PolyMet Mining, Inc.
NorthMet Project

Addendum 01

Supplemental Information to the Wetland Delineation Report

EIS Report/Study RS-14

Submitted in Support of the PolyMet Mining Inc's
NorthMet Mine and Ore Processing Facilities Project
Detailed Project Description

Prepared by

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1.0 Introduction

On behalf of Polymet Mining Inc. (Polymet), Barr Engineering Company (Barr) submitted a Wetland Delineation and Wetland Functional Assessment Report for the NorthMet Project in November, 2006 (RS14 Draft-02). In response to comments from the EIS wetland work group, Barr submitted a "Wetlands Work Group Issues Response" memorandum to the agencies on June 18, 2007. In July, 2007, PolyMet made changes to the NorthMet Project. Section 2 of this addendum provides an overview of the proposed project changes and Appendix A describes the changes in more detail. The Addendum summarizes the potential impacts of the proposed NorthMet Project changes on the wetland impacts in RS14 Draft-02. Section 3 provides a summary of the potential effect of these changes on the wetland impacts described in RS14 Draft-02.

The wetland resources at the project site were described in RS14 DRAFT-02 with an update in the January, 2007, Detailed Project Description (DPD) and the June, 2007, EIS wetland work group response. The total project wetland impacts were estimated to be 894 acres in the DPD, including detailed impact calculations for the mine site and railroad and estimates of impacts associated with the tailings dam and water pipeline. The wetland impacts were also estimated in the DPD to total 647 acres for the first 5 years of the project. Minor wetland delineation modifications were completed at the mine site and wetlands were delineated along the Dunka Road as presented in the EIS wetland work group response. The total project wetland impacts were recalculated for the EIS wetland work group response including a breakdown of direct and indirect impacts. The total direct impacts were estimated to be 834 acres and the indirect impacts were estimated to be 60 acres in the EIS wetland work group response. No further modifications have been made to the identification and mapping of wetland resources associated with the project. However, wetland impacts have been recalculated to account for the project changes described in Section 2.

2.0 NorthMet Project Changes

Appendix A includes a detailed summary of the July 2007 project changes. The major July 2007 changes to the NorthMet project include (see Appendix A for additional details):

1. Concentrate Mode. This mode of operations provides for the production and shipping of mostly copper concentrate ('copper' concentrate) and mostly nickel concentrate ('nickel' concentrate) as products in addition to the copper metal, nickel cobalt hydroxide and Platinum Group Metals/silver (PGM/Au) concentrate products. The Concentrate Mode provides operating flexibility for PolyMet. When operating in Concentrate Mode, the Hydrometallurgical Plant will not be operating or not operating at full capacity, thereby reducing power demands and other production activities downstream of the concentrator. Instead, the concentrate will be dried by hot oil-heated screws and the oil will be electrically heated. Additional equipment for concentrate handling and shipping dried concentrate will be installed.

2. Limestone. In the original NorthMet Project Description, lump limestone would initially be delivered by truck to the existing conveyor feeding the bins above the 3S Mill Line. Truck delivery was assumed to occur for up to two years. Ultimately, lump limestone would be rail delivered to an enclosed car dumper and stockpiled in the existing Coal Yard for reclaim into a new grinding system. Now, a local supplier of ground limestone is available and the option of delivering ground limestone is being considered. PolyMet is negotiating with suppliers and developing plans to use lump or ground limestone.

3. Rail Car Maintenance. Rail Car Maintenance was to be at the Area 2 Shop because the existing rail car maintenance facilities at the General Shop were not available for PolyMet's use. Because those facilities are now available, Rail Car Maintenance will be relocated to the General Shop.

4. Course Tailings Mitigation. Conservative water chemistry modeling for the tailings basin identified potential impacts to groundwater and surface water. To mitigate potential groundwater quality impacts from sulfate and surface water discharge impacts from sulfate, nickel, copper and cobalt associated with coarse tailings used in dam construction, a revision to the tailings deposition plan has been developed to minimize the mass of dams.

5. Category 3 Lean Ore Stockpile Mitigation. The Category 3 liner system under the Category 3 Lean Ore Stockpile will be replaced with a Category 4 liner system to provide better environmental protection against impacts from potential acids and metals leaching.

6. Overburden Stockpile Mitigation. The Overburden Stockpile will be eliminated by combining it with the Category 1 / 2 Waste Rock Stockpile.

7. Relocation of Mine Site 138 Kv Substation. Minnesota Power has revised the location of their proposed substation to serve the Mine Site so that the substation is on land owned by Minnesota Power.

8. Permitting Mine Site and Plant Site as a Single Synthetic Minor Source. PolyMet has proposed to permit the Mine Site and Plant Site as a single stationary source. This has resulted in refinement of estimates of potential actual emissions. PolyMet will propose emissions and operating limitations for some plant equipment to maintain potential actual emissions below the PSD Major Source Threshold of 250 tons/year for PM_{10}, SO_2 and NO_x, respectively.

4.0 Potential Impact of Project Changes on Unavoidable Wetland Impacts

The potential impact on the unavoidable wetland impacts for each of these project changes is described below:

1. Concentrate Mode. No changes are expected to result from this project change.

2. Limestone. Changes to the limestone (lump or ground) delivered to the site is not expected to have an effect on the wetland impacts associated with the project.

