface will result in an increase in water column mercury concentrations because mercury deposited to the terrestrial watershed will be retained in the watershed."376

However, the peer-reviewed literature is more complex and does not support the blanket exclusion from analysis of all mercury deposited to wetlands. The Harris et al. 2007 article cited in the Poly Met report cautioned that the "low level of new mercury export and methylation would not be expected to occur in all wetlands" and cited a pilot study in a wetland with a water table near the peat surface where "added spike mercury was quickly methylated and transported into the lake." 377 A report from the Mercury Experiment to Assess Atmospheric Loadings in Canada and the United States (METAALCUS) found that experimentally applied stable mercury isotopes migrated vertically and/or horizontally in peat and pore waters from an experimental plot to the lake margin. The authors concluded, "When we couple the biogeochemical dynamics with the evidence of a surface hydrologic transport mechanism, we conclude that wetlands can be very dynamic environments for the transport and transformation of recently deposited Hg, contributing significantly to the total load to adjacent aquatic ecosystems in some watersheds.378

Although the PolyMet cross-media analysis summarized mercury emission estimates and speciation assumptions from various sources, mercury loading analysis was done based on the stack emissions modeled in 2012 and an estimate of release of mercury from the mineral matrix of fugitive sulfide mineral dust.379 No mercury air emissions from mine site sources were considered, even though they are predominantly vehicle emissions, likely to be locally deposited and not particle-bound.

The table below is derived from Table 2-1 in the PolyMet cross-media analysis.380 If local deposition of mine site mercury from vehicle emissions and fugitive dust were to be analyzed, this calculation would add up to 317.5 grams of mercury deposited to proximate mine site watersheds. When the "mercury mass balance" for the project is measured in tenths of a gram, exclusion of mine site local mercury deposition may be quite significant.

Although excluding local mine site deposition may affect the results of the cross-media analysis, removing from the analysis any mercury deposition to uplands or wetlands makes a striking difference in the assessment of mercury risks. As with stack emissions from the plant site, except at the "wetland of interest," only emissions of dust to the area of "open surface water" were included in PolyMet's mercury calculations.381

As illustrated in the table below derived from PolyMet's Table 5-3,382 by restricting the calculation of mercury air deposition impacts only to open surface water, the cross-mercury analysis effectively reduced the perceived potential impact of mercury air emissions by more than 99 percent.

Reviewing the Poly Met cross-media analysis of the effects of air deposition of mercury, it appears that unreasonable exclusions substantially and inappropriately minimize the effects of mercury air deposition on the wetlands and watersheds near the proposed Poly Met mine site and plant site.
Methylmercury analysis of mercury methylation in a single "wetland of interest." The PolyMet cross-media analysis of mercury methylation in a single "wetland of interest" suffers from several flaws. The cross-media analysis, as every other analysis done by PolyMet to date, precluded consideration of the impacts of surficial aquifer seepage surfacing in wetlands and affecting mercury methylation by completely failing to analyze this important factor. Perhaps more striking, even as the cross-media analysis promotes channeling of mine site stormwater to maintain hydrology in the "wetland of interest," the analysis fails to consider sulfate loading from mine site surface water in calculating methylation potential. Although the cross-media analysis makes an exception and considers loading of mercury from fugitive dust to one designated wetland, the analysis evaluates mine site mercury vehicle emissions, which (Table 3-1) on the preceding page) have six times the mass of mercury in mine site fugitive dust. Dr. Branfireun’s report on NorthMet effects on mercury methylation included a quantitative analysis pertaining to the one factor for which numeric data was provided where they identified the mine location with highest sulfite loading from dust deposition 386 (using Barr’s numbers for sulfite deposition, adding assumptions for sulfite background with peer-reviewed literature and expressing both the background and NorthMet mine site sulfite deposition numbers in the same units, Dr. Branfireun calculated that the sulfite load from dust deposition at this proposed mine site location would be 2.6 kilograms per hectare per year as compared to the background rate of 0.5 kg/ha/yr. The sulfite load would, thus be 5.76 times or 376% of the background sulfite deposition rate. 387

Comparing this additional loading with peer-reviewed studies measuring methylation export after adding sulfite to experimental wetlands, and using the conservative assumption in the RIS that all sulfite in dust is converted to sulfite, Dr. Branfireun calculated that methylmercury export from experimental mine site posttreatments may be increased up to 1.88 times as a result of sulfite air deposition alone. Given the magnitude of this potential impact, he explained, even if less than the total sulfite deposited is liberated to the environment, "there will still be a substantial stimulatory effect on peatland methylation production." 388

Based on the findings in the Coleman-Weeks 2015 study that portions of experimental wetland recovering from high sulfite loading had methylmercury levels intermediate between those of untreated and current experimental treatments, Dr. Branfireun opined that sulfite loadings impacts would continue even after deposition stops. "It can be expected that effects of elevated sulfite deposition on peatlands will persist to some degree even after additional sulfite loading has ceased." 389

Without quantifying the other factors, such as mercury and sulfite loading through water, changes in wetland hydrology or mercury air emissions, Dr. Branfireun explained that increased methylation export from methylating peatlands would be reflected "in methylmercury concentrations in the upper tributaries, and the Embarrass and Partridge Rivers, given the role these wetlands play in supplying water to these streams and rivers." Increased methylmercury "would also be expected to impact the upper St. Louis River, given the direct hydrological connection and known methylation transport." 387

PolyMet’s cross-media analysis concluded that the total potential atmospheric load of sulfite to the "wetland of interest" during operations is 6.4 kg/ha/yr, of which 1.55 kg/ha/yr is related to the Project. 388 The analysis contains no explanation of the differences between this result and Barr’s 2015 sulfite load projections. The change from sulfite to sulfide mass and the more conservative assumption made in 2015 that all sulfite deposited is liberated to the environment, as contrasted with modeling that a fraction of the chalcopyrite particles will react, 388 could substantially reduce predicted sulfite loading. Since the 2015 Barr report does not exclude dust sources from its analysis, the cross-media modeling protocol may also have affected predictions of sulfite loading. Finally, because the cross-media analysis is narrowly focused on dust from haul roads and rail transfer, the selection of wetlands south of Dunka Road may have reduced the predictions of sulfite loading. The maps in subsection (A) of this Section of comments 390 show where the "wetland of interest" is located, next to the blue Equalization Basins and south of Dunka Road, and the map below shows haul roads with black cross-hatching. 391 Large Figure 7 in the PolyMet cross-media report models sulfide dust levels range from 102 to 212 milligrams per meter squared per year (mg/m²/yr) in the "wetland of interest", while higher sulfide mineral dust levels can be found on the mine site itself. This map also suggests that background sulfide mineral deposition at the mine site may be less than 10 mg/m²/yr.392 In order to evaluate, rather than minimize project impacts on mercury, the assessment of impacts at the "wetland of interest" on the south side of the mine site must be redone. First, the sulfite and mercury loading to the wetland through surficial aquifer seepage must be calculated.
Deep and shallow marsh and small areas of coniferous and hardwood swamp are likely to be particularly methylating environments. Category 1 waste rock stockpiles, including coniferous bog wetlands, are likely to be particularly methylating environments. 400

Selection of a North Tailings Site wetland would allow analysis of cumulative effects on mercury loading and methylation reflecting hydrologic changes from tailings seepage collection, sulfate and mercury loading from uncaptured tailings seepage, direct discharge of sulfate and mercury to wetlands, and air deposition of mercury and sulfur compounds through dust and stack emissions. 399

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

A North Mine Site wetland would allow analysis of cumulative effects on mercury methylation resulting from sulfate and mercury loading through Category 1 seepage and East Pit seepage, hydrologic changes resulting from East Pit dewatering, sulfide deposition, including PM2.5, from vehicle emissions and fugitive dust from blasting and stockpile wind erosion, and mercury emissions from vehicles and mineral dust. North Mine Site wetlands near the East Pit and the Category 1 waste rock stockpile, including coniferous bog wetlands, are likely to be particularly methylating environments. 400

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

Modeling and analysis that systematically minimize the cumulative potential for mercury and methylmercury impacts. Comments to this point have highlighted assumptions and exclusions that undermine the integrity of the cross-media analysis and suggest that it systematically minimizes the effects of the PolyMet mine project on mercury loading, mercury release from sediments, and mercury methylation and transport to downstream waters.

This final section addresses two overarching issues that further undermine the application of PolyMet's analysis to support either an NPDES/SDS permit or Section 401 certification. First, PolyMet's mercury mass balance is erroneous as well as simplistic. Second, PolyMet's "cumulative" analysis reflects watershed-wide dilution of selected sources of loading rather than stream-watershed dynamics reflecting the full range of potential factors could affect mercury and methylmercury production, release and transport.

Although PolyMet's cross-media analysis makes a brief and contrived foray into assessment of mercury methylation, its cumulative assessment returns to the mercury mass balance model promoted during the course of environmental review. Even without the level of detail contained in the cross-media report, Dr. Branfireun criticized the mass balance model as "cheaper and easier" method that "can be presented as definitive to a non-expert," emphasizing that "a mass balance model cannot by definition incorporate mechanistically the input and removal processes for mercury, and cannot address the biogeochemical aspects of mercury methylation across the landscape which are at the root of the potential impacts associated with the PolyMet proposal." 401

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.
With PolyMet's method of deriving its mercury and sulfate mass balance calculations exposed more thoroughly in the cross-media analysis and NPDES/SDS application, this criticism seems prescient. As in the environmental review process, Poly Met claims that an increase in mercury resulting from project activities is more than balanced by the capture of stormwater and groundwater containing mercury in the Partridge River watershed and by water capture resulting from operation of tailings seepage collection affecting the Embarrass River watershed.402 In the NPDES analysis, Poly Met assumes that there are no project contributions to Partridge River watershed mercury loading at the mine site; there are only reductions in mercury as a result of capture of non-contact runoff and groundwater that contain mercury at concentrations above the Great Lakes standard (1.3 ng/L) under background conditions.403 No seepage, overflow or channelling of surface water from mine site lined or unlined sources of potential mercury loading are even considered.404

At Second Creek, PolyMet assumes mercury loading from the tailings site is only from treated wastewater discharge, even though an average of 140 gallons per minute seeped untreated from the exising tailings basin to Second Creek in 2016 despite the pumpback system and an average of 767 gallons per minute of untreated wastewater siltarily escaped capture in 2017.405 PolyMet also assumes, although no mercury removal treatment has been tested, demonstrated or required for tailings seepage4 6 that the only tailing site mercury input surface discharge with a mercury concentration of 1.3 ng/L, and credits the Project for the "loss" of mercury loading from Colby Lake pumping to the tailings site as a further reduction of mercury to the Partridge River watershed.407 No leakage from the large quantity of mercury in the hydrometallurgical residue facility is modeled.

In the Embarrass River watershed, PolyMet's mass balance model assumes only 21 gallons per minute of tailings basin seepage and claims that mercury concentrations in the seepage will be only 1.5 ng/L, to derive credit for seepage capture. The only Project additions to mercury loading are small runoff and background groundwater redirections from a drainage swale.408

In addition to making the unsupportable assumptions noted above, all of which minimize Project mercury impacts, PolyMet's NPDES mercury mass balance analysis considers no mercury air deposition and no mercury methylation resulting from sulfate loading.409

The Poly Met cross-media analysis does not improve on the basic errors in the underlying mercury mass balance in order to estimate mercury methylation. It merely compounds them. As discussed previously in this section, the cross-media analysis considers no sulfate loading from bedrock groundwater, surficial aquifers or surface water affected by sulfate in estimating mercury methylation potential in any wetlands or sediments. The cross-media analysis does not evaluate the effects of hydrologic changes from seepage collection and mine dewatering on wetlands that are already highly methylating, as compared to the controls in peer-reviewed literature.410

Even where the cross-media analysis adds atmospheric deposition of mercury and sulfate to its calculations, the underlying assumptions and methods preclude significance in its findings. For mercury air deposition, PolyMet's cross-media analysis fails to model local deposition to the mine site, even though its own estimates identify 317 grams of mercury that could impact the Upper Partridge River watershed. Then, PolyMet's assessment excludes 100 percent of the mercury deposited to uplands and wetlands, reducing the watershed area modeled for mercury air deposition impacts by more than 99 percent.411

A modest change in any of these assumptions would change conclusions reached about mercury impacts from the PolyMet Project.

Even in evaluating mercury methylation resulting from sulfate air deposition, PolyMet's cross-media analysis excluded stack emissions most likely to deposit locally (PM 10 and wet deposition of finer particles and gases) and multiple sources of mine site and transportation corridor particles, including dust from blasting in mine pits and of overburden, waste rock and ore, dust from wind erosion of ore and waste rock stockpiles and any particles larger than 1/1000 of an inch in size.412 Poly Met further assumed that particles would only weather for a year, so that much of the sulfide deposited in mineral dust would not be released.413

Even with all of the exclusions and limiting assumptions applied by Poly Met, the single wetland of interest assessed by Poly Met was predicted to experience a 32% increase in sulfate loading as compared to background and a 16% increase in methy lmercury as a result solely of sulfide dust impacts.414
However, for its "cumulative" analysis, the cross-media report did not estimate the various factors, including but not limited to sulfate air deposition, that would increase mercury methylation in localized wetlands and sediments impacted by the Project. Instead Poly Met diluted its calculation of sulfate air deposition - which already excluded numerous emission sources - over entire watersheds and concluded that sulfate increases from air sources were not sufficient to increase mercury methylation. 415

The analysis excluded seepage and surface water sources of sulfate or mercury loading to methylaing wetlands and sediments, assumed project mercury loading was limited to wastewater discharge at 1.3 ng/L, and credited the Poly Met project with substantial reductions in methylmercury as a result of reducing flows in the Partridge River and Embarrass River watersheds. 416

Having reduced the perfect storm of factors with the potential to increase mercury release, methylation, and transport to the effects of dispersing some atmospheric sources of sulfate over large watersheds, the unsurprising if deceptive conclusion reached in the Poly Met cross-media analysis was that neither methylmercury increases in the water column nor methylmercury increases in fish would be significant. 417

PolyMet concluded that sulfate from Project air emissions could cause a small increase (0.003 to 0.005 ng/L) in water column methylmercury in the Partridge River and Embarrass River watersheds, but this small increase would not be "measurable." 418 The only "measurable" change Poly Met admitted was an increase in mercury due to surface discharge of treated water at the headwaters of Second Creek (SD026). 419 The MPCA accepted the conclusion reached in PolyMet's cross-media analysis that there would be no measurable change of mercury in water or fish as a result of sulfur deposition, without questioning the exclusions on which this conclusion was based. 420 More generally, the MPCA also denied that the Project would result in measurable changes to water quality downstream in the St. Louis River. 421

The Poly Met cross-media analysis, however detailed in its calculations, appears to be willfully blind to the cumulative scope of project impacts on mercury in the water column and mercury in fish from mercury air emissions to wetlands as well as open waters; mercury loading from treated and untreated surface water and from seepage through groundwater; mercury release from sediments and mercury methylation resulting from sulfate seepage through groundwater, sulfate release from surface water, sulfur air deposition, and hydrologic changes affecting wetlands and streams at both the mine site and the tailings site.