3. Rail Car Maintenance. The shift in Rail Car Maintenance from the Area 2 Shop to the General Shop is not expected to have an effect on wetland impacts.

4. Course Tailings Mitigation. The revised tailings deposition plan and other mitigation measures to be undertaken at the Tailings Basin are not expected to have an effect on wetland impacts.

5. Category 3 Lean Ore Stockpile Mitigation. The change from a Category 3 liner system under the Category 3 Lean Ore Stockpile to a Category 4 liner system is not expected to have any effect on wetland impacts.

6. Overburden Stockpile Mitigation. Eliminating the Overburden Stockpile is expected to reduce impacts within four wetlands by approximately 58 acres (Tables 1-3, Figure 1).

7. Relocation of Mine Site 138 Kv Substation. Relocating the substation to land owned by Minnesota Power is not expected to have effect on wetland impacts.

8. Permitting Mine Site and Plant Site as a Single Synthetic Minor Source. This change in air permitting is not expected to affect wetland impacts or permitting.

5.0 Summary and Conclusions

Only one of the eight changes identified for the NorthMet project is expected to affect wetland impacts: Overburden Stockpile. The elimination of the overburden stockpile results in a reduction of wetland impacts by approximately 58 acres for the project. As more detailed mine planning has progressed, some minor additional wetland impacts have also been added. The estimated wetland impacts for the project based on the recent project changes total 848 acres - 788 acres direct and 60 acres indirect (Tables 1-3, Figure 1). The net change in total wetland impacts as a result of elimination of the overburden stockpile and minor adjustments to wetland impacts is 46 acres. The project changes will also result in a modification to the sequencing of operations at the mine site, resulting in slightly increased wetland impacts during the first 5 years of the project. During the first 5 years of the project, a total of 694 acres of wetland impacts are expected to result (Tables 4 and 5, Figure 2). In summary, the total project wetland impacts have been reduced by 46 acres for the entire project and the impacts during the first 5 years have increased by 47 acres from that presented in the DPD.

Appendix A

Changes to the NorthMet Project Identified as of July 13, 2007

Supplemental NorthMet Project Description - Summary
July 13, 2007

Subsequent to the delivery of the NorthMet Project Description in January 2007, PolyMet has made changes to the project. This appendix summarizes those changes.

Concentrate Mode

Concept:

PolyMet has recognized that a minor change in the project will provide significant operating flexibility without, in PolyMet's assessment, significant environmental impact. That change is to provide for the shipping of a mostly copper concentrate ('copper' concentrate) and mostly nickel concentrate ('nickel' concentrate) as products in addition to the copper metal, nickel cobalt hydroxide and PGM/Au concentrate products currently defined. There would be no change in the Mine Site, rail hauling of ore, Beneficiation Plant or flotation tailings portions of the project when operating in concentrate mode. The 'copper' and 'nickel' concentrates would be produced by separating the bulk concentrate into a 'nickel' concentrate and a 'copper' concentrate. This process step will be located within existing buildings and will not result in an additional waste stream. The 'copper' and 'nickel' concentrates produced would be filtered, dried and shipped instead of being processed by the Hydrometallurgical Plant.

The additional facilities to accomplish this are:

1. A series of concentrate separation flotation cells to separate the bulk concentrate into 'nickel' and 'copper' concentrates.

2. A pump/piping system to transport the two concentrate slurries to a Dewatering Plant located at the Heating and Additive Plant.

3. A pump/piping system to transport thickener overflow, filtrate and filter overflow from a Dewatering Plant to the Mill Process Water Tank in the Beneficiation Plant.

4. A Dewatering Plant consisting of two identical parallel process lines consisting of a thickener, filters and dryer located in new or existing buildings on disturbed ground at Heating and Additive Plant at the Pellet Plant level of the Plant Site.

5. A loading bin to load each of the filtered and dried concentrates into covered rail cars suitable for shipping of the high sulfur concentrate.

The benefits of this concept are:

- Flexibility will be provided during the construction/commissioning stage of the project. It is likely that the longest delivery equipment and most complex

commissioning will be associated with the Hydrometallurgical Plant. The 'copper' and 'nickel' concentrate could be sold if construction/commissioning delays are encountered during startup of the Hydrometallurgical Plant thereby generating revenue for the project.

- The option of producing and selling 'copper' and 'nickel' concentrate will be available during required maintenance periods for the autoclaves or oxygen plant. Hydrometallurgical Plant capacity would be cut in half during autoclave maintenance and could be cut completely during oxygen plant maintenance.
- More options will be available to deal with changing market conditions. At metal prices in the expected range, producing the higher value Hydrometallurgical Plant products is more desirable. But unexpected combinations of metal prices, shipping costs or customer situations could result in a circumstance wherein producing a 'copper' and 'nickel' concentrate may be more desirable.
- The option to reduce total electrical power load and still produce the 'copper' and 'nickel' concentrate product will provide the flexibility in managing product mix and power consumption during extended peak power situations and periods of mandated power usage reductions.

Anticipated Environmental Impact Changes:

Air emissions impacts associated with the Hydrometallurgical Plant will be reduced by about half when one autoclave is out of service or eliminated when both autoclaves are out of service. There will be particulate emissions from dryers and material handling steps downstream of the dryers. Rail loading will be indoors and no fugitive emissions are anticipated. It is anticipated that air emissions will not trip PSD or HAP limits in either operating mode.

The water drawn from Colby Lake by the Beneficiation Plant will decrease by 77 gpm (the difference between the 100 gpm water lost to the Hydrometallurgical Plant and the 23 gpm water loss to the Dewatering Plant). In addition water drawn from Colby Lake water by the Hydrometallurgical Plant will decrease by 70 to 520 gpm resulting in a net decrease of 147 to 597 gpm in water drawn from Colby Lake and a larger gap between water produced at the Mine Site and water consumed at the Plant Site - a better situation with regard to the total project water recycle/reuse plan.

Electric power consumption will be significantly reduced because the oxygen plant and electro winning facility do not operate.

If the Hydrometallurgical Residue Facility in not operational, Mine Site Waste Water Treatment Facility sludge will need to be disposed at an alternate location. The St Louis County Landfill approximately 30 miles away is permitted for disposal of this type of solid waste following adequate dewatering of the waste.

The impact on Beneficiation Plant/Flotation Tailings Basin water chemistry is insignificant because the reduction of the 100 gpm blowdown to a 23 gpm blowdown (net 77 gpm change) is less than a 1% change in the total volume of water that is being sent to the tailings basin.

There will be potential for spillage of the high sulfur concentrates. Shipping concentrate in a contained shipping system will mitigate this. The exact shipping method will depend on customer unloading capabilities. The key requirement is that the shipping method is contained and the potential for spillage during transport eliminated.

Limestone

As presented in the original NorthMet Project Description, lump limestone would initially (up to two years) be delivered by truck to the existing conveyor feeding the bins above 3S Mill Line. Ultimately, lump limestone would be rail delivered to an enclosed car dumper and stockpiled in the existing Coal Yard for reclaim into a new grinding system.

At the time of the original NorthMet Project Description, PolyMet investigated the possibility of receiving ground limestone but was unable to secure a local supplier. A local supplier is now available and the option of delivering ground limestone is being considered. There is a substantial price premium for ground limestone, which is offset by reduced capital costs. PolyMet is negotiating with suppliers and developing plans to use lump or ground limestone.

Because PolyMet believes that the delivery of lump limestone as presented in the original NorthMet Project Description results in a greater environmental impact and PolyMet is not certain whether lump or ground limestone will be delivered, the Supplemental NorthMet Project Description has not been changed.

Rail Car Maintenance

Concept:

Rail Car Maintenance was to be at the Area 2 Shop because the existing rail car maintenance facilities at the General Shop were not available. Because those facilities are now available, Rail Car Maintenance will be relocated to the General Shop.

Anticipated Environmental Impact Changes:

None

Coarse Tailings Mitigation

Concept:

Conservative and defensible tailings basin water chemistry modeling using recent kinetic testwork data predicts that sulfate generation and metal leaching in coarse tailings planned for use in dam construction could result in seepage water that exceeds the groundwater protection standard for sulfate and the most conservative surface water discharge limits for sulfate, nickel, copper and cobalt.

Sulfate and metals in tailings basin drainage water are primarily generated in the coarse tailings in the dams and upper beaches. Because of this, a revision to the tailings deposition plan was developed to minimize the mass of dams. The plan to minimize the mass of the dams is to deposit tailings in Cell 2E until the level reaches the elevation of the south dam of Cell 2E. During this period, dam construction will be limited to the north edge and the northern quarter of the east edge of Cell 2E. This is because the west edge is the dam along the eastern edge of Cell 2W, the south edge is the dam along the northern edge of Cell 1E, and the southern three quarters of the east edge is natural terrain. It will take approximately 8 years to fill Cell 2E to elevation 1675, which is approximately the same elevation as Cell 1E. Once tailings in Cell 2E reach the level of the dam that separates Cell 2E and Cell 1E, Cells 1E and 2E will be combined to form a sngle cell. Dam construction will then be extended to the east and south edges of Cell 1E. This is because the west edge is the dam along the eastern edge of Cell 2W and the north edge will be eliminated. This concept eliminates the dam between Cell 2E and Cell 1E and defers the construction of dams in Cell 1E for approximately 8 years. With this approach the dam and beach area would be minimized.

As a mitigation measure, a geomembrane barrier (cover) will be installed on the surface of the exterior face of each completed dam lift. This barrier will be covered with two to three feet of tailings and revegetated. At closure, the barrier over the final lift would be extended from the top of the dam to a point along the beach where the beach will remain saturated. The combination of the barrier and saturated tailings will keep surface water away from the coarse tailings, which will mitigate sulfate and metal release to the drainage.

The combination of the modified tailings deposition plan and the mitigation has been predicted to reduce the generation of sulfate and leaching of copper, nickel and cobalt to the point where all water that escapes the facility is in compliance with the most conservative surface discharge limits and the groundwater standards.

Anticipated Environmental Impact Changes:

PolyMet will be implementing a seepage management system to collect all surface seepage. The seepage management system includes the installation of horizontal drains in the face of the tailings dams that will collect water from the coarse tailings and return it to the tailings basin. That water is predicted to exceed the most conservative surface discharge limits the groundwater standard and will have to be managed to avoid a build up of pollutants in the tailings basin.