It is in PolyMet's interest to provide regulators and the public with a lengthy analysis of the elephant's trunk and to insist that it has proved that the elephant is a small and pliable creature incapable of crushing damage, let alone a rampage. We should know better.

If the MPCA were to evaluate the full scope of mercury and sulfur compound emissions and releases that would result from the Poly Met Project, the impacts of hydrologic changes, and the mechanisms for methylmercury export and bioaccumulation to downstream waters, the Agency would be forced to conclude that there is no reasonable assurance that the Poly Met copper-nickel mine project would not contribute to mercury impairments in downstream waters, degrade downstream waters not yet designated as impaired for mercury, and endanger the environment and human health. As Brian Branfireun summarized at the close of environmental review, "It is my opinion that the NorthMet development could create a substantial risk of ecologically significant increases in water column and fish methylmercury concentrations in downstream waters, including the St. Louis River." 422
of degradation were analyzed in the MPCA's antidegradation review. The FEIS data cited above suggest a potential that substantial degradation of water quality would result from mine site seepage of pollutants. None of these sources seepage to the Partridge River would also reflect substantial increases in flowpath concentrations of chloride, sulfate, beryllium, cadmium, selenium, and zinc.432

Mine site tailings may not only be responsible for contaminating water quality at the point where they reach the Partridge River a mile away. In the PolyMet FEIS, cobalt reaching the Partridge River from the West Pit Flowpath would violate Minnesota's non-degradation standards at the property line,431 applying the ratios of relative differences provided in the FEIS, cobalt, aluminum, and lead would still violate applicable water quality standards. The MPCA's assumptions about the antidegradation review associated with the NPDES/SDS permit application are inadequate despite the FEIS model's predictions. This is because the MPCA did not consider the potential effects of the proposed project on groundwater or any other water bodies.

Although the MPCA acknowledged that the discharge of treated effluent from the plant site wastewater treatment system (WWTS) would result in degradation of water quality, it failed to consider the potential impacts of tailings seepage. The MPCA also failed to analyze the potential effects of tailings seepage on groundwater quality. The MPCA's analysis of the Antidegradation Review associated with the NPDES/SDS permit application is inadequate for NPDES/SDS permit. See FEIS section 3.2.2.1.2, page 3-33; Nondegradation Review at pages 1-2, 5, 17-19.

The comment appears to be based on incorrect assumptions. See response to 543-DJ and 543-DL. As shown in the Cross Media analysis, contributions from project-generated dust are very low, if any, effect on downstream water quality. Because there is no material fact in dispute, and no reasonable basis for the dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4. of City of Owatonna.
In the course of environmental review of the Poly Met project the Commissioner of the Minnesota Department of Health, Dr. Edward Ehlinger, expressed concern that fracture patterns may affect the Duluth Complex in St. Louis County, suggesting that fractures "may act as possibly conduits for higher rates of groundwater flow" through bedrock. 433 The map of tailings site fractures, first prepared by I.D. Lehr and then produced by a consultant for Poly Met, shows four lines on both the northwestern and northeastern sides of the proposed Poly Met tailings basin.434 Since the proposed Poly Met plant and tailings site is located along the highest reaches of their Embarras River subwatershed, groundwater in the surficial aquifer flows across the tailings site and toward the Embarras River.A45 Between the tailing site and the Embarras River, there are 38 wells (all different), only 23 (not dots) of which were sampled by PolyMet during the course of environmental review. 436

The Poly Met FEIS illustration of the groundwater flowpath from the tailings site flows toward many of these residential wells, as well as to the Embarras River and its tributary creeks.437 Manganese contamination of groundwater and residential wells between the Poly Met tailings site and the Embarras River raise particular concerns. EPA's secondary maximum contaminant level for manganese is 50 micrograms per liter (μg/L), and Minnesota's health-based limit on manganese in drinking water, based on neurologic effects on infants, children and adults, is 100 μg/L. 438

Concentrations of manganese draining north toward residential wells would be 863.6 μg/L at the north toe; 1,311.5 μg/L at the west toe; and 1,378.2 μg/L at the northwest toe.439 These levels range from 86 to more than 137 times the groundwater level set by the Minnesota Department of Health to prevent deficits in learning, memory attention and motor skills.440 Concentrations of lead in tailings toe seepage would be 13.7 at the west toe and 57.8 at the north toe.441 The EPA's maximum contaminant level goal for lead is zero "based on the best available science which shows there is no safe level of exposure to lead."442

The MPCA may have relied on the vague and unsupported assumptions in the PolyMet EIS about the rate of seepage collection from unlined facilities to assume copper-nickel mine tailings seepage would not degrade groundwater. If these assumptions are the basis for the MPCA's conclusion that degradation will be avoided, they should be reflected clearly and specifically in NPDES/SDS permit conditions, the violation of which will be enforceable. If neither the MPCA nor Poly Met wish to be bound by the performance specifications used to justify the choice of a dirt trench around the unlined mound as seepage containment, consideration of other and better practices to minimize degradation becomes essential.

In its review of the overall design of the facility and the application of engineering controls and wastewater treatment technologies, MPCA did consider best practices that would feasibly avoid or minimize degradation. In its review of the overall design of the facility and the application of engineering controls and wastewater treatment technologies, MPCA did consider best practices that would feasibly avoid or minimize degradation. In its review of the overall design of the facility and the application of engineering controls and wastewater treatment technologies, MPCA did consider best practices that would feasibly avoid or minimize degradation.

The Poly Met FEIS illustrates that degradation will be avoided, they should be reflected clearly and specifically as NPDES/SDS permit conditions, the violation of which will be enforceable. If neither the MPCA nor Poly Met wish to be bound by the performance specifications used to justify the choice of a dirt trench around the unlined mound as seepage containment, consideration of other and better practices to minimize degradation becomes essential.
A dry stack tailings facility on a liner system sited on a secure foundation, rather than on tailings and slimes, is the best available technology to limit the potential impacts of Poly Met tailings leachate and seepage on groundwater and surface water quality. Dry stack tailings disposal reduces seepage rates, as compared with slurry tailings. It is estimated that the seepage rate from slurry tailings is 6.4 gallons per minute (gpm) per acre, the seepage rate from paste or thickened tailings 0.06 gpm per acre and the seepag from dry filtered tailings 0.007 gpm per acre.448

The Category 1 waste rock stockpile should be lined, if in-pit disposal has a legal impediment. The Category 1 waste rock stockpile should be lined, if in-pit disposal has a legal impediment. See response to Comment Water-729-E. Alternative tailings basin designs and locations were considered in the EIS process. See DEIS sections 3.2.3.1 and 3.2.4.1, and Table 3.2-2, FEIS section 3.2.3. Dry stacking of tailings, in particular, was addressed in the FEIS in thematic response to comment theme ACT 10 (FEIS, pp. A-324) where it was determined by DNR that this alternate technology does not have significant environmental benefit over the proposed project. The response concluded that: dry stacking of tailings would require a lined facility; construction of a liner over the LTV tailings would not be feasible; and constructing a new lined tailings basin in a different location would be counterproductive because it would increase footprint effects of the project. The MPCA found the EIS adequate and that decision was not subsequently challenged. The conclusions from the EIS were incorporated into MPCA’s antidegradation review.

The MPCA should deny any NPDES/SDS permit that allows Poly Met to site the hydrometallurgical residue facility (HRF) on the site currently proposed. Even if all wetlands were excavated and a sound foundation built, the proximity to the flotation tailings dam could result in seepage to the HRF or instability of dams on the south side of the tailings basin.449 The threats of HRF liner deformation or dam instability are substantial and the results could be catastrophic; the feasible and prudent alternative is to find a better site. At the mine site, there are several feasible and prudent measures that should be required by MPCA to prevent and minimize degradation of water quality under routine operations and to minimize the threat of yet more severe degradation.

The NPDES permit was written to meet the requirements of the Clean Water Act and state law, without reliance on the beneficial side effect of collection of the existing seepage.

The comment raises a legal issue, not a factual issue. It does not raise any new facts for MPCA to consider, and provides no reasonable basis for a dispute, so a contested case hearing would not aid the commissioner. Minn. R. 700.1900, subp. 1(c); see Red Wing; Amendment No. 4.

The consideration of alternatives was adequately addressed in the EIS and in the antidegradation review. Cf. City of Owatonna. Additionally, no new information is identified in the petition. No facts are raised that provide a reasonable basis for a dispute, and therefore a contested case would not aid the commissioner. Minn. R. 700.1900, subp. 1(c); see Red Wing; Amendment No. 4.
This comment does not raise any new facts for MPCA to consider, and merely disagrees with MPCA's conclusion. The comment questions the efficacy of controls required in the NDDES permit. The same issues were raised in the EIS and DNR, in consultation with MPCA, considered those issues. See RGU Consideration of Comments on the FEIS at 275. The proposed equalization basin design was reviewed by MPCA and determined to be consistent with that required statewide for similar industrial wastewater pond applications. MPCA concluded that this design will protect water quality.

The comment does not raise any new facts for MPCA to consider, and this does not raise an issue of fact. This raises a legal question regarding the ability to certify a proposed project under 33 U.S.C. § 1341. Because there is no issue of fact, and no specific new facts were presented, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); see Red Wing; Amendment No. 4.

The MPCA also found that Section 401 certification was premature due to the ongoing process not yet completed to address compensatory wetland mitigation with the U.S. Army Corps of Engineers (“Army Corps”). Certification was denied without prejudice. The MPCA did not make a final determination on the project’s ability to comply with water quality standards, and allowed the applicant to reapply for certification after “the required wastewater permitting process is completed” and “after a final proposed compensatory mitigation plan is furnished” 461 in the PolyMet project case, the MPCA has not reissued the Draft NDDES Permit on public notice. As reflected in the preceding pages of substantive comments and our request for a contested case hearing, the NPDES/SDS process for the PolyMet Project is far from concluding. The discharges proposed in the draft Permit would not comply with Minnesota or Federal law, and it remains to be seen whether the draft Permit can be modified so that it is consistent with Section 401. The time is not ripe for Section 401 certification.

The MPCA noted in its 401 Certification Fact Sheet that PolyMet has arranged for and secured regulatory approvals for the purchase of 1,862 wetland mitigation credits from the Superior Mitigation Bank, and has secured the option to purchase up to 1,800 wetland credits, which the MPCA perceived were sufficient to address wetland mitigation requirements 462. However, the MPCA did not suggest that the additional purchase option had altered regulatory approval.

This raises an issue of fact, but it does not create a reasonable basis for dispute and a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C). Because there is no reasonable basis upon which the certified dispute could be resolved, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C); see Red Wing; Amendment No. 4.

The statute does not require the completion of an NDDES permit, and in many cases a 401 certification is issued in the absence of an NDDES permit. In addition, The comment does not identify a legal basis requiring a draft 404 permit to be available at the time of 401 certification.

The comment does not raise any new facts for MPCA to consider, and this does not raise an issue of fact. This raises a legal question regarding the ability to certify a proposed project under 33 U.S.C. § 1341. Because there is no issue of fact, and no specific new facts were presented, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); see Red Wing; Amendment No. 4.

The MPCA evaluated the applications materials submitted to draft a 401 certification. Any discrepancies between the proposals to the USACE and MPCA must be resolved before 404 permit issuance. If USACE found that the PolyMet Project proposal for wetland mitigation was not consistent with the requirements of the USACE and MPCA, the PolyMet Project would be required to submit a revised 401 Certification that would either both the 404 mitigation and the 401 mitigation, or would be consistent with the 404 permit. This does not raise an issue of fact. This raises a legal question regarding the ability to certify a proposed project under 33 U.S.C. § 1341. Because there is no issue of fact, and no specific new facts were presented, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); see Red Wing; Amendment No. 4.

The MPCA evaluated the applications materials submitted to draft a 401 certification. Any discrepancies between the proposals to the USACE and MPCA must be resolved before 404 permit issuance. If USACE found that the PolyMet Project proposal for wetland mitigation was not consistent with the requirements of the USACE and MPCA, the PolyMet Project would be required to submit a revised 401 Certification that would either both the 404 mitigation and the 401 mitigation, or would be consistent with the 404 permit. This does not raise an issue of fact. This raises a legal question regarding the ability to certify a proposed project under 33 U.S.C. § 1341. Because there is no issue of fact, and no specific new facts were presented, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A); see Red Wing; Amendment No. 4.

This raises an issue of fact, but it does not create a reasonable basis for dispute and a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C). Because there is no reasonable basis upon which the certified dispute could be resolved, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C).
In addition to the requirements pertinent to DNR water appropriations permits, Minnesota water quality standards set a narrative standard for all waters that includes degradation resulting from "material alteration" of the physical qualities of a water body. "To the extent that attainable or previously existing beneficial uses are actually or potentially lost. "457 We know of no analysis done since Poly Met applications for water appropriation permits were filed to determine whether the proposed appropriation would result in a material alteration of the Partridge River headwaters so that attainable or previously existing beneficial uses are actually or potentially lost.

The conditions of the appropriations permit are under the jurisdiction of the DNR. In addition, the 401 certification requires assessment of effects on uses for any hydrology change of greater than 20 percent, so there is not a reasonable basis to conclude that the appropriation can remove all flow from the river.

This may raise a factual issue, but the commissioner does not have jurisdiction to determine adequacy of conditions in the appropriations permit. The MPCA commissioner cannot grant a hearing on the water appropriation permit contents. Minn. R. 7000.1900, subp. 1(B). Because there is not a reasonable basis underlying the claimed dispute, a contested case hearing would not aid the commissioner. Minn. R. 7000.1900, subp. 1(C).

Hydrologic information provided in an appendix to the Cross-Media Analysis done for Poly Met to support Section 401 certification suggests there are some discrepancies in assessment of hydrology and water consumption in the Partridge River headwaters where the mine site is proposed. The Hydrology Summary confirms, "Water that will be captured in the mine water system will be removed from the Partridge River watershed, resulting in a reduction in runoff and baseflow to the Partridge River during operations. "458

The Hydrology Summary states that average annual flow under existing conditions at 500044 in the Upper Partridge River south of the proposed mine site is 13.94 cubic feet per second (cfs), which will be reduced to 11.57 cfs during the time of maximum mine site impacts.459 However, as noted above, PolyMet's applications for water appropriations permits and the draft permits prepared in response to these applications would authorize 28,820 gpm or more in appropriations from the mine site, equivalent to 64.21 cfs. Although it is anticipated that Poly Met, on average, would consume less water than allowed under the permits, in their most recent drafts PolyMet's water appropriations permits would allow the Company to consume more than four and a half times the average annual flow of water in the Partridge River at the mine site.

The MPCA has already recognized that, under existing conditions, the Partridge River headwaters have a 7Q10 flow (lowest 7-day average that occurs once every 10 years) of zero, so effluent limits cannot be protective if they allow any dilution of discharged pollutants. 460 In its detailed comments during environmental review, the EPA explained that "project increased contaminant concentrations above baseline or "no action" levels" and "the concomitant effect of projected lower stream flows" should be considered together to determine whether the PolyMet project would degrade water quality.461

Comment 543-ET.

Because there is no factual issue in dispute, a contested case hearing is not appropriate. Minn. R. 7000.1900, subp. 1(A). Also see response to Comment 543-ET.

In a prior case involving headwaters stream impacts resulting from the expansion of U.S. Steel's Minntac mine, the MPCA denied Section 401 certification without prejudice until it could be determined whether stream impacts complied with state water quality law. The MPCA emphasized that stream mitigation for the project was required and that stream mitigation issues must be resolved before a 401 certification could be granted.462

WaterLegacy has provided the MPCA with compelling substantive grounds to deny issuance of the Poly Met Draft NPDES/SDS Permit and to deny Section 401 certification for the Poly Met copper-nickel mine project. In addition, based on the current state of the record, we believe that issuance of Section 401 certification is premature. Substantive issues pertaining to the NPDES/SDS permit are highly contested, the Section 401 application has not been made current, and new issues raised by PolyMet's applications for water appropriations permits have yet to be analyzed to determine whether appropriations from Partridge River headwaters would comply with either DNR permitting law or Minnesota narrative water quality standards.

This comment does not raise a factual issue, it merely opines a legal perspective on the relationship between the 401 certification process and NPDES permitting requirements. The comment does not cite a legal basis for delaying the certification or permit. The comment does not explain why the project-specific letter cited must apply to every instance.

As detailed in Section 2 of the preceding comments, Petitioner disputes whether the Draft NPDES/SDS Permit violates the Clean Water Act and its implementing regulations by failing to perform reasonable potential analysis or establish permit conditions to prevent discharge to surface water through hydrologically connected groundwater from causing or contributing to an exceedance of Minnesota water quality standards. In addition to questions of federal and state law under the jurisdiction of the commissioner, material facts defined more thoroughly in the comment text are disputed, including but not limited to the following:

A) whether Poly Met Project mine site and plant site discharge to surface water through hydrologically connected groundwater has the reasonable potential to cause or contribute to an exceedance of Minnesota water quality standards, particularly although not exclusively as a result of contaminated tailing seepage and Category 1 waste rock stockpile seepage;

B) whether the Draft NPDES/SDS Permit contains specific and enforceable conditions and limits to prevent Poly Met Project discharge from causing or contributing to exceedance of Minnesota water quality standards as a result of discharge to surface water through hydrologically connected groundwater.

See Response to Comments 543-AB through 543-AI, particularly 543-AB through 543-AI. See Response to Comments 543-AB through 543-AI, particularly 543-AB through 543-AI.
<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Contact Name</th>
<th>Organization</th>
<th>Comment Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>543-FC</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>As detailed in Section 3 of the preceding comments, Petitioner disputes whether the monitoring proposed in the Draft NPDES/SDS permit for the PolyMet Project discharge through groundwater causes or contributes to violations of Minnesota water quality standards or results in unpermitted discharge. In addition to questions of federal and state law under the jurisdiction of the commissioner, material facts defined more thoroughly in the comment text are disputed, including but not limited to the following: A) whether monitoring locations are insufficient to detect where and when Poly Met contaminants discharged through groundwater seepage daylight to surface waters of the United States;</td>
</tr>
<tr>
<td>543-FD</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>B) whether monitoring locations are insufficient to detect where PolyMet direct discharge to surface waters causes or contributes to exceedance of water quality standards or violations of NPDES/SDS permit conditions;</td>
</tr>
<tr>
<td>543-FE</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>C) whether monitoring locations are insufficient to detect leakage from lined sources of contamination and propagation of Poly Met Project contaminants through the surficial aquifer; and</td>
</tr>
<tr>
<td>543-FF</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>D) whether monitoring parameters are insufficient or inappropriate to detect failure of seepage containment systems at the tailings waste facility and Category 1 waste rock stockpile and to detect northward flow of PolyMet pollutants.</td>
</tr>
<tr>
<td>543-FG</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>As detailed in Section 4 of the preceding comments, Petitioner disputes whether the Draft NPDES/SDS permit for the PolyMet Project violates the Clean Water Act and Minnesota law by failing to set limits for direct discharge to surface water with the reasonable potential to cause or contribute to violation of Minnesota water quality standards. In addition to questions of federal and state law under the jurisdiction of the commissioner, material facts defined more thoroughly in the comment text are disputed, including but not limited to the following: A) whether PolyMet has demonstrated the efficacy of the proposed water quality treatment at the large scale needed and for the influent resulting from its coppernickel mining Project;</td>
</tr>
<tr>
<td>543-FH</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>B) whether there is a reasonable potential that mercury in PolyMet Project direct discharge to surface water will exceed the Lake Superior Basin water quality standard and contribute to mercury impairment in receiving waters due to faulty influent assumptions and the lack of mercury removal technology in the proposed wastewater treatment system;</td>
</tr>
<tr>
<td>543-FI</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>C) whether there is a reasonable potential that specific conductivity in Poly Met Project direct discharge to surface water will exceed Minnesota narrative water quality criteria precluding toxicity and will contribute to fishes impairment in receiving waters; and</td>
</tr>
<tr>
<td>543-FJ</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>D) whether the Draft NPDES/SDS would allow direct discharge to surface waters from existing LTVSMC tailings that have the reasonable potential to cause or contribute to exceedance of Minnesota water quality standards.</td>
</tr>
<tr>
<td>543-FK</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>As detailed in Section 5 of the preceding comments, Petitioner disputes whether the Poly Met Project is likely to cause or contribute to violations of Minnesota water quality standards for mercury, increase mercury impairments, and degrade water quality by increasing mercury levels, thus precluding NPDES permit issuance or assurances needed for 40 certification under federal and state law. In addition to questions of federal and state law under the jurisdiction of the commissioner, material facts defined more thoroughly in the comment text are disputed. Each of the disputed material facts A) through G) described below would demonstrate that the Poly Met cross-media analysis on which the MPCA relies for its Draft 401 certification is unsound, so that the MPCA has no reasonable assurance that the Poly Met Project would not result in violations of water quality standards, and endanger the environment and human health: A) whether the exclusion of impacts of sulfate and mercury seepage from groundwater renders the cross-media analysis of mercury unsound;</td>
</tr>
<tr>
<td>543-FL</td>
<td>Paula Goodman Maccabe</td>
<td>Just Change Law Offices/Water Legacy</td>
<td>B) whether the failure to evaluate the impacts of sulfate and mercury in surface water discharged or released to wetlands renders the cross-media analysis of mercury unsound;</td>
</tr>
</tbody>
</table>
543-FM Paula Goodman Maccabe Just Change Law Offices/Water Legacy C) whether the failure to analyze the effects of changes in wetland and stream hydrology on mercury release, methylation and transport renders the cross-media analysis of mercury unsound;

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

This comment addresses the 401 certification. See the 401 response to comment document.

543-FN Paula Goodman Maccabe Just Change Law Offices/Water Legacy D) whether the exclusion of impacts on mercury methylation from multiple sources of sulfur and sulfide deposition at both the mine site and the plant site renders the crossmedia mercury analysis unsound;

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

This comment addresses the 401 certification. See the 401 response to comment document.

543-FO Paula Goodman Maccabe Just Change Law Offices/Water Legacy E) whether exclusion of mine site mercury deposition, water bodies closest to mercury sources, and mercury deposition to wetlands in analyzing mercury and methylmercury increases renders the cross-media analysis of mercury unsound;

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

This comment addresses the 401 certification. See the 401 response to comment document.

543-FP Paula Goodman Maccabe Just Change Law Offices/Water Legacy F) whether the misleading analysis of mercury methylation in a single "wetland of interest", both because of distorting exclusions and because of its singularity, renders the cross-media analysis of mercury unsound;

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

This comment addresses the 401 certification. See the 401 response to comment document.

543-FQ Paula Goodman Maccabe Just Change Law Offices/Water Legacy G) whether modeling and analysis that systematically minimize the cumulative potential for mercury and methylmercury impacts renders the cross-media analysis of mercury unsound; and

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

This comment addresses the 401 certification. See the 401 response to comment document.

543-FR Paula Goodman Maccabe Just Change Law Offices/Water Legacy H) whether as a result of the above there is a reasonable potential that Poly Met Project effects on sulfate and mercury in groundwater seepage, sulfate and mercury in surface water discharged or released to wetlands, hydrological impacts including the drying and wetting of high methylating wetlands, and air deposition of both mercury and various forms of sulfur particulates and gases will have a cumulative effect to increase mercury in the water column and methylmercury in fish tissue in receiving waters, including Great Lakes Basin waters that are already impaired due to excessive levels of this bioaccumulative substance of immediate concern.

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

This comment addresses the 401 certification. See the 401 response to comment document.

543-FS Paula Goodman Maccabe Just Change Law Offices/Water Legacy As detailed in Section 6 of the preceding comments, Petitioner disputes whether the antidegradation analysis performed for the PolyMet Project with respect to pollutants other than mercury and methylmercury is inadequate for NPDES/SDS permitting or for Section 401 certification. In addition to questions of federal and state law under the jurisdiction of the commissioner, material facts defined more thoroughly in the comment text are disputed, including but not limited to the following:

(A) whether the failure to analyze impacts from release of pollutants to groundwater and surficial aquifers renders the antidegradation analysis inadequate to determine whether the PolyMet Project would degrade surface water and/or groundwater; and

See Response to Comments 543-EH through 543-ES, particularly 543-EH through 543-EM.

See Response to Comments 543-EH through 543-ES, particularly 543-EH through 543-EM.

543-FT Paula Goodman Maccabe Just Change Law Offices/Water Legacy (B) whether the failure to consider best practices to prevent and minimize degradation, including dry stack tailings, liners and relocation of a concentrated waste facility from an unstable foundation, renders the antidegradation analysis inadequate for NPDES/SDS permitting or to support Section 401 certification.

See Response to Comments 543-EH through 543-ES, particularly 543-EN through 543-ES.

See Response to Comments 543-EH through 543-ES, particularly 543-EN through 543-ES.

544 BLANK Citizen Sulfide Mining is:
A Type of mining that pollutes local waters with acid-mine drainage

Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

545 BLANK Citizen Relies on outdated technology and a flawed tailings basin

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. This comment pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to this comment.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally pertain to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to these comments.

Comment noted. Comments related to this theme generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Comment noted. Comments related to this theme generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Comment noted. Comments related to this theme generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.
554 Libby Bent, Deanna Erickson, JT Haines, Bridget Holcomb  
Duluth for Clean Water  
Climate change has already resulted in marked decreases in extreme cold and increasing rain in every month of the year in Northern Minnesota. Duluth for Clean Water sought to understand how the PolyMet proposal accounts for anticipated climate change impacts in the future. With indefinite water treatment planned at the copper/nickel mine tailings basin, due diligence requires consideration of the impacts of long-range climate trends on the tailings basin and dam. This is absolutely essential to protect downstream and nearby communities. Through a grant from the Indigenous Environmental Network, we engaged respected hydrologist and engineer, Tom Myers, Ph.D., to analyze the underlying assumptions on precipitation events as they relate to the PolyMet permit applications.

The MPCA did not attempt to quantify the specific effects that climate change may have on waste water flows at the project. However, the MPCA did consider storm event precipitation in its review of the permit application, particularly as it relates to the potential for sump and pond overflows to result in an unauthorized discharge. For example, the review indicated that mine water sumps and ponds typically have normal operating capacity for the 100-year, 24 hour precipitation event (approximately 5.2 inches), and have additional capacity within the freeboard as a safety factor. In the case of a larger 500-year or 1000-year storm event, water can be transferred to the Equalization Basins if needed, where sufficient freeboard capacity is available to contain the aggregate volume of a 1000-year storm event (estimated at 7.0 inches of precipitation in 24 hours) without an overflow. Overflows resulting from large storm events at other mine site features would flow to the mine pits where it would be removed for treatment as mine pit dewatering. For areas where an overflow could result in an unauthorized discharge, such as at the FTB seepage containment system and the mine site equalization basins, the permit requires that redundant pumping capacity be available.

555 Libby Bent, Deanna Erickson, JT Haines, Bridget Holcomb  
Duluth for Clean Water  
The resulting report shows that PolyMet did not plan for climate change impacts in its tailings basin design. The report (enclosed) compares the probable maximum precipitation (PMP) predicted in the proposed PolyMet tailings basin alongside local climate change models for Biwabik, MN. Not only did PolyMet fail to account for increasing precipitation resulting from climate change, the applicant failed to consider the impacts of melting snowpack at all. The PMP reflected in PolyMet’s proposed tailings basin design is only 55% of the PMP when both snowpack and increasing heavy rainfall are considered (38 inches versus 68 inches in 72 hours). Such a discrepancy would significantly increase the chance of dam failure, either by overtopping, piping, or foundation failure.

Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.

556 Libby Bent, Deanna Erickson, JT Haines, Bridget Holcomb  
Duluth for Clean Water  
This is unacceptable and dangerous to Minnesota, especially downstream communities. The agencies charged with protecting Minnesotans and our portion of the Lake Superior watershed have a duty to act. By not accounting for accurate precipitation events and by disregarding snowpack, the NorthMet permit as drafted is inadequate. Please join Duluth for Clean Water in speaking publicly about these concerns and request the permit be denied. Demand action from both the permitting agencies and our local, state and federal elected officials. The safety of our communities and the long-term future of Lake Superior lies in our hands today.

See response to comment 554.

557 Libby Bent, Deanna Erickson, JT Haines, Bridget Holcomb  
Duluth for Clean Water  
The attached report to this comment, “Risk Analysis of Probable Maximum Flood and Climate Change at the PolyMet Flotation Tailings Basin”, details possible risks at the tailing basins as a result of climate change.

Comment noted.

558 197 Signatures  
Citizen  
Dear Commissioner Landwehr, Commissioner Stine, and Governor Dayton,

These comments are submitted on behalf of the persons signing below. We also seek to remind you of the many comments from medical and health professionals that have been disregarded during the past four years in regards to PolyMet’s EIS. During the past four years, medical associations representing over 30,000 physicians and health professional have tried repeatedly to have our voices heard regarding the need for an independent and transparent Health Impact Assessment (HIA) prior to the consideration of permits for the PolyMet project. These appeals for objective and open consideration of health impacts of the PolyMet mine project have been made by the following:

- Minnesota Medical Association
- Minnesota Nurses Association
- Minnesota Public Health Association
- Minnesota Water Environment Protection Association
- Minnesota Department of Health

Alongside local climate change models for Biwabik, MN, we engaged respected hydrologist and engineer, Tom Myers, Ph.D., to analyze the underlying assumptions on precipitation events as they relate to the PolyMet permit applications.