Category 3 Lean Ore Stockpile Mitigation

Concept:

The Category 3 liner system under the Category 3 Lean Ore Stockpile will be replaced with a Category 4 liner system.

Anticipated Environmental Impact Changes:

The leakage through the stockpile liner system will be reduced and the impact on water quality in the Upper Partridge River reduced.

More water will be collected by the stockpile liners system and that water will have to be treated. To be conservative, determination of water quantity to be treated assumed that there would be no liner leakage. Therefore there is no change in the volume of water to be treated.

Overburden Stockpile Mitigation

Concept:

The Overburden Stockpile will be eliminated by combining with the Category 1 / 2 Waste Rock Stockpile.

Anticipated Environmental Impact Changes:

The Overburden Stockpile will be eliminated and the overburden Category 1 / 2 waste rock will placed in the same footprint as the Category 1 / 2 Stockpile. This will result in less wetland impacts. The Category 1 / 2 Stockpile will be higher so air emission, noise and light impacts due to operations (truck dumping and moving of overburden/waste rock by dozer) at the top of the stockpile may be greater at distance from the stockpile.

Relocation of Mine Site 138Kv to 13.8Kv Substation

Concept:

Minnesota Power has revised the location of their proposed substation to serve the Mine Site so that the substation is on land owned by Minnesota Power.

Anticipated Environmental Impact Changes:

Any additional wetlands impacts are expected to be minor and if greater than the original impacts will be mitigated from Minnesota Power's wetland bank. Sensitive species and cultural resources surveys will be conducted on the new proposed site, results of the surveys will be provided for consideration in the EIS.

Permitting Mine Site and Plant Site as a Single Synthetic Minor Source

Concept:

PolyMet is now proposing permitting the Mine Site and Plant Site as a single stationary source. This has resulted in refinement of estimates of actual emissions. PolyMet will propose emission and operating limitations for some plant equipment to maintain actual emissions below the PSD Major Source threshold.

Anticipated Environmental Impact Changes:

Proposed total allowable actual emissions for most pollutants at the Mine Site and Plant Site will be reduced.

Table 1: Total Projected Wetland Impact Detail
Revised September 7, 2007
NorthMet Mine/PolyMet Mining Co.