The issue related to a health study was addressed as part of the EIS development of the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

The issue related to a health study was addressed as part of the EIS process.

559 197 Signatures  
Citizen  
The final environmental impact statement (FEIS) for the PolyMet project was deemed “adequate” by the Minnesota Department of Natural Resources (DNR) even though no HIA was completed and minimal information was provided regarding the effects on human health from the impacts of first copper-nickel sulfide mine project ever permitted in Minnesota.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.
Since the FEIS was completed, there has been no independent or transparent process to evaluate health impacts from air emissions and seepage of pollution from the PolyMet project, which are likely to disproportionately impact tribal and low-income communities, fetuses, infants and children. The Minnesota Pollution Control Agency (MPCA) has allowed PolyMet to propose its own studies without involving the medical community or the community of patients we serve.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

On many of the issues we raised as concerns during environmental review, the PolyMet project has not improved. In fact, it seems that the agencies have allowed PolyMet to take several steps backward. Although the DNR emphasized when deeming the FEIS adequate that PolyMet had promised to capture more than 99% of its polluted seepage from the tailings basin and more than 95% of its polluted seepage from the permanent waste rock pile at the mine, its draft permits place no limits on polluted seepage and require no enforceable standards for performance for any seepage capture.

See response to Comment Water-342.

The MPCA draft water pollution permit provides no control over contaminated wastewater that is collected in the tailings basin or waste rock pile, then seeps from groundwater into wetlands and streams. The MPCA, whether in its draft permit or its draft certification, seems to ignore one of the biggest threats posed by copper-nickel mining: the seepage of sulfates and toxic metals into both groundwater and connected surface water. MPCA doesn’t even propose to monitor the nearest surface water where seepage is likely to cause violations of water quality standards.

See response to Comment Water-510.

The DNR has not required a modern dry stack tailings disposal method to reduce the risk of dam failure, failure which would cause downstream contamination with lead, arsenic and manganese as well as sulfates that increase mercury methylation. The DNR also hasn’t required any study of the effects on downstream water quality, drinking water, mercury methylation and bioaccumulation resulting from potential dam failure at the PolyMet wet slurry tailings basin. This type of information is critical to assessment of health risks as well as downstream ecological and financial risks.

Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit. This comment also poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

We know that contamination of our water supply with sulfates and heavy metals (see attached letter from Dr. Saracino) would have the potential to cause permanent damage to the brains and nervous system of our unborn children, infants and children.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Changes allowed by the DNR since the PolyMet FEIS, such as eliminating the wastewater treatment facility at the mine site, seem to make the project more, not less, of a risk to water quality and human health. Neither DNR nor MPCA has required PolyMet to disclose just how contaminated each potential source of pollution at the mine site and tailings site will be.

See response to Comment Water-511.

The GoldSim modeling conducted as part of the EIS specifically considered the flow rates and chemistry from the various project sources. The results of this modeling then informed the design of the different components of the WWTS; these were described in the WWTS Design and Operation Report that was submitted as part of the NPDES permit application.

We oppose the draft permits and certifications currently proposed by the Minnesota Department of Natural Resources and Minnesota Pollution Control Agency for the PolyMet copper-nickel mine project. These permits set no enforceable standards to control polluted seepage and fail to require modern technology to reduce the risk of tailings pollution and dam failure.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

The scale and permanence of threats from PolyMet copper-nickel mining in the headwaters of the St. Louis River, America’s largest tributary to Lake Superior, require a different approach. Minnesota’s government agencies must not allow such a risky endeavor based on poor quality information and unprotective conditions. The weak draft permits proposed by the DNR and MPCA would protect PolyMet, not human health. They would be an egregious betrayal of the trust the people of Minnesota have placed in the very agencies that are meant to protect us. We oppose the draft permits and certifications currently proposed by the Minnesota Department of Natural Resources and Minnesota Pollution Control Agency for the PolyMet copper-nickel mine project.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

This attachment to Multiple-181 is a letter which was submitted on March 10, 2014 concerning the SDEIS.

Comment/submitittal noted.

This attachment to Multiple-181 is a letter which was submitted on September 25, 2014 requesting a health risk assessment to be conducted.

Comment/submitittal noted.
<table>
<thead>
<tr>
<th>Comment Number</th>
<th>Name</th>
<th>Affiliation</th>
<th>Description</th>
<th>Comment/Submittal noted</th>
</tr>
</thead>
<tbody>
<tr>
<td>570</td>
<td>M. Tariq Fareed</td>
<td>Minnesota Academy of Family Physicians</td>
<td>This attachment to Multiple-181 is a letter which was submitted on July 22, 2015 requesting a health risk assessment to be conducted.</td>
<td>Comment/Submittal noted</td>
</tr>
<tr>
<td>571</td>
<td>M. Tariq Fareed</td>
<td>Minnesota Academy of Family Physicians</td>
<td>This attachment to Multiple-181 is a letter which was submitted on July 1, 2015 requesting a health risk assessment to be conducted.</td>
<td>Comment/Submittal noted</td>
</tr>
<tr>
<td>572</td>
<td>Dania Kamp</td>
<td>Minnesota Academy of Family Physicians</td>
<td>This attachment to Multiple-181 is a letter which was submitted on May 25, 2016 as a petition for rulemaking.</td>
<td>Comment/Submittal noted</td>
</tr>
<tr>
<td>573</td>
<td>Kristen Godfrey Walters</td>
<td>Minnesota Public Health Association</td>
<td>This attachment to Multiple-181 is a letter which was submitted requesting a health risk assessment to be conducted.</td>
<td>Comment/Submittal noted</td>
</tr>
<tr>
<td>574</td>
<td>Lindsey E.A. Fabian</td>
<td>Minnesota Public Health Association</td>
<td>This attachment to Multiple-181 is a letter which was submitted on June 17, 2016 as a petition for rulemaking.</td>
<td>Comment/Submittal noted</td>
</tr>
<tr>
<td>575</td>
<td>Edward P. Ehlinger</td>
<td>Minnesota Department of Health</td>
<td>This attachment to Multiple-181 is a letter which was submitted on March 13, 2014 concerning the SDEIS.</td>
<td>Comment/Submittal noted</td>
</tr>
<tr>
<td>576</td>
<td>Marlyn Swanson</td>
<td>Citizen</td>
<td>If it is so important to gain copper &amp; other minerals her I ask are our electronics recycled in USA or China? If this is such a “good deal” for jobs here, why is a foreign country getting the profit?</td>
<td>Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
</tr>
<tr>
<td>577</td>
<td>Marlyn Swanson</td>
<td>Citizen</td>
<td>Has anyone looked at previous work sites to see resulting pollution? Will this be worth destroying our beautiful waters, forests, &amp; critters?</td>
<td>Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
</tr>
<tr>
<td>578</td>
<td>Kathleen Anumn</td>
<td>Citizen</td>
<td>Sulfide Mining is: A Type of mining that pollutes local waters with acid-mine drainage</td>
<td>Comment noted. General comments related to water quality and flow were considered during the environmental review process. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
</tr>
<tr>
<td>579</td>
<td>Kathleen Anumn</td>
<td>Citizen</td>
<td>Relies on outdated technology and a flawed tailings basin</td>
<td>Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
</tr>
<tr>
<td>580</td>
<td>Kathleen Anumn</td>
<td>Citizen</td>
<td>Long-term risks to health and safety outweigh short-term benefits</td>
<td>Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
</tr>
<tr>
<td>581</td>
<td>Kathleen Anumn</td>
<td>Citizen</td>
<td>Operational for 20 years BUT will need active water treatment plants for 100's of years beyond!</td>
<td>Comment noted. This comment pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to this comment.</td>
</tr>
<tr>
<td>582</td>
<td>Jane L. Soukup</td>
<td>Citizen</td>
<td>We respectfully request that you deny the NorthMet Mining Project Water Quality Permit for the following reasons:</td>
<td>Alternatives for tailings disposal were addressed during the EIS process. Dam safety issues are addressed in the DNR’s dam safety permit.</td>
</tr>
</tbody>
</table>

- As stated by the Environmental Protection Agency, sulfide mining is the most toxic industry and creates a much greater risk than iron ore mining.
- It is a well-documented fact that sulfide mining has never been done without a breach. Never.
- This draft permit proposes the same wet slurry storage method that caused a catastrophic collapse in the Mount Polley mine project in British Columbia, Canada in 2014 and the Samarco project in Brazil.
Jane L. Soukup  

- The Environmental Impact Statement provided by PolyMet concedes that water treatment from this mining proposal would be required for 200 years and the overall site for 500 years. Are we, as constituents of the MN DNR and homeowners near this proposed mine, to believe that PolyMet will continue to pay for this for the entire 500 years???? We think not!

Jane L. Soukup  

- According to the Minnesota Voter’s Environmental Priorities Survey in February 2017, 74% of those polled oppose sulfide mining and nearly half are very concerned about rollbacks in environmental laws.

Jane L. Soukup  

- In the March-April, 2018 issue of the Minnesota Conservation Volunteer magazine, a magazine published by MN DNR, Protecting the Waters is really the highest order of obligation in any system of government, as just one name will yield more benefits to the State Waters. Where are these DNR employees now, when the threat from this mining to our Waters????

Citizen  

- In his State of the State address on February 21, 2018, proposed $477 million in clean water initiatives, which includes $214 million for the Clean Water Fund and supports efforts to protect sensitive groundwater and drinking resources. Please protect our water first…before it is put at risk! Protecting clean water should be our first and foremost objective.

Citizen  

- According to the article “The Long Reach of Legacy” made the following statement regarding the November, 2008 Clean Water, Land Legacy Amendment: “More than $2.2 billion has been allocated as a result of the amendment, which increased the state sales tax from 6.5 percent to 6.875 percent in July 1, 2009.” It goes on to list the projects that this money has been allocated to, such as “reduce harmful drainage into waters” and “monitoring aquifers to ensure the quality of drinking water”. As taxpayers in the State of Minnesota, we vehemently oppose any approval of this or any sulfide mining project that will potentially require our tax dollars to clean up their mess! DENY THE NORTHMET MINING PROJECT WATER QUALITY PERMIT, AND PROTECT THE CLEAN WATER AND LAND THAT WE HAVE FOUGHT FOR SINCE NOVEMBER OF 2008!

Citizen  

- It appears that our corporate-dominated politics is now willing to gamble to write the epitaph for human existence on this planet. You, Governor Dayton, took the lead role in that playbook, with full-throated support from your DNR Commissioner, against the People! Will this be how you will be remembered by Minnesotans?

Citizen  

- But then, your DNR Commissioner, Tom Landwehr, does not grasp the concept of the “Defense of the Land”, even though that is what his name means in German, which includes “our Waters”. As an active MPCA employee in Water Quality on a fish kill case, I met with DNR staff who accused me of leniency for the perps, even though the end result yielded more benefits to the State Waters. Where are these DNR employees now, when the threat from this mining to the Waters of Minnesota, and the nation, are irreversible?

Citizen  

- It looks like you have revealed your hand for the copper-nickel mining in northeast Minnesota. You have also made a judgement that, Governor Dayton, took the lead role in that playbook, with full-throated support from your DNR Commissioner, against the People! Will this be how you will be remembered by Minnesotans?

Citizen  

- That, Governor, is a truly unenviable remembrance for any caring human being.

Citizen  

- Dear Governor Dayton, Congratulations, Governor Dayton, on your conversion to openly support the nightmare PolyMet Mining project for Da Range of Minnesota. The promise of “JOBS, JOBS, JOBS” is just too much of a carrot to resist, even for a Democratic Party Governor like you, Sir. This is very disappointing since it shows that you have given up advancing the claim of your political party’s name, the party “OF, BY and FOR the PEOPLE”, or democracy.

Citizen  

- No, that is not democracy! The government of the State of Michigan totally failed its people, and for what goal? It definitely was not democracy!

Citizen  

- Protecting the Waters is really the highest order of obligation in any system of government, as just one name will confirm it: Flint, MI. The government of the State of Michigan totally failed its people, and for what goal? It definitely was not democracy!

Citizen  

- You have revealed your hand for the copper-nickel mining in northeast Minnesota. You have also made a judgement against the protection of our national Waters, by the release of the sulfides from such mining. The impact will be inevitable, Governor Dayton, as you approve such economic recklessness. It is regrettable that you moved so seamlessly into the corporate-dominated political domain, and away from the PEOPLE!

Citizen  

- No, that is not democracy! The government of the State of Michigan totally failed its people, and for what goal? It definitely was not democracy!

Citizen  

- But then, your DNR Commissioner, Tom Landwehr, does not grasp the concept of the “Defense of the Land”, even though that is what his name means in German, which includes “our Waters”. As an active MPCA employee in Water Quality on a fish kill case, I met with DNR staff who accused me of leniency for the perps, even though the end result yielded more benefits to the State Waters. Where are these DNR employees now, when the threat from this mining to the Waters of Minnesota, and the nation, are irreversible?

Citizen  

- No, that is not democracy! The government of the State of Michigan totally failed its people, and for what goal? It definitely was not democracy!

Citizen  

- It looks like you have revealed your hand for the copper-nickel mining in northeast Minnesota. You have also made a judgement against the protection of our national Waters, by the release of the sulfides from such mining. The impact will be inevitable, Governor Dayton, as you approve such economic recklessness. It is regrettable that you moved so seamlessly into the corporate-dominated political domain, and away from the PEOPLE!

Citizen  

- But then, your DNR Commissioner, Tom Landwehr, does not grasp the concept of the “Defense of the Land”, even though that is what his name means in German, which includes “our Waters”. As an active MPCA employee in Water Quality on a fish kill case, I met with DNR staff who accused me of leniency for the perps, even though the end result yielded more benefits to the State Waters. Where are these DNR employees now, when the threat from this mining to the Waters of Minnesota, and the nation, are irreversible?
Katie Krikorian Citizen

It makes no sense to me that the Pollution control agency can give permission for copper-nickel-sulfide mining based only on the "beliefs" that it can and will be done safely and in a manner that won't pollute the air, land, and water around it. Scientifically, there is no reason to believe this. All the science points to guaranteed pollution, the question is only for how long and will there be enough money and effort to minimize what is sure to happen. Regardless, it will definitely destroy the life that currently lives in those forests and wetlands. The minute amount of metals per waste rock could be mined out of recycled technology, providing jobs and protecting our natural environment.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Carla A. Arneson Citizen

The One Hundred Mile Swamp was cut off before it crossed the Laurentian Divide on 10 Environmental Impact Statement (EIS) maps; these maps could have been corrected before the Final EIS was released to the public, but they were not. Minnesota's agencies have already allowed removal of bedrock pillars by taconite mining at the Peter Mitchell mine, essentially removing the Laurentian Divide. If permitted, PolyMet's toxic sulfide mining pollution could flow north, not only through the Peter Mitchell pit to Birch Lake, but also by way of the One Hundred Mile Swamp, following the directional flow of groundwater determined by geologic rock types and their associated structures beneath the Laurentian Divide. The contaminant migration pathways have had little to no scrutiny in PolyMet's EIS, and cannot be known with any certainty without detailed onsite hydro-geologic investigations.