Project Area	Wetland ID	Dominant Circular 39 Type	Total Wetland Area (acres)	Projected Direct Wetland Impacts (acres)	Projected Indirect Wetland Impacts (acres)	Dominant Community Type	Vegetative Diversity/ Integrity	Overall Wetland Quality	Disturbance Level	Disturbance Type	Wetland Origin	Field Delineated	Impact Type (Direct/Indirect)
Mine Site	1	3	0.42	0.00	0.00	shallow marsh	Moderate	Moderate	High	Impounded	Natural	Y	Direct
Mine Site	3	3	0.35	0.00	0.00	shallow marsh	Moderate	Moderate	High	Impounded	Natural	N	Direct
Mine Site	5	2	0.61	0.61	0.00	wet meadow	High	High	Low		Natural	Y	Direct
Mine Site	6	3	0.62	0.00	0.00	shallow marsh	Moderate	Moderate	High	Impounded	Natural	Y	Direct
Mine Site	7	2	0.07	0.00	0.00	wet meadow	Moderate	Moderate	High	Impounded	Natural	N	Direct
Mine Site	8	2	6.16	4.87	1.29	sedge meadow	Moderate	Moderate	High	Impounded/Fill	Natural	Y	Direct/Indirect
Mine Site	9	3	1.84	0.04	0.00	shallow marsh	High	High	Moderate	Impounded	Natural	Y	Direct
Mine Site	10	2	1.17	0.00	0.00	sedge meadow	High	High	Low		Natural	Y	Direct
Mine Site	11	8	8.88	0.00	0.00	coniferous bog	High	High	Low		Natural	Y	Direct
Mine Site	12	6	227.92	0.00	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	13	2	5.03	0.19	0.00	wet meadow	High	High	High	Impounded	Natural	Y	Direct
Mine Site	14	2	0.33	0.33	0.00	wet meadow	High	High	Low		Natural	Y	Direct
Mine Site	15	8	2.79	0.00	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	16	3	0.31	0.11	0.00	shallow marsh	High	High	Low		Natural	Y	Direct
Mine Site	18	3	18.89	18.89	0.00	shallow marsh	High	High	Moderate	Impounded	Natural	Y	Direct
Mine Site	19	3	1.68	1.68	0.00	shallow marsh	High	High	Low		Natural	Y	Direct
Mine Site	20	2	21.89	21.07	0.82	sedge meadow	High	High	Low		Natural	N	Direct/Indirect
Mine Site	22	3	8.71	0.00	0.00	shallow marsh	High	High	Low		Natural	Y	Direct
Mine Site	24	6	0.80	0.80	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	25	8	1.95	0.00	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	27	8	1.07	1.07	0.00	black spruce bog	Moderate	Moderate	High	Road Fill	Natural	Y	Direct
Mine Site	29	3	12.01	2.24	0.00	shallow marsh	High	High	Low		Natural	Y	Direct
Mine Site	32	8	69.89	57.43	0.00	coniferous bog	High	High	Low		Natural	Y	Direct
Mine Site	33	6	23.91	7.41	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	34	6	0.99	0.99	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	37	6	2.39	2.39	0.00	shrub carr	High	High	Low		Natural	N	Direct
Mine Site	43	6	8.33	8.08	0.22	alder thicket	High	High	Low		Natural	Y	Direct/Indirect
Mine Site	44	6	3.27	1.98	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	45	6	30.58	16.89	5.17	alder thicket	High	High	Low		Natural	Y	Direct/Indirect
Mine Site	47	8	0.54	0.54	0.00	open bog	High	High	Low		Natural	Y	Direct
Mine Site	48	8	98.45	38.74	18.17	cedar bog	High	High	Low		Natural	Y	Direct/Indirect
Mine Site	51	6	2.91	2.91	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	52	6	3.88	3.88	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	53	6	132.33	0.67	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	54	6	10.24	0.00	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	55	6	3.91	3.91	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	56	8	2.79	0.00	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	57	7	83.83	54.84	0.00	coniferous swamp	High	High	Low		Natural	Y	Direct
Mine Site	58	6	33.28	0.00	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	60	6	5.95	5.95	0.00	alder thicket	High	High	Low		Natural	Y	Direct
Mine Site	61	7	0.45	0.00	0.00	coniferous swamp	High	High	Low		Natural	Y	Direct
Mine Site	62	8	12.13	0.00	0.00	coniferous bog	High	High	Low		Natural	Y	Direct
Mine Site	64	7	0.31	0.00	0.00	forested swamp	High	High	Low		Natural	N	Direct
Mine Site	68	7	20.05	7.55	0.00	forested swamp	High	High	Low		Natural	N	Direct
Mine Site	72	7	1.38	0.59	0.00	coniferous swamp	High	High	Low		Natural	Y	Direct
Mine Site	74	7	6.12	6.12	0.00	hardwood swamp	High	High	Low		Natural	Y	Direct
Mine Site	76	8	3.38	2.42	0.00	coniferous bog	High	High	Low		Natural	Y	Direct
Mine Site	77	8	13.00	7.86	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	78	8	0.81	0.81	0.00	coniferous bog	High	High	Low		Natural	Y	Direct
Mine Site	79	8	2.39	0.00	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	80	8	0.29	0.29	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	81	7	1.68	1.20	0.48	coniferous swamp	High	High	Low		Natural	Y	Direct
Mine Site	82	8	61.52	58.31	3.11	coniferous bog	High	High	Low		Natural	Y	Direct/Indirect
Mine Site	83	8	21.78	3.64	0.00	open bog	High	High	Low		Natural	Y	Direct
Mine Site	84	8	8.76	1.47	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	85	8	1.41	1.41	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	86	8	2.47	2.47	0.00	coniferous bog	High	High	Low		Natural	Y	Direct
Mine Site	88	8	5.57	4.96	0.61	coniferous bog	High	High	Low		Natural	N	Direct/Indirect
Mine Site	90	8	189.35	68.67	5.42	open bog	High	High	Low		Natural	Y	Direct/Indirect
Mine Site	95	8	2.54	2.54	0.00	black spruce bog	High	High	Low		Natural	N	Direct
Mine Site	96	8	17.29	15.34	1.95	black spruce bog	High	High	Low		Natural	Y	Direct/Indirect
Mine Site	97	8	3.53	0.75	2.78	black spruce bog	High	High	Low		Natural	N	Direct/Indirect

Table 1: Total Projected Wetland Impact Detail
Revised September 7, 2007
NorthMet Mine/PolyMet Mining Co.

Project Area	Wetland ID	Dominant Circular 39 Type	Total Wetland Area (acres)	Projected Direct Wetland Impacts (acres)	Projected Indirect Wetland Impacts (acres)	Dominant Community Type	Vegetative Diversity/ Integrity	Overall Wetland Quality	Disturbance Level	Disturbance Type	Wetland Origin	Field Delineated	Impact Type (Direct/Indirect)
Mine Site	98	8	15.49	15.49	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	99	8	1.40	0.55	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	100	8	605.59	118.65	1.53	coniferous bog	High	High	Low		Natural	Y	Direct/Indirect
Mine Site	101	8	15.09	7.18	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	103	8	125.89	106.88	19.01	tamarack bog	High	High	Low		Natural	Y	Direct/Indirect
Mine Site	104	8	3.57	3.57	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	105	8	19.80	0.00	0.00	black spruce bog	High	High	Moderate	Logged	Natural	Y	Direct
Mine Site	107	8	65.80	42.51	0.00	black spruce bog	High	High	Low		Natural	Y	Direct
Mine Site	109	6	6.03	6.03	0.00	alder thicket	High	High	Low	Partly cleared	Natural	Y	Direct
Mine Site	114	8	89.76	0.83	0.00	coniferous bog	High	High	Low		Natural	Y	Direct
Mine Site	120	3	0.58	0.58	0.00	shallow marsh	Moderate	Moderate	Moderate	Impounded	Natural	Y	Direct
Mine Site	200	7	7.26	6.40	0.00	hardwood swamp	High	High	Low		Natural	Y	Direct
Mine Site	201	2	13.48	13.48	0.00	wet meadow	High	High	Low		Natural	Y	Direct
Mine Site	202	7	242.30	5.74	0.00	coniferous swamp	High	High	Low		Natural	Y	Direct
Mine Site Subtotal	**59**		**2,429**	**772.8**	**60.6**		**56/59 High 3/59 Moderate**	**56/59 High 3/59 Moderate**					
Railroad	R-1	2	1.05	0.00	0.00	wet meadow	High	High	Moderate	Road fill	Natural		
Railroad	R-2	3	1.65	0.00	0.00	shallow marsh	High	High	Moderate	Road fill	Natural		
Railroad	R-3	7	0.63	0.10	0.00	hardwood swamp	High	High	Moderate	Road fill	Natural		
Railroad	R-4	6	3.50	0.17	0.00	shrub carr	High	High	Low		Natural		
Railroad	R-5	3	24.41	0.00	0.00	shallow marsh	High	High	Moderate	Impounded	Natural		
Railroad	R-6	3	10.42	0.00	0.00	shallow marsh	High	High	Low		Natural		
Railroad	R-7	6	12.14	0.00	0.00	shrub carr	High	High	Moderate	Impounded	Natural		
Railroad	R-8	6	3.00	0.00	0.00	shrub carr	High	High	Moderate	Impounded	Natural		
Railroad Subtotal	**8**		**56.80**	**0.3**	**0.00**		**2/2 High**	**2/2 High**					
Tailings Basin Drain System	Unknown	Unknown	Unknown	~5								N	
Tailings Basin Subtotal				**5**									
Dunka Road & Water Pipeline	4000	3		0.78	0.00	shallow marsh	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4001	3		0.45	0.00	shallow marsh	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4002	3		0.30	0.00	shallow marsh	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4003	3		0.47	0.00	shallow marsh	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4004	3		0.01	0.00	shallow marsh	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4005	4		0.25	0.00	deep marsh	Moderate	Moderate	Moderate	impounded	Natural	Y	Direct
Dunka Road & Water Pipeline	4006	5		0.05	0.00	open water	Moderate	Moderate	Moderate	impounded	Natural	Y	Direct
Dunka Road & Water Pipeline	4007	6		0.88	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4008	6		1.28	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4009	6		0.03	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4010	6		0.68	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4011	6		1.27	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4012	6		0.06	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4013	6		0.92	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4014	6		0.29	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct

Table 1: Total Projected Wetland Impact Detail
Revised September 7, 2007
NorthMet Mine/PolyMet Mining Co.

Project Area	Wetland ID	Dominant Circular 39 Type	Total Wetland Area (acres)	Projected Direct Wetland Impacts (acres)	Projected Indirect Wetland Impacts (acres)	Dominant Community Type	Vegetative Diversity/ Integrity	Overall Wetland Quality	Disturbance Level	Disturbance Type	Wetland Origin	Field Delineated	Impact Type (Direct/Indirect)
Dunka Road & Water Pipeline	4015	6		0.19	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4016	6		0.48	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4017	6		0.04	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4018	6		0.20	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4019	6		0.27	0.00	shrub carr	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4021	7		0.45	0.00	coniferous swamp	High	HIgh	Low		Natural	Y	Direct
Dunka Road & Water Pipeline	4023	deepwater		0.45	0.00	deepwater	High	HIgh	Low		Natural	Y	Direct
Water Pipeline Subtotal				**9.8**	0.00		**20/22 High 2/22 Moderate**	**20/22 High 2/22 Moderate**					
Project Total			**2486.0**	**787.8**	**60.6**								

Table 2: Summary of Total Project Wetland Impacts by Circular 39 Type[1]
Revised September 7, 2007
NorthMet Mine/PolyMet Mining Inc.

Project Area		Circular 39 Type									**Total**
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Deepwater**	
Mine Site	Direct (acres)	0.0	40.6	23.5	0.00	0.00	61.9	82.4	564.4	0.0	772.8
	Indirect (acres)	0.0	2.1	0.0	0.00	0.00	5.4	0.5	52.6	0.0	60.6
	Total (acres)	0.0	42.7	23.5	0.0	0.0	67.3	82.9	616.9	0.0	833.3
	% of mine impacts	0.0%	5.2%	3.0%	0.0%	0.0%	8.0%	10.7%	73.0%	0.0%	
	# wetlands	0	6	6	0	0	13	7	27	0	59
Raillroad	(acres)	0.0	0.0	0.0	0.00	0.00	0.2	0.1	0.0	0.0	0.3
	% of railroad impacts	0.0%	0.0%	0.0%	0.0%	0.0%	63.0%	37.0%	0.0%	0.0%	
	# wetlands	0	0	0	0	0	1	1	0	0	2
Tailings Basin Drain System	(acres)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	5.0
	% of tailings basin impacts										
	# wetlands										
Dunka Road/Water Pipeline	(acres)	0.00	0.00	2.00	0.25	0.05	6.58	0.45	0.00	0.45	9.8
	% of water pipeline impacts	0.0%	0.0%	20.5%	2.6%	0.5%	67.3%	4.6%	0.0%	4.6%	
	# wetlands	0	0	5	1	1	12	2	0	1	22
Total	Direct (acres)	0.0	40.6	25.5	0.3	0.05	68.6	83.0	564.4	0.5	787.8
	Indirect (acres)	0.0	2.1	0.0	0.0	0.0	5.4	0.5	52.6	0.0	60.6
	Total (acres)	0.0	42.7	25.5	0.3	0.05	74.0	83.5	616.9	0.5	848.4
	%of impact area	0.0%	5.0%	3.0%	0.0%	0.0%	8.7%	9.8%	72.7%	0.1%	
	# wetlands	0	6	11	1	1	26	10	27	1	83

[1] This wetland summary is based on the predominant wetland type within each wetland.