The potential for a north flow path in the groundwater from the mine site was evaluated in the EIS. The EIS stated that such flow was not likely but could not be conclusively ruled out and recommended that the issue of north flow be further addressed during permitting. The NPDES/SDS permit requires the monitoring of water levels from 11 bedrock wells and 8 surficial aquifer wells. These water level data, plus information collected during installation of the monitoring wells, will be used to assess for the future potential of north flow. It should be noted that north flow, were it to occur, would not take place until many years after mine closure when NorthMet mine pits refill with water, so sufficient time is available to assess the potential and implement mitigation, if needed, to prevent the north flow from occurring.

Carla A. Arneson Citizen

A mythical water mound will not stop contamination from seeping into the Peter Mitchell Pit to Birch Lake or the Kawishiwi River watershed-flowing to the Boundary Waters Canoe Area Wilderness. The entire PolyMet permit has been based on PolyMet not polluting two watersheds. Only polluting waters of the St. Louis River north to the Northshore Mine, if determined possible through monitoring, would be prevented. "(PolyMet) Prevented indirectly, or cumulatively affect the water in these areas. Potential bedrock groundwater flow from the Mine Site north to the Northshore Mine, if determined possible through monitoring, would be prevented. " (PolyMet) Prevented north flow from occurring.

Potential mitigation measures to prevent north flow through the bedrock aquifer are discussed on pages 58-59 of the DNR's Record of Decision on the EIS.

Carla A. Arneson Citizen

3. PolyMet testwork showed that LTVSMC tailings leached arsenic, indicating the basin should not be disturbed, nor the tailings used for covers and dams, due to the high potential for toxic releases of arsenic to groundwater-releases above water quality standards. Documented elevated arsenic risks-discussed within the agencies at the beginning of the permitting process were tied to the No Action Alternative. Yet the agencies went ahead with a plan to deliberately disturb the basin and use the tailings for other purposes. Was the public ever informed in the EIS of this serious arsenic issue? The No Action Alternative was the only valid choice from the beginning; it is still the only valid choice. (Or building a new tailings basin.) It is not scientifically valid to reuse the LTVSMC tailing basin for copper-nickel sulfide mining. Apparently, since the LTVSMC tailings basin is already leaking, the agency solution is to risk releasing high levels of arsenic-then add massive amounts of toxic sulfide mining waste to the already leaking basin--then capture the basin's legacy pollution, including arsenic, at the same time that PolyMet collects and treats the entire overwhelming mess. Whenever that may be. It is delusional.

Comment noted. This comment poses questions or contains statements about issues previously considered during the environmental review process and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

The permit includes an Operating Limit for arsenic, set at the water quality standard, for the discharge from the WWTS. (The WWTS treats the seepage captured by the FTB seepage containment system.)
4. Adding massive amounts of toxic sulfide mining pollution to an already leaking, polluted basin while risking the release of arsenic then collecting everything is scientifically impossible on such a scale. Where is the scientific proof, where has it been done on such a scale in a like environment? To experiment with Minnesota's waters is not in the best interest of the people of Minnesota. Requiring Cliffs Erie to put in a collection system and to clean up the mess it assumed responsibility for would have been the best choice for Minnesota. It is fiscally irresponsible for the state of Minnesota to permit sulfide mining. The monetary losses would far outweigh the gains. Our waters are Minnesota's most valuable resource, environmentally, economically, and strategically.

The effectiveness of the FTB seepage containment system was evaluated in the EIS. The permit has been revised to include the barrier design specifications (i.e., thickness, permeability) that were evaluated in the EIS and that it be constructed and operated so as to maintain an inward hydraulic gradient across the barrier. The containment systems function on the principle of maintaining an inward hydraulic gradient across the barrier wall that is part of the system design. If the hydraulic gradient is inward, hydraulic head is greater outside the basin and water cannot escape -- instead, water will tend to flow into the capture system. The Modflow modeling conducted for the EIS indicated that the capture efficiency for both systems would be in excess of 90% and the subsequent GoldSim modeling indicated that degree of capture would be sufficient to protect downstream surface and ground water quality. See FEIS at 5-7. The MPCA has revised the language of the permit to state that if an inward gradient is not reestablished within 14 days of detection of an outward gradient, it is a violation of the permit. The permit also requires that the effectiveness of the seepage capture system be evaluated on an on-going basis.

5. It is false that virtually all of the pollution can be collected. And if by some miracle that could occur, it would only weaken a tailings basin that is designed to leak for stability. Once tailings are deposited in the LTVMSC basin there are two choices, let the basin leak or return all polluted waters to a basin that would then only become increasingly unstable, leaving Minnesota with an ever greater risk of catastrophic failure.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

6. NorthMet would become a toxic pit; there is no feasible way to keep the exposed Virginia Formation from turning pit waters into a death trap for wildlife, particularly waterfowl. The Duluth Complex is a sole-source aquifer. Exploration drilling has turned the area into a contamination network for proposed sulfide mining pollution. Destroying a region's water supply is criminal.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

8. No cost/benefit analysis has been done for PolyMet.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

9. The number of projected mining jobs would be highly questionable; the amount of mining waste generated annually by PolyMet's proposed NorthMet Project fluctuates significantly over the proposed 20 years of operations, which translates to fluctuating mining layoffs with significantly unstable economic benefits. This fact was not made clear in PolyMet's Environmental Impact Statement.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

10. No adequate risk assessment (including for human health) has been done for PolyMet. PolyMet has not done a risk assessment; they have many disparate reports, and none are cumulatively put together as a human health or environmental risk assessment. A complete Human Health and Ecological Risk Assessment needs to be done to assess cumulative impacts to the human environment, as required under NEPA. The Air Emissions Risk Assessment (AERA) in the EIS cannot be reviewed for accuracy or completeness by anyone because the full report has not been provided anywhere. The AERA does not qualify as a human health risk assessment such as the USEPA uses (USEPA Risk Assessment Guidance for Superfund, EPA/540/R95/132P95-963203), and the LTVMSC plant site is a superfund site. The MPCA-AERA process is not written in Rule but is an agency administrative policy. The AERA lacks outside scientific peer review by such agencies as USEPA. Thus the use of the AERA resulted in an inadequate human health evaluation for the air in PolyMet's Final EIS.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
No other risk assessments have been performed for soils, sediments, surface or groundwater, even though impacts are documented currently in the FEIS references in both the surface and groundwater from the existing LTMMC plant site. These impacts must be added to PolyMet's proposed use of tons of additional chemicals including the surfact of waste minerals and elements that have been identified within in the rock from numerous reports from such sources as DNR minerals and the NNR. These wastes will require perpetual treatment as stated in the FEIS. NEPA requires EIS's to protect the human environment (NEPA sec. 2). This requirement has not been met, and is a major omission invalidating PolyMet's FEIS. Since there was not a standard human health risk assessment performed on the air, soils, sediments, surface or groundwater, the DNR cannot certify that human health will be protected. The lack of protection of human health in air, soils, sediments and water means the DNR cannot issue PolyMet water appropriation permits under MN. Statute 103G.297 Subd. 3 (2) & (3). Nor can the MPCA issue an air quality permit, a water quality permit, or a 401 Water Quality Certification for PolyMet.

The issue of a human health risk assessment (or Health Impact Assessment) was addressed as part of the EIS process and the EIS was deemed adequate. The permit complies with Clean Water Act requirements identified by EPA, including permit coverage for all pollutant discharges expected from the facility. The permit contains limits consistent with 40 CFR part 440.

No comprehensive, independent Health Impact Assessment has been done for the PolyMet Project, despite repeated requests from Minnesota's health professionals; all requests were denied, denying the utmost protection to the public, particularly to Minnesota's children.

The issue of a human health risk assessment (or Health Impact Assessment) was addressed as part of the EIS process and the EIS was deemed adequate.

The addition of toxic sulfide mining waste-including dozens of chemicals that were unidentified in the EIS-to a basin already contaminated with high levels of arsenic, is putting the children of Minnesota at extreme risk for physical and neurological impairment. Also, chemicals associated with the PolyMet Project-identified and unidentified in the EIS-have not been studied synergistically. Total toxicity has been vastly under reported.

No cost/benefit analysis has been done for a sulfide mining industrial complex.

No cumulative impact/risk assessment, inclusive of human health, has been done for a sulfide mining industrial complex. The public needs to know what the probable impact of a sulfide mining industrial complex would be, before we begin to permit such a complex with PolyMet. A cumulative risk assessment-including for health-is critical for a massive sulfide mining industrial complex in such a rare water-rich environment as northeastern Minnesota. It is false to claim each mine is permitted on its own merits when the agencies are well aware that once the standards are set for PolyMet they are set for all sulfide mining companies seeking permits in Minnesota.

No changes were made to the draft permit in response to these comments.

No cumulative impact/risk assessment, inclusive of human health, has been done for a sulfide mining industrial complex. The public needs to know what the probable impact of a sulfide mining industrial complex would be, before we begin to permit such a complex with PolyMet. A cumulative risk assessment-including for health-is critical for a massive sulfide mining industrial complex in such a rare water-rich environment as northeastern Minnesota. It is false to claim each mine is permitted on its own merits when the agencies are well aware that once the standards are set for PolyMet they are set for all sulfide mining companies seeking permits in Minnesota.

No changes were made to the draft permit in response to these comments.

Minnesota has not been given an accurate way to gauge the true cost of what the public is risking. The only acceptable financial assurance under such unknown risk for a high-risk industry in a high-risk location is total projected costs in cash-including reclamation costs upfront. Or no permit. Must also include insurance for catastrophic failures or natural disasters, which it is highly doubtful PolyMet could obtain. Minnesota must not take on the industry's risk. All cash up front or no permit. The proposed financial assurance is far too low, and payment comes far too late in the mining process.

No changes were made to the draft permit in response to these comments.

16. Who is lying? The taconite industry that says it cannot use reverse osmosis. Or PolyMet that claims it could use reverse osmosis for sulfide mining, but then uses taconite tailings leachate-contaminated water for its "Successful Water Treatment Plant." PolyMet cannot be permitted when its "successful" use of reverse osmosis is suspect and unverifiable. And the concentrated contaminants that would remain after reverse osmosis have unknown levels of toxicity, and therefore unknown disposability. There are no other examples of sulfide mines of this scale in a comparable water-intensive environment and climate that have not polluted surrounding waters. The entire EIS is based on PolyMet's ability to use reverse osmosis successfully. No proof. No permit.

See response to Comment Multiple-488. The concentrate from membrane treatment portions of the WWTS will be routed to the chemical precipitation portion of the WWTS for metals removal. The waste sludges from this process will be disposed of in a permitted offsite landfill or in the HRF once it is built.
17. When I asked for an explanation as to why information from Barr Engineering contradicted the DNR classification for a 100-year event, the DNR refused to answer. I was questioning the assertion in the Duluth News Tribune that PolyMet was now designing its tailings dam to withstand a 1,000-year event, and asking how that determination had been made. Initially the DNR sent me a portion of an email from Barr, “the proposer,” to explain why a Duluth News Tribune article suddenly referenced a PMP. Part of that email stated the following: “The Flotation Tailings Basin has been designed to hold the 72-hour Probable Maximum Precipitation (PMP) event, which is approximately 38 inches, without overtopping. The PMP does not have an assigned return period. 10-year - about 4” in 72 hours, 100-year - about 6” in 72 hours, 1000-year - about 9” in 72 hours, PMP - 38” in 72 hours.” I then questioned the fact that the PolyMet EIS consistently referred to a 100-year event as being in 24 hours. As did the DNR website, “A 24-hour duration 100-year storm for most Minnesota communities is roughly six to seven inches.” It was when I asked the following questions that the DNR became less than forthcoming. I asked, “Why then has Barr or proposer decided to state that a 100-year event is about 6 inches in 72 hours, rather than 6 inches in 24 hours?” I added, “I am also wondering how it is possible to upgrade PolyMet’s tailings basin to a so-called PMP, without also upgrading the entire interconnected EIS, which was based on a 100-year event?” The DNR response was as follows. “Thanks for your interest and questions. We will be addressing all comments during the permitting process.” (I was responding to an email I received from the DNR, not a draft permit application.) So, why has Barr/proposer decided to state that a 100-year event is about 6 inches in 72 hours, rather than in 24 hours? It appears such a change would skew the results of a PMP. Spreading six inches over 72 hours, instead of six inches of rainfall in 24 hours, certainly makes a difference in flooding potential. Again, I am wondering how it is possible to upgrade PolyMet’s tailings basin to a so-called PMP, without also upgrading the entire interconnected EIS, which was based on a 100-year event not a 1000-year event? I am also aware that a 100-year event or a 1000-year event can occur at any time, it is a matter of percentages. 500-year events are no longer rare, yet PolyMet’s EIS is still based on a 100-year event.

18. Which raises the point that an EIS largely based on a 100-year event is wholly inadequate in a time of great climate change, when 500-year events are becoming more and more frequent, and 1000-year events are occurring as well. See response to comment Multiple 612

I request that permits for PolyMet Mining be denied. This project is dangerous to the health of the Environment. Hazards abound to humans, wildlife, clean water and animals. I request that permits for PolyMet Mining be denied. This project is dangerous to the health of the Environment. Hazards abound to humans, wildlife, clean water and animals. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

There are no reasons that this project would be of any benefit to northern Minnesota. The very few jobs that may be available to residents cannot outweigh the dangers that loss of tourism dollars would occur without clean environment, continuation of good fishing, pristine waters and clean air. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

I respectively ask that permits for PolyMet are denied and the precious northern Minnesota ecosystems be protected. Thank you very much. Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

PolyMet can not prove that there is not a significant risk of disastrous damage to the pristine environment that now exists in Minnesota. Clean water cannot be sacrificed. So much is at stake and so many people’s welfare is threatened if PolyMet mines. This is a nightmare! The leaching of heavy metals into the environment poses hazards to humans such as brain development to infants and children. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Toxic air emissions will cause health problems, death to plants and animals. Our valuable clean water will be permanently contaminated and aquatic life destroyed. Please do not let this happen to our area and earth. Protect the valuable place we call home. Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
<table>
<thead>
<tr>
<th>Commenter</th>
<th>Role</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brian White</td>
<td>Citizen</td>
<td>I'm writing to oppose granting of environmental permits for the proposed PolyMet mine in Northeast Minnesota. It is apparent that this project is not worth the serious and potentially devastating environmental risk it could cause to the local area's environment and natural resources (and economy). Breached toxic sulfide residue dams can cause permanent environmental damage. One breached mining residue dam in British Columbia ruined the ecology of a stream that fed into a tributary of the province’s Fraser River. From what I’ve read, PolyMet cannot ensure that such a devastating occurrence would not occur in its proposed Minnesota mine project. I am currently an Oregon resident, but I grew up in northern Minnesota and will be moving back to the area in retirement. I care deeply about the environment of the state and trust that your agency, through its sound examination of scientific information on the risks of this project, will decide to deny permits associated with this project.</td>
</tr>
<tr>
<td>Joy Turman</td>
<td>Citizen</td>
<td>Please protect our water our beautiful natural resources for our children and grandchildren, from the toxic sulfide mines in the Northeast Minnesota. Please say No!</td>
</tr>
<tr>
<td>Signature Illegible</td>
<td>Citizen</td>
<td>Please do not approve the permit for the Polymet project in N. Minn. The risk to our water &amp; our childrens children's water is too great. There is no guarantee this company will be around in the future to deal with problems if they even could clean it up.</td>
</tr>
<tr>
<td>144 Signatures</td>
<td>Friends of the Boundary Waters</td>
<td>Also continuing for a thousand years or more are the dangers presented by the tailings basin dam. Because safer alternatives for dealing with mine waste exist, permitting a new mine to store toxic waste in liquid form behind a dam of this type is particularly unconscionable. I object to the State of Minnesota sanctioning this threat to future generations living downstream. Please protect the future of the people, wildlife and waters of northeastern Minnesota by saying “no” to this mine plan.</td>
</tr>
<tr>
<td>Joy Davis</td>
<td>Friends of the Boundary Waters</td>
<td>Commenter added...“Don't let them destroy the Boundary Waters!!”</td>
</tr>
<tr>
<td>Kristen Bon-Zorb</td>
<td>Friends of the Boundary Waters</td>
<td>This is completely stupid- who is getting <em>paid-off</em>? Why do we want this, why does DNR want this? Why does Governor Dayton want this? Why not do dry stacking?</td>
</tr>
<tr>
<td>Pat Tammen</td>
<td>Friends of the Boundary Waters</td>
<td>Please stop Polymet- we need to keep our water clean and save our wetlands- no mining in Superior National Forest- that forest belongs to all of us- no mining should be allowed. Thanks - Pat Tammen</td>
</tr>
<tr>
<td>Linda Kriel</td>
<td>Citizen</td>
<td>The proposed NPDES/SDS permit is weak and fails to control the biggest threat from sulfide mining – the seepage of contaminated Dear Commissioner Stine, I strongly urge the MPCA to deny water pollution (NPDES/SDS) permit and deny the Section 401 certification for the PolyMet copper-nickel wastes to groundwater and then to drinking water and surface water from mine pits, waste rock stockpiles, tailings basins and other sulfide mine waste storage facilities. Please examine the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.</td>
</tr>
<tr>
<td>Linda Kriel</td>
<td>Citizen</td>
<td>The Section 401 certification relies on PolyMet's assumptions, exclusions and misleading information to claim that the PolyMet sulfide mine would not violate water quality standards, degrade water quality, and endanger the environment and human health. This comment addresses the 401 certification. No changes were made to the draft NPDES permit in response to this comment.</td>
</tr>
<tr>
<td>Linda Kriel</td>
<td>Citizen</td>
<td>The PolyMet draft NPDES/SDS permit and draft 401 certification would conflict with federal and state laws and would jeopardize Minnesota water quality, natural resources, health and finances. The draft permits were developed according to current state and federal law.</td>
</tr>
<tr>
<td>Linda Kriel</td>
<td>Citizen</td>
<td><em>The MPCA draft water pollution permit for the PolyMet sulfide mine wouldn’t set limits on polluted seepage through groundwater to drinking water or surface water. See response to Comment Water-510.</em></td>
</tr>
<tr>
<td>Linda Kriel</td>
<td>Citizen</td>
<td><em>The MPCA draft water pollution permit for the PolyMet wouldn’t even provide appropriate monitoring; PolyMet’s pollution seeping from groundwater and welling up in wetlands and streams in violation of the Clean Water Act could go completely undetected See response to Comments Water-510 and Water-711-A.</em></td>
</tr>
</tbody>
</table>
Dear Commissioner Stine,

Duluth for Clean Water objects to the draft water pollution (NPDES/SDS) permit and the draft 401 certification for the PolyMet copper-nickel sulfide mine project.

Duluth for Clean Water is a Minnesota nonprofit based in Duluth, with volunteers and members around the Duluth area. Our mission is to promote a safe and healthy future for the St. Louis River Watershed, Lake Superior, and the communities who reside thereon. We have participated in the administrative processes concerning the NorthMet project through an open and public health impact assessment (HIA) process, even though groups representing 30,000 Minnesota medical and health professionals asked for an HIA to assess threats including brain damage to fetuses, infants and children from mercury contamination of fish.

We are grateful that PCA promotes a "health in all policies" approach, and we are grateful for the work of the Minnesota Academy of Family Physicians (and other medical professionals) who requested that a "comprehensive, independently produced HIA be completed for the PolyMet copper-nickel sulfide mine project. Our position is that it would be an unconscionable failure to issue permits for this proposal to bring this toxic and unfamiliar industry to Minnesota when long term health impacts have not been studied or communicated. We object.

JT Haines
Duluth for Clean Water

Sincerely,

JT Haines
2. Water Quality Permit would not protect downstream communities. It appears that the draft water quality permit would not set limits on polluted seepage through groundwater to drinking water or surface water, and would not provide necessary monitoring, meaning that pollution seeping from groundwater and upwelling in wetlands and streams in violation of the Clean Water Act could go undetected. We object to the draft water quality permit on this basis.

3. The draft water quality permit violates Minnesota law requiring maintenance free closure. Minnesota Administrative Rule 6132.3200 requires that a mining area "be closed so that it is stable, free of hazards, minimizes hydrologic impacts, minimizes the release of substances that adversely impact other natural resources, and is maintenance free." Closure is defined as "the process of terminating and completing final steps in reclaiming any specific portion of a mining operation. Closure begins when, as prescribed in the permit to mine, there will be no renewed use or activity by the permittee." The NorthMet proposal currently anticipates cessation of activity at year 30, meaning "closure" would theoretically be at that date. The DNR's permit to mine, meanwhile, has no set term, effectively meaning that there is no closure defined at all. Here is a scenario that concerns us, and one which we would request that you consider: Let's imagine that an applicant has an extensive system of water controls that they plan to use, and, if everything goes perfectly, things would be mostly fine for a while. The question, especially for downstream communities, is, what do those controls look like in twenty years? Problems with non-performing mines develop over decades, and applicant companies have a history of abandoning controls as soon as they are legally, or just financially, able. Claims about the future study of "passive controls," and an incredibly extensive system of liners, trenches, pumps, caps, and pipelines -- all of which would require perpetual maintenance to work -- do not reassure us. 2 The permits as drafted anticipate water treatment for centuries or longer, maintaining hydrologic impacts, release of substances, and continuing to pose potential hazards beyond any (undefined) "closure" date. This is a clear violation of Minnesota law, including with regard to the draft water quality permit. It appears, then, that under this permit regime as drafted, PCA's enforcement of any water quality permit it may issue would be difficult if not facially impossible. We are, quite simply, not protected by these draft permits over the longer term. That's not only a legal problem under Minnesota's closure requirements; it is clearly an ethical problem as well. We object. 3

4. Downstream communities have not provided consent. Duluth, Carlton, Cloquet, and the many other communities downstream of the NorthMet proposal have not been directly consulted on the PolyMet proposal, and some have vocally objected. Simply put, these communities have not consented. This includes the sovereign Fond du Lac Band of Lake Superior Chippewa, whose concerns have not been fully integrated into permits or the NorthMet project design. Copper sulfide mining would be new to Minnesota, and the legal and regulatory regime is untested and dated. Downstream consultation and consent should be required for a proposal as dangerous as this. We view the lack of downstream consent, including the absence of downstream consent with regard to the so-far-undetermined cumulative health impacts, as a fundamental failure in this process to date, and we request that PCA recognizes this failure in its evaluation of the proposal. We object to the draft NorthMet permits on the basis of the lack of consent of downstream communities and urge that they be denied.

The MPCA assessed the location of each individual well as dictated by the purpose of each well and how each well fit into the overall monitoring well network. This approach was coupled with the incorporation of existing monitoring wells (with a record of baseline water quality) and practical considerations such as access and potential disturbance to wetlands. The monitoring well network in the permit was developed to meet multiple goals, which includes monitoring the performance of engineering infrastructure; serving as indicators for the early detection of potential project impacts; and determining compliance at downgradient locations closer to the property boundary.

In addition, the draft permit requires an annual assessment of the suitability of the monitoring network, and requires the proposal of additional/alternative monitoring locations in the event the original network is not sufficient, based on the ongoing collection of data (including flow direction and groundwater quality). If the MPCA determines in the future that the monitoring well network is insufficient, the agency has authority under Minnesota Rule part 7001.0170 to modify the permit, and authority under part 7001.0150 to require sufficient monitoring to determine compliance.

2. No changes were made to the draft permit in response to these comments. See response to Comment Water-510. The NPDES/SDS permit requires the submittal of an Annual Comprehensive Performance Evaluation Report which specifically requires the annual assessment of the performance of individual engineering controls and the implementation of adaptive management, mitigation or corrective actions before potential impacts actually occur. This annual assessment is required each of the five years of this permit issuance and some updated adaptation of this is likely in future reissuances of the permit. (These future reissuances of the permit will be subject to public review and comment prior to reissuance.)

The DNR administers Minnesota Rule 6132 and their Permit to Mine for the facility includes financial assurance conditions that, in part, address the long-term maintenance of necessary controls.

Comment noted. The draft permits were developed according to current state and federal law. Comments related to this theme generally do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
JT Haines, Citizen

The future health and prosperity of northeastern Minnesota depends on protecting our rare freshwater complex. We appreciate PCA’s caution that groundwater levels have declined, and that “the prognosis turns downright grim” when the growing problem of groundwater contamination is factored in. “The bottom line on groundwater? We can run out of it.”

If permitted, the NorthMet project would put us at substantial, and insufficiently accounted for, risk. Minnesotans should anticipate, based on the significant history of promises and non-performance by applicants for similar permits around the US, violations, exceedances, and regular permit revision applications at best, and at worst, outright failures to control pollution at unimaginable cost to our communities. The citizens of Duluth and other downstream communities are relying on the Minnesota Pollution Control Agency to fulfill its vision that “clean water, air, and land support healthy communities and ecosystems, and a strong economy in Minnesota.” We urge that you deny the draft water quality permit, draft air quality permit, and draft Clean Water Act Section 401 certification (wetlands) for the proposed NorthMet project. We would appreciate an opportunity to discuss our concerns with you in person as well and can be reached at the below contact information for scheduling. We have included a poem about our watershed from one of our members below.

Karen Graham, Citizen

Minnesota needs strong protections against sulfide mining pollution. The MPCA is the State’s only way to provide for our my children and grandchildren. Please prove you are on the right side of this serious debate. The risk to Minnesota’s communities is simply too great — this type of mining has a 100% track record of pollution, and a tailings dam breech could be catastrophic for downstream communities. The mine’s toxic wastewater would have to be treated for 500 years, 25 lifetimes. This is an unacceptable legacy to leave for current and future generations of Minnesotans.

David Showalter, Citizen

I strongly urge the MPCA to deny water pollution (NPDES/SDS) permit and deny the Section 401 certification for the PolyMet copper-nickel mine project.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Karen Graham, Citizen

Dear Minnesota Pollution Control Agency Commissioner,

I ask you to light the “torch for nature” spreading the light of so many notable heroes before you, in particular President Theodore Roosevelt! Please deny the Permit to Mine for the proposed PolyMet sulfide mine.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Karen Graham, Citizen

This mine is projected to offer jobs for 20 years of operation. In exchange for a few years, you will usher in many hundreds of years of sulfuric acidic runoff, 500 years of toxic pollution by PolyMet’s own calculation.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Karen Graham, Citizen

The estimates for requiring the holding and treating of water outflow from this mine is almost twice the years the USA has existed. What building? What structure? What company? What of our creation has lasted as long in our country? We are not the ancient Romans.

Comment noted. This comment pertains to issues considered in the development of the DNR Permit to Mine. No changes were made to the draft permit in response to this comment.

Karen Graham, Citizen

We, you, the Minnesota Department of Natural Resources is considering to offer the generations to come just such an inheritance! The partner of this dismal adventure, Polymet Mining has not run any project much less mining! In point of fact, it is a company established to protect a larger corporation from liability damage. The company offers 3 years as defined by the permit to protect from environment harm and bankruptcies. They also offer 1950’s style of liners to collect contaminated water and osmotic filtration system.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.

Karen Graham, Citizen

The risk to Minnesota’s communities is simply too great — this type of mining has a 100% track record of pollution, and a tailings dam breech could be catastrophic for downstream communities. The mine’s toxic wastewater would have to be treated for 500 years, 25 lifetimes. This is an unacceptable legacy to leave for current and future generations of Minnesotans.

Comment noted. Comments related to this theme generally pose questions or contain statements about issues previously considered during the environmental review process and do not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to these comments.
Karen Graham  
Citizen  
The PolyMet mine would set a dangerous precedent for Northeast Minnesota, opening the door to an industrial acid mining corridor that threatens the Arrowhead region and Boundary Waters Wilderness, the crown jewel of our state. Minnesota’s legacy hangs in the balance. In the public’s interest, I urge you to deny the Permit to Mine for PolyMet.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Lori Andresen  
Save Our Sky Blue Waters  
Friends of the Boundary Waters Wilderness and the Center for Biological Diversity (hereinafter, “Organizations”) submit this Petition for a Contested Case Hearing on the Minnesota Pollution Control Agency (MPCA)’s proposed Clean Water Act Section 401 Water Quality Certification for the Section 404 (Wetlands) Permit for PolyMet Mining, Inc.’s proposed NorthMet Project. The Organizations believe that the NorthMet Project may result in water quality standard violations on several bases. Some of these are covered by the Petition for Contested Case Hearing on the NPDES/SDS Permit that will be submitted by Minnesota Center for Environmental Advocacy, to which the Organizations are signatories, and will not be repeated here.

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.