Table 3: Summary of Total Project Wetland Impacts by Eggers & Reed Type [1]
Revised September 10, 2007
NorthMet Mine/PolyMet Mining Inc.

Project Area	Circular 39	1	2	2	3	4	5	6	6	7	7	8	8	
	Eggers and Reed Wetland Classification	**Unknown**	**Fresh (Wet) Meadow**	**Sedge Meadow**	**Shallow Marsh**	**Deep Marsh**	**Shallow, Open Water**	**Shrub-Carr**	**Alder Thicket**	**Hardwood Swamp**	**Coniferous Swamp**	**Open Bog**	**Coniferous Bog**	**Wetland Total**
Mine Site	Direct (acres)	0.0	14.6	25.94	23.5	0.0	0.0	2.4	59.5	20.1	62.4	72.8	491.5	772.8
	Indirect (acres)	0.0	0.0	2.11	0.0	0.0	0.0	0.0	5.4	0.0	0.5	5.4	47.2	60.6
	Total (acres)	0.0	14.6	28.05	23.5	0.0	0.0	2.4	64.9	20.1	62.9	78.3	538.7	833.3
	# wetlands	0	4	2	6	0	0	1	12	3	4	3	24	59
Raillroad	(acres)	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.10	0.00	0.00	0.00	0.3
	# wetlands	0	0	0	0	0	0	1	0	1	0	0	0	2
Tailings Basin Drain System	(acres)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	5.0
	# wetlands													
Dunka Road/Water Pipeline	(acres)	0.5	0.0	0.0	2.0	0.2	0.05	6.6	0.0	0.0	0.4	0.0	0.0	9.8
	# wetlands	1	0	0	4	1	1	13	0	0	1	0	0	21
Total	(acres)	0.5	14.6	28.1	25.5	0.2	0.05	9.1	64.9	20.2	63.3	78.3	538.7	848.4

Table 4: Summary of Project Wetland Impacts by Circular 39 Type - First 5 Years[1]
Revised September 7, 2007
NorthMet Mine/PolyMet Mining Inc.

Project Area		Circular 39 Type									**Total**
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Deepwater**	
Mine Site	(acres)	0.0	41.4	18.9	0.00	0.00	61.3	77.8	479.0	0.0	678.4
	% of mine impacts	0.0%	6.1%	2.8%	0.0%	0.0%	9.0%	11.5%	70.6%	0.0%	100%
	# wetlands	0	6	6	0	0	12	7	24	0	55
Raillroad	(acres)	0.0	0.0	0.0	0.00	0.00	0.2	0.1	0.0	0.0	0.3
	% of railroad impacts	0.0%	0.0%	0.0%	0.0%	0.0%	63.0%	37.0%	0.0%	0.0%	100%
	# wetlands	0	0	0	0	0	1	1	0	0	2
Tailings Basin Drain System	(acres)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	5.0
	% of tailings basin impacts										
	# wetlands										
Dunka Road/Water Pipeline	(acres)	0.00	0.00	2.00	0.25	0.05	6.58	0.45	0.00	0.45	9.8
	% of water pipeline impacts	0.0%	0.0%	20.5%	2.6%	0.5%	67.3%	4.6%	0.0%	4.6%	100%
	# wetlands	0	0	5	1	1	12	2	0	1	22
Total	Total (acres)	0.0	41.4	20.9	0.3	0.05	68.0	78.3	479.0	0.5	693.5
	%of impact area	0.0%	6.0%	3.0%	0.0%	0.0%	9.8%	11.3%	69.1%	0.1%	
	# wetlands	0	6	11	1	1	25	10	24	1	79

[1] This wetland summary is based on the predominant wetland type within each wetland.

Table 5: Summary of Project Wetland Impacts by Eggers & Reed Type - First 5 Years [1]
Revised September 10, 2007
NorthMet Mine/PolyMet Mining Inc.

Project Area	Circular 39	1	2	2	3	4	5	6	6	7	7	8	8	
	Eggers and Reed Wetland Classification	**Unknown**	**Fresh (Wet) Meadow**	**Sedge Meadow**	**Shallow Marsh**	**Deep Marsh**	**Shallow, Open Water**	**Shrub-Carr**	**Alder Thicket**	**Hardwood Swamp**	**Coniferous Swamp**	**Open Bog**	**Coniferous Bog**	**Wetland Total**
Mine Site	(acres)	0.0	14.6	26.82	18.9	0.0	0.0	2.4	58.9	14.9	62.8	43.4	435.6	678.45
	# wetlands	0	4	2	6	0	0	1	12	3	4	3	24	59
Raillroad	(acres)	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.10	0.00	0.00	0.00	0.3
	# wetlands	0	0	0	0	0	0	1	0	1	0	0	0	2
Tailings Basin Drain System	(acres)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	5.0
	# wetlands													
Dunka Road/Water Pipeline	(acres)	0.5	0.0	0.0	2.0	0.2	0.05	6.6	0.0	0.0	0.4	0.0	0.0	9.8
	# wetlands	1	0	0	4	1	1	13	0	0	1	0	0	21
Total	(acres)	0.5	14.6	26.8	20.9	0.2	0.05	9.1	58.9	15.0	63.3	43.4	435.6	693.5

[1] This wetland summary is based on the predominant wetland type within each wetland.