This comment addresses the 401 certification. See the 401 response to comment document. This comment addresses the 401 certification. See the 401 response to comment document.
<table>
<thead>
<tr>
<th>ID</th>
<th>Author</th>
<th>Organization</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>655</td>
<td>Lori Andresen</td>
<td>Save Our Sky Blue Waters</td>
<td>Most Friends members are also Minnesota taxpayers. They are Minnesota residents who hope their grandchildren and great-great-grandchildren will live in Minnesota and enjoy the Superior National Forest and surrounding lands and waters as they do. The mining project as proposed presents risks to future generations that will include the descendants of Friends members. Those risks are both to natural resources, most especially clean water, and to financial well-being, which could be impacted if the mine results in a large contaminated area that eventually must be remediated.</td>
</tr>
<tr>
<td>656</td>
<td>Lori Andresen</td>
<td>Save Our Sky Blue Waters</td>
<td>The Center for Biological Diversity is a nonprofit conservation organization headquartered in Tucson, Arizona, with offices in a number of states, including an office in Duluth, Minnesota. The Center is a leading organization fighting on behalf of wildlife and wild places, including threatened and endangered species such as the Canada lynx and gray wolf that would be adversely affected by the NorthMet Mine Project. The Center believes that the welfare of human beings is deeply linked to nature—the existence in our world of a vast diversity of wild animals and plants. Because diversity has intrinsic value, and because its loss impoverishes society, the Center works to secure a future for all species, great and small, hovering on the brink of extinction.</td>
</tr>
<tr>
<td>657</td>
<td>Lori Andresen</td>
<td>Save Our Sky Blue Waters</td>
<td>The Center for Biological Diversity is a nonprofit conservation organization headquartered in Tucson, Arizona, with offices in a number of states, including an office in Duluth, Minnesota. This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.</td>
</tr>
</tbody>
</table>

Material issue of fact la: Do the modeling exercises show exceedances of water quality standards in wetlands that are ignored by MPCA’s proposed certification? |

Material issue of fact lb: Do the modeling exercises cover all potential violations of water quality standards, including in wetlands? |

Relief requested: Deny certification if analysis predicts water quality standard violations in wetlands.
Issue 2: The evaluation points are not the points most likely to be impacted.

In assessing the potential for water quality standard violations, MPCA should identify the wetlands and/or sections of streams where impacts could occur based on all or any combination of contributing factors - background concentration, concentration and load levels from all PolyMet sources, flow, water chemistry, etc. Only after conducting the analysis for all such points can MPCA certify that water quality standards will not be violated. For the air deposition analysis, an evaluation point should be located on Second Creek below SD026 but within the upstream reach where deposition from the Plant is likely to be highest. An evaluation point should also be located at SW003 on the Partridge River, which is the point where mine features are closest to the river. Concentrations of mercury, methylmercury, and other metals (copper, cobalt, nickel, and arsenic) should all be evaluated at those locations.

The analysis should also not have been limited to one “Wetland of Interest.” A number of factors will contribute to the concentrations of metals in wetlands; limiting the analysis to the wetland that will receive the highest deposition is an over-simplification that may result in a failure to recognize other areas where problems are likely to occur. While the Wetland of Interest may be the wetland that is most likely to be impacted, that does not mean that no other wetland will experience exceedances of water quality standards if the Wetland of Interest does not. For many of the same reasons that monitoring is needed in wetlands other than the Wetland of Interest (an issue that is discussed below), modeling should include additional wetland evaluation points. Material issue of fact 2: Do the evaluation points used for modeling miss stream and wetland locations that may have the highest impacts?

Relief requested: Redo model including additional evaluation points as determined in contested case hearing.

Issue 3: On-site baseline monitoring in wetlands is necessary to a valid analysis.

Baseline water quality monitoring has not been done in wetlands at either the mine site or along the railroad tracks. Baseline monitoring is absolutely critical to the modeling effort at both locations; without knowing what the baseline water quality is, MPCA has no idea how much additional load can be accommodated before water quality standards are exceeded. Given the length of time that this project has been undergoing review and the knowledge on the part of everyone involved that significant water quality issues are presented by this mining proposal, there simply is no excuse for this lack of data.

In regard to the air deposition analysis, please refer to the discussion in the Maest Report, pp. 4-5. In addition to Dr. Maest’s points, we note that no baseline water quality data is provided for any wetlands with the exception of limited specific conductance field measurements for four wetlands. When other missing and biased elements are corrected, it is possible that a lower hardness values and therefore lower metal water quality standards would apply in other wetlands as compared to the Wetland of Interest.

Material issue of fact 3a: Is the estimated hardness of 60 ug/L for mine site wetlands supported by sufficient evidence?

Material issue of fact 3b: Is an accurate prediction of water quality standard exceedances possible without site-specific baseline data?

Relief requested: Require baseline monitoring as determined in contested case hearing; redo model using site-specific data.
Issue 4: The proposed monitoring prior to and during operations is insufficient to ensure that water quality exceedances will be discovered.

In addition to the lack of baseline monitoring, the proposed monitoring prior to start-up and during operations is completely insufficient. Please refer to the Maest Report, pp. 14-15.

Regarding air deposition, the proposed monitoring is inadequate for all constituents: mercury, sulfate, methylmercury, and other metals. In regard to mercury, sulfate, and methylmercury, the proposal is to require monitoring for the two years prior to mining, but no monitoring is proposed during actual operations. We believe that this must be an oversight, and we ask that it be corrected.

Regarding metals other than mercury, nickel should be added to the list of constituents for monitoring. Two years of initial monitoring should be done prior to start-up, similar to what is proposed for mercury and sulfate. Baseline monitoring should cover a representative number of wetlands that includes all wetland types and wetlands with varying hydrology. Baseline monitoring should be used to determine what wetlands might be most likely to experience water quality exceedances for each of the indicator metals (including nickel), taking account of all contributing factors (e.g., pH, organic carbon, proximity to fugitive dust sources, background concentrations of metals).

Along the railroad track, monitoring is proposed only for the streams, on the upstream and downstream side of the tracks. Upstream locations immediately adjacent to the tracks should not be used as “background” against which downstream concentrations are measured, as upstream locations could also be affected by spillage. Baseline monitoring in both the stream locations and in wetlands prior to start of the project is critical to identifying impacts.

The planned monitoring will not identify impacts on wetlands. Contaminants in streams are much more likely to be flushed downstream relatively quickly.PH levels will not reflect those found in bog wetlands, and other parameters may vary as well. Baseline monitoring and operational monitoring along the railroad tracks must include all wetlands that may experience water quality standard violation due to rail haulage and/or other factors.

Material issue of fact 4: Is there potential for water quality standard exceedances that the proposed monitoring plans would not detect?

Relief requested: Expand monitoring plan according to above recommendations, as further defined in contested case hearing.

Issue 5: Predictions of water quality impacts should be based on a weight-of-the-evidence standard rather than limited by an arbitrary measure of significance.

The Organizations strongly object to the use of “measurability” as a synonym for significance, and also to the manner in which MPCA has used this equation to allow impacts that are in fact significant. Although they come at it from different angles, and have different outcomes as to the level of measurability, both the Cross-Media Report and MPCA take the position that if an increase in a particular pollutant is within the margin of error at a lab that does water quality testing (or as set by the United States Environmental Protection Agency for a particular testing method), it is ipso facto not significant. Neither the Cross-Media Report nor MPCA provide a rationale for this position, which is tantamount to taking the position that if we can’t see it, it doesn’t exist.

To begin with, it is unclear why MPCA is using a concept of significance to allow increases in pollution that the weight-of-evidence indicates will result in water quality standard exceedances. Throughout the Cross-Media Report and in MPCA’s review, the study is repeatedly touted as “conservative,” e.g., over-predicting impacts to ensure that resources are protected. While we disagree that the study is conservative for reasons outlined below, we agree that the study should be conservative and that the study (and thus decisions based on the study) should err on the side of protection. MPCA’s decision to allow increases in pollutants if the predicted increase is within a particular lab’s margin of error is contrary to MPCA’s stance of protectiveness.
In regard to mercury in the water column and methylmercury levels in fish tissue, any increase simply should not be counted. This is the reasoning behind the flat-out prohibition on any new or increased point source discharges of mercury within the Lake Superior basin, the zero-mercury emission goal of the Lake Superior Binational Program, and the decision by stakeholders in the Statewide Mercury TMG process that any facility emitting three pounds of mercury (and in many cases, less) to contributing to reductions. It does not really matter whether the amount of an increase could be accurately measured in the field; we already know that any increase is too large. In the PolyMet case, whatever the uncertainty as to the amount of the increase, there is no question that there will be an increase. And in the Lake Superior basin, any increase is a violation of water quality standards.

If some level of significance is used to allow very small increases of pollutants, that level should be something that is truly de minimis. Lab margins of error simply bear no relationship to the meaning of the word “significant.” If we go by that route, larger and larger increases become “insignificant” as the levels in the environment go up, taking us in exactly the wrong direction. Using the Cross-Media Report value for total mercury, any amount that was within 23% of background would not be a significant increase. Thus, if stream fish had a background mercury level of 1.19 ng/L, an addition of only 0.25 ng/L would be considered significant. But if a stream had a background level of 11.9 ng/L, almost 3 ng/L of additional mercury would be considered insignificant.

A similar, in an example used in the Cross-Media Report, if fish tissue had a concentration of 0.105 mg/kg, which is more than half the 0.2 mg/kg standard, would be considered insignificant. Significance based on a percentage of background is simply not rational, and should not be used.

At the NorthMet Project, predicted changes in fish tissue mercury in lakes downstream from the plant are as high as 0.026 mg/kg. This is thirteen percent of the standard of 0.2 mg/kg. Table 5-5 of the Cross-Media Report shows a potential increased mercury concentration in Second Creek of 0.3 ng/L, almost one-quarter of the standard. In light of all of the work that MPCA has done on mercury over the last twenty years, we find it astonishing that MPCA finds these to be insignificant increases. Furthermore, it is simply not the case that we can’t know that mercury levels will increase if they can’t be measured. There is no relationship between these two processes. The ability to measure an increase at some point in the future is irrelevant to the exercise of predicting increases now. In any event, we cannot know ahead of time what the actual increase will be regardless of the ability of a lab to measure the increase once the plant is operational.

Minnesota environmental law incorporates the concept of cumulative impacts: the resulting significant impact of contributions from many sources, any one of which may seem insignificant on its own. Most of the critical environmental issues of our time are issues of cumulative impacts, including climate change and mercury contamination of fish. The seriousness of these problems does not allow us the luxury of waiting until we advance our technology to the point where we can physically measure seemingly insignificant individual sources (as opposed to predicting them based on inputs and processes) before we address them. If the weight of the evidence indicates that pollutants will be released to the environment in amounts that could either increase the concentration at identified endpoints (if standards are already exceeded) or cause standard exceedances (if they are not), the activity should not be permitted.

Material issue of fact 5: Are the increases in mercury, sulfide, methylmercury, and/or other metals shown in the Cross-Media Report significant?

Relief requested: Adjust a weight-of-evidence standard to determine whether water quality standards will be violated. Deny the 401 Certification due to predicted increases in mercury in fish tissue.

Issue 6: Nickel should be included as a modeled and monitored constituent.

Please refer to the Maest Report, pp. 11-14.

Material issue of fact 6: Is there potential for violation of the nickel water quality standard even if the copper and cobalt standards are not violated, in the WOI or some other location?

Relief requested: Redo the modeling and analysis, adding nickel.

Issue 7: Minerals with significant metals content appear to have been left out of the analysis.

Please refer to the Maest Report, pp. 12-14. The Cross-Media Report and its appendices do not provide a clear explanation of the minerals that were included in the emissions and deposition analyses, or how they were included. We assume that all of the minerals listed in Table 2-2 of Appendix B were included in a manner that reflects the actual mean metals concentration for each category of rock. The report indicates that simplifying assumptions were made to treat other sulfide minerals as chalcopyrite and pyrrhotite. It is unclear whether this refers only to the dissolution rate, or whether it also relates to the concentration of copper, arsenic, and cobalt in the rock. If the latter, we would like to present another challenge to the analysis on this basis, but cannot articulate it until we receive a clear explanation of the inputs to the model.

Regardless of the manner in which the sulfide minerals were treated, we object to the exclusion of metals from silicate minerals from the analysis.

Material issue of fact 7: Were metals levels in emissions underestimated because non-sulfide minerals containing cobalt and nickel were omitted from the exercise?

Relief requested: Redo the modeling and analysis including all minerals that contain any level of the target metals.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
<th>Relief Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Poor hydrological data and the use of average concentrations masks the potential for seasonal water quality standard exceedances.</td>
<td>Material issue of fact Ba: Does the lack of adequate hydrological data result in a potential underestimate of export of constituents to downstream waters? Material issue of fact Bb: Does the use of averaging and mean values in the context of constituent concentrations and/or hydrological conditions mask seasonal water quality standard violations? Relief requested: Require robust baseline water quality and hydrological monitoring for a suite of wetlands representing all that may be affected by air deposition. Redo the model using appropriate hydrological data (including minimum and maximum conditions) and maximum concentration data.</td>
</tr>
<tr>
<td>9</td>
<td>The Cross-Media Report ignores large fluctuations in water levels that would result in significant mobilization of metals.</td>
<td>Material issue of fact 9: Did the failure to consider mobilization of metals (including mercury) due to fluctuating water levels and snowmelt effects result in an under-prediction of the potential for water quality exceedances? Relief requested: Redo model to take account of fluctuating water levels and snowmelt effects.</td>
</tr>
<tr>
<td>10</td>
<td>The Cross-Media Report ignores the role of organic carbon in mobilizing metals from wetlands.</td>
<td>Material issue of fact 10: Did the failure to consider the role of organic carbon in metals (including mercury) sequestration result in under-prediction of water quality exceedances? Relief requested: Redo model, incorporating appropriate factors to reflect the role of organic carbon in the release of metals.</td>
</tr>
</tbody>
</table>
668  Lori Andresen  Save Our Sky Blue Waters  Issue 11: Mercury increases to the Partridge and Embarrass Rivers will not be limited to what falls on open water.

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

In the mercury analyses done for the Environmental Impact Statement, mercury loads from air deposition were calculated for in-stream lakes, but not for the Embarrass and Partridge Rivers - despite the fact that for the most part, mercury that entered the lakes had to enter the rivers first. Furthermore, the analysis ignored mercury emissions at the mine site altogether, from both fugitive dust and mobile sources. In this iteration, fugitive dust is considered, but an assumption is made that only mercury that falls directly onto open water ends up in surface water.

The attached report from Dr. Ann Albert includes a preliminary rebuttal of this assumption in relation to snowmelt. In addition, this assumption is in direct opposition to the Statewide Mercury TMDL, which applies a runoff coefficient to mercury deposited on land to calculate a total load from deposition.

Atmospheric loading is the product of area and air deposition; total area can be split into water area and land area to distinguish direct atmospheric loading from indirect watershed loading. To account for mercury that is burned in the soil or volatilized to the atmosphere, the watershed loading can be discounted by a runoff coefficient, which remains constant for a given region as long as there are no significant changes in land cover/use. This was tested by comparing land cover changes between 1982 and 1997 (http://www.mnr.ore.udea.gov/technica/nrms/statrns/land騙M CHANGEMT). applying standard runoff coefficients to each of the general land cover types. Although there were obvious increases in urban land use, the effect of the change was not significant to the composite runoff coefficient for the state: composite runoff coefficients were 0.289 for 1982 and 0.287 for 1997.

If only mercury falling on open water ends up in the water, the mercury TMDL has completely miscalculated both the amount of mercury load to waters of the state and the relative contributions from point and nonpoint sources.

Material issue of fact 11: Is the assumption that zero mercury that falls on upland or wetland areas (versus open water) enters surface streams valid?

Relief requested: Redo the model including a factor for mercury falling on upland and wetland areas.

669  Lori Andresen  Save Our Sky Blue Waters  Issue 12: Cumulative impacts from air deposition and leachate from mine features into wetlands will violate water quality standards.

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

The issue of leachate from mine features is addressed in comments on the NPDES/SDS permit. To our knowledge, no cumulative impact assessment has been done to predict the combined effects of that leachate with air deposition in wetlands across the site, despite acknowledgment in the Environmental Impact Statement that water quality impacts on wetlands from both sources are likely.

Our position on this issue was submitted to the U.S. Army Corps of Engineers in comments on the Section 404 permit in 2014.5 These comments are attached and incorporated into this petition.

Material Issue of Fact 12: Will the combination of leachate from mine features and air deposition result in violations of water quality standards in wetlands at the mine site?

Relief requested: Denial of the 401 Certification unless and until measures are added that will prevent violations.

670  Lori Andresen  Save Our Sky Blue Waters  Issue 13: Multiple metals toxicity is not evaluated.

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

Please refer to the Maest Report, p. 2.

Material Issue of Fact 13: Will the additive effects of multiple metals impact fish toxicity? Relief requested: In remodeling and analysis, include quantitative analysis of multiple metals and qualitative analysis of toxicity.

671  Lori Andresen  Save Our Sky Blue Waters  The amount of wetland acreage that will be affected by ore spillage has not been accurately determined.

This comment addresses the 401 certification. See the 401 response to comment document. No changes were made to the draft 401 certification in response to this comment.

The first PolyMet analysis indicated that 54.7 acres could be affected by copper in the spilled material to the point of exceeding water quality standards.6 Smaller acreages of exceedances were predicted for cobalt and nickel. PolyMet subsequently agreed to refurbish the cars, and claims that spillage will be reduced by 97 percent, resulting in an estimated 16 acres of water quality exceedances for copper, a claim that the FES adopts.7 The document referenced in the FES does not explain how the 97 percent reduction figure was arrived at, and includes no author or date. A footnote refers to a consultant, but no consultant is named. The document refers to a PolyMet visit to another site using recently refurbished cars, but the site is not named. In short, the estimate of the reduction in spillage that will be achieved by refurbishing the cars cannot be accepted without more support.

Material issue of fact 14: Is the analysis that claims a 97 percent reduction in ore spillage adequately supported?

Relief requested: Redo the analysis in a transparent, verifiable manner.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Modeling inputs resulted in underestimated impacts. The original modeling that produced the 542 acre estimate also likely significantly underestimated the level of impact. First, the modeling used the “concentration caps” used for modeling leachate from waste rock piles. This is a complete misuse of data. The 2015 Waste Rock Characterization Data Package states,</td>
</tr>
<tr>
<td></td>
<td>The maximum concentrations of dissolved metals observed under field conditions result from multiple competing geochemical processes such as mineral precipitation and dissolution, sorption, desorption, and solubility of secondary minerals. The concentration cap, therefore, is primarily an empirical method for modeling the combined effect of these complex processes in field-scale waste rock stockpiles. In addition, the modeling assumed a hardness of 100, an assumption that is almost certainly wrong for wetlands. The listed model input parameters do not reveal the range in pH; low pH in bogs could also result in higher metal mobilization. Due to these factors (and others that may become apparent on closer examination of the model), the impacts are likely to be underestimated.</td>
</tr>
<tr>
<td></td>
<td>Material issue of fact 15: Did model inputs result in underestimation of the number of wetland acres that will be affected by ore spillage from railcars?</td>
</tr>
<tr>
<td></td>
<td>Relief requested: Require baseline monitoring to support modeling. Redo model using appropriate data and assumptions (or range of assumptions).</td>
</tr>
<tr>
<td>16</td>
<td>MPCA’s 401 Certification must address aluminum. Aluminum has a high potential for exceedances of water quality standards along the haulage track. However, the analysis omitted aluminum because background surface runoff already has a 20 percent likelihood of exceeding the water quality standard. Modeling showed contact water leaving the spillage strip as containing aluminum at 80 times the water quality standard at the PS0 level, and 360 times the water quality standard at the P90 level. Even if spillage is reduced by 97 percent, water leaving the spillage strip could contain aluminum at more than 10 times the water quality standard. This aluminum would be added to background levels that are already often near the standard. Aluminum therefore must be considered in regard to this issue despite the lack of quantification of impacts.</td>
</tr>
<tr>
<td></td>
<td>Material issue of fact 16: Is the spillage likely to result in additional violations of the aluminum water quality standard and/or larger margins above the standard?</td>
</tr>
<tr>
<td></td>
<td>Relief requested: After remodeling, include an analysis that identifies the increased likelihood of exceedances of the aluminum water quality standard.</td>
</tr>
<tr>
<td>17</td>
<td>The measures designed to reduce spillage are not enforceable. The 97 percent reduction figure discussed above was arrived at by assuming that the gaps on refurbished rail cars will measure 0.25” for the hinge gap and 0” for the door gap. But these parameters are not included in the permit to mine application, required in the permit to mine Draft Special Conditions, or included in any other permit. Even if the proposed monitoring were adequate (which it is not), it is not sufficient to promise to address water quality problems after they develop. The record more than indicates that there will be water quality standard exceedances, and the permit must require measures to ensure that they do not occur.</td>
</tr>
<tr>
<td></td>
<td>Material issue of fact 17: Are enforceable requirements needed to ensure the conditions on which the rail spillage analysis was based? Relief requested: Add enforceable provisions to the Certification (or to one of the permits) that requires PolyMet to maintain rail cars with a gap of 0.25” or less for the hinge gap and 0” for the door gap.</td>
</tr>
</tbody>
</table>
### Issue 18: Additional requirements should be adopted to eliminate water quality standard exceedances.

PolyMet continues with its plan to use refurbished side-dump rail cars for hauling ore despite modeling indicating that exceedances of water quality standards are likely to occur in a significant area. The modeling results indicate that spillage along the haul route is expected to result in water quality standard exceedances in a significant area. The Great Lakes Indian Fish and Wildlife Commission, a cooperating agency in the development of the EIS, has suggested using new cars with sealed compartments to address this problem. PolyMet has also reviewed several options in its Rail Car Modifications Evaluation. An enforceable condition should be added to the 401 Certification and/or the Permit to Mine that requires measures to eliminate water quality impacts.

**Material issue of fact 18:** Are options available that would eliminate spillage for railcars, and thus eliminate the potential for water quality standard violations?

**Relief requested:** Require that PolyMet use sealed cars or adopt other measures that would result in no water quality standard violations along the rail track; in the alternative, deny the certification.

---

### Proposed Finding Supporting an MPCA Decision to Hold a Contested Case Hearing

The Organizations propose the following finding:

MPCA finds that Friends of the Boundary Waters Wilderness and Center for Biological Diversity have raised disputed material issues of fact for which there is a reasonable basis such that the holding of a contested case hearing would allow the introduction of information that would aid the commissioner in resolving the disputed facts in making a final decision on the matter. The issues of fact include:

1a. Do the modeling exercises show exceedances of water quality standards in wetlands that are ignored by MPCA’s proposed certification?
1b. Do the modeling exercises cover all potential violations of water quality standards, including in wetlands?
2. Do the evaluation points used for modeling miss stream and wetland locations that may have the highest impacts?
3a. Is the estimated hardness of 60 mg/L for mine site wetlands supported by sufficient evidence?
3b. Is an accurate prediction of water quality standard exceedances possible without site-specific baseline data?
4. Is there potential for water quality standard exceedances the proposed monitoring plans would not detect?
5. Are the increases in mercury, sulfates, and other metals shown in the Cross-Media Report significant?
6. Is the potential for violation of the nickel water quality standard even if the copper and cobalt standards are not violated, in the WOI or some other location?
7. Were metals levels in emissions underestimated because non-sulfide minerals that contain cobalt and nickel were omitted from the analysis?
8a. Does the lack of adequate hydrological data result in a potential underestimation of export of constituents to downstream waters?
8b. Does the lack of a full understanding of the movement of contaminants in the water and soil system result in an underestimation of the potential for water quality standard violations?
9. Did the failure to consider mobilization of metals (including mercury) due to fluctuating water levels and/or other factors result in an under-prediction of the potential for water quality standard exceedances?
10. Did the failure to consider the role of organic carbon in metals (including mercury) sequestration rates result in a potential under-prediction of water quality exceedances?
11. Is the assumption that zero mercury that falls on upland or wetland areas (versus open water) enters surface streams valid?
12. Is there potential for violation of the nickel water quality standard even if the copper and cobalt standards are not violated, in the WOI or some other location?
13. Will the combination of leachate from mine features and air deposition result in violations of water quality standards in wetlands at the mine site?
14. Does the lack of adequate hydrological data result in a potential underestimation of export of constituents to downstream waters?
15. Did model inputs result in underestimation of the number of wetland acres that will be affected by ore spillage from railcars?
16. Is the spillage likely to result in additional violations of the aluminum water quality standard?
17. Are enforceable requirements needed to ensure the conditions on which the rail spillage analysis was based?
18. Are options available that would eliminate spillage for railcars, and thus eliminate the potential for water quality standard violations?
IV. Requested Relief

The Organizations would request the following relief in the contested case hearing, as explained above.

MPCA should:

1. Deny 401 certification if the analysis predicts water quality standard violations in wetlands, streams, or fish tissue due in whole or in part to air deposition or railroad spillage, based on a weight-of-the-evidence standard. That is, if the weight of the evidence indicates that water standards will be exceeded, the certification should be denied.

2. Require a new modeling effort and analyses that incorporate: additional evaluation points; site-specific baseline water quality and hydrological monitoring data; nickel as a modeled constituent; additional minerals in ore and waste rock that contain the modeled constituents; a range (including maximum) values for baseline water quality and modeled parameters, to capture episodic or seasonal exceedances; the impacts of fluctuating water levels and snowmelt; the role of organic carbon in mobilizing metals; mercury inputs from watershed runoff and snowmelt; multiple-metal toxicity; railcar spillage predictions based on measured and verifiable parameters; appropriate, defensible inputs to the railcar spillage model; potential for exceedances of the aluminum standard.

3. If the certification is granted, require additional monitoring as described above.

4. Require that PolyMet use sealed railcars or adopt other measures that would eliminate the potential for water quality standards along the rail track.

This comment offers desired language for potential findings that would support a presumed, but speculative, MPCA decision on the request for a contested case hearing. See above for detailed responses to issues raised. Comment noted.

Requests for a contested case hearing were evaluated according to current state law. Comment noted.

V. Proposed witnesses and exhibits, and time required

We propose to have Dr. Ann Maest appear as our primary witness. Dr. Maest's report on PolyMet's Cross-Media Report is attached and would be introduced at the hearing. The publications and references cited in Dr. Maest's report would be introduced along with additional material not yet identified. Dr. Maest may present testimony and exhibits on additional subjects covered by this petition. Additional witnesses and exhibits have not yet been determined.

We expect the presentation of this matter to require one to two days.

Thank you for this opportunity to review the proposed 401 Certification. The Organizations believe that a contested case hearing is necessary to correct errors in the air deposition and railroad spillage modeling exercises that could result in unpredicted or undiscovered water quality standard violations.

Respectfully submitted,

Jane Reyer
Advocacy Director
Friends of the Boundary Waters Wilderness
401 N. Third St., Suite 290
Minneapolis, MN 55401-1475 jane@friends-bwca.org

Marc Fink
Senior Attorney
Center for Biological Diversity
209 East 7th St
Duluth, MN 55805 mfink@biologicaldiversity.org

This comment offers logistical details that are based on a presumed, but speculative, MPCA decision on the request for a contested case hearing. Comment noted.

Requests for a contested case hearing were evaluated according to current state law. Comment noted.

In Minnesota, groundwater belongs to the public even when it is located within private property, just as surface water does. However, the PolyMet permits are written to allow contamination up to the site's boundary line, which encompasses many square miles. Aside from having no justification in Minnesota law, this is extremely poor public policy that has not been vetted through the regulatory process.

The permit includes provisions intended to prevent the groundwater from becoming polluted. See response to Comment Water-510. The permit ensures that groundwater outside the seepage capture system will not become polluted.

Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment.

Comment noted. Requests for a contested case hearing were evaluated according to current state law.
| 681 | Chris Knopf | Executive Director, Friends of the Boundary Waters Wilderness | The permits renege on the Environmental Impact Statement promise that an underground wall built to contain and collect groundwater in the most polluted areas will be at least 90 percent effective. The permits would deem the system acceptable if it works under “average annual conditions,” effectively disregarding the potential for snowmelt and heavy rainfall to flush pollution through cracks in the wall. The permits provide no standards and no fines if the system fails—even if surface streams become polluted as a result. | See response to Comment Multiple 503. The MPCA has removed the “temporary conditions” language and has revised the language of the permit in light of the comment to state that if an inward gradient is not reestablished within 14 days of detection, it is a violation of the permit. The permit also requires monitoring of the Category 1 stockpile paired wells/piezometers weekly following a 100-year storm event to ensure that monitoring and any necessary preventative maintenance occur promptly. In the event of noncompliance with the permit, the assessment of penalties is determined through the MPCA’s enforcement process. As with any NPDES/SDS permit in Minnesota, penalties are not “pre-established” as a term of the permit. MPCA enforcement actions include corrective actions to be taken by the regulated party. |
| 682 | Chris Knopf | Executive Director, Friends of the Boundary Waters Wilderness | The most disturbing aspect of this plan is that no one knows how long it will need to continue. Modeling suggests that the underground barriers will need to stay intact—along with a continuously operating pump-and-treat system—for centuries. | See response to Comment Multiple 504. |
| 683 | Chris Knopf | Executive Director, Friends of the Boundary Waters Wilderness | Also continuing for a thousand years or more are the dangers presented by the tailings basin dam. Because safer alternatives for dealing with mine waste exist, permitting a new mine to store toxic waste in liquid form behind a dam of this type is particularly unconscionable. I object to the State of Minnesota sanctioning this threat to future generations living downstream. | Comment noted. This comment pertains to issues considered in the development of the DNR Dam Safety permit. No changes were made to the draft permit in response to this comment. |
| 684 | Chris Knopf | Executive Director, Friends of the Boundary Waters Wilderness | Please protect the future of the people, wildlife and waters of northeastern Minnesota by saying “no” to this mine plan | Comment noted. This comment generally states an opinion and does not reference specific sections of the draft permit (Minn. R. 7001.0110, subp. 2). No changes were made to the draft permit in response to this comment. |