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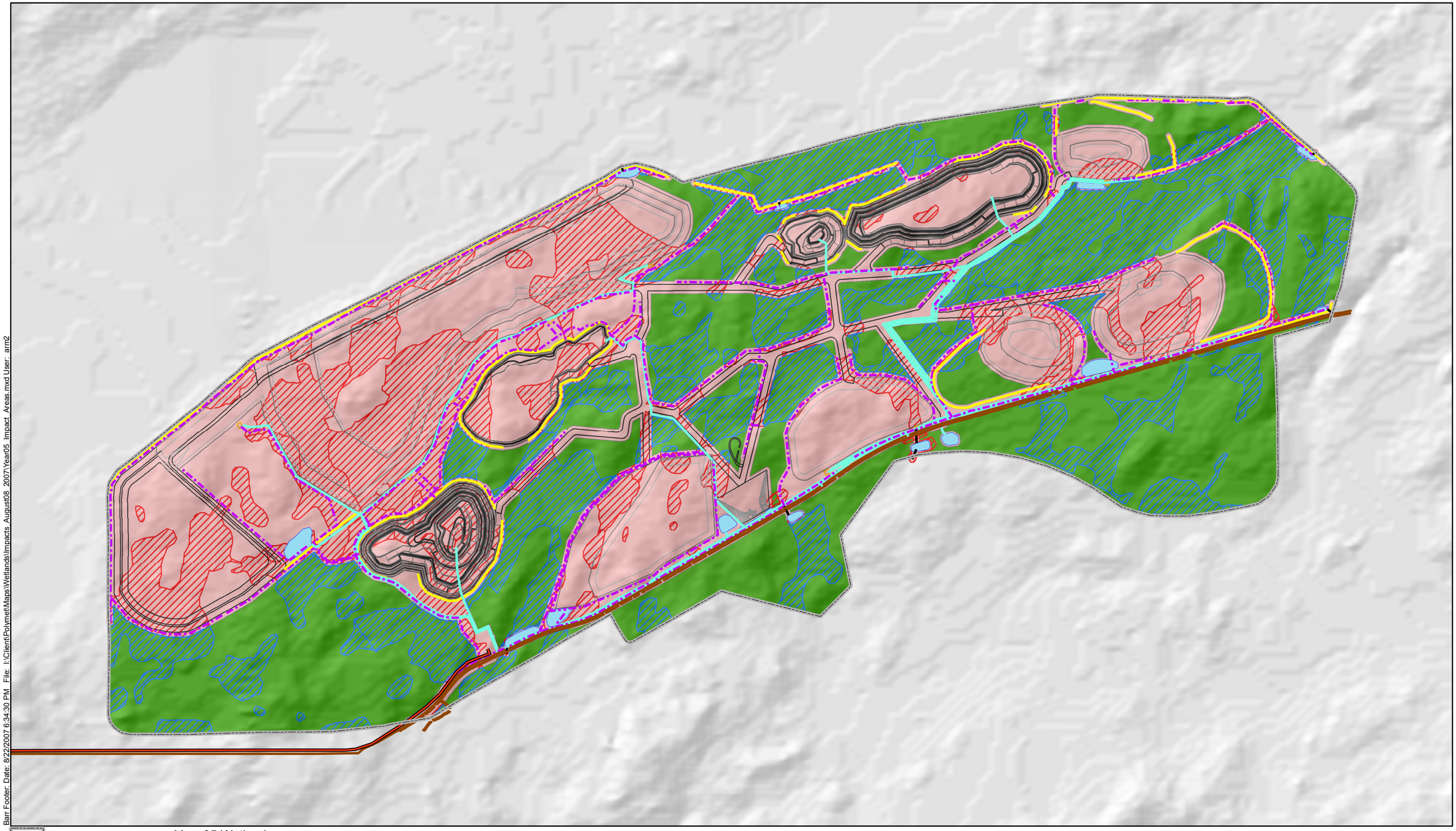
Mine Site
Ditches
Culverts
Dikes
Pipes
Sedimentation Ponds

Year 20 Wetlands
Not Impacted
Impacted
Disturbed Area
Not Disturbed
Disturbed

1,500 750 0 1,500 3,000
Feet

Figure 1

20 YEAR WETLAND IMPACTS
NorthMet Project
PolyMet Mining Inc.
Hoyt Lakes, Minnesota



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Mine Site
Ditches
Culverts
Dikes
Pipes
Sedimentation Ponds

Year 05 Wetlands
Not Impacted
Impacted

Disturbed Area
Not Disturbed
Disturbed

0 750 1,500 3,000 4,500 6,000
Feet

Figure 2

5 YEAR WETLAND IMPACTS
NorthMet Project
PolyMet Mining Inc.
Hoyt Lakes, Minnesota