EPA Remaining Items 12/30/2014

Sources: NorthMet Mining Project and Land Exchange Final EIS Cooperating Agency Interaction Final-September 12, 2014;
EPA Remaining Issues Table 12/17/2014 (Co-leads); Summary of remaining EPA issues in the NorthMet EIS review 12/16/14-red lined (Co-leads)

Cooperating Agency	Issue	Batch	Status	Information in support of issue resolution	Notes
EPA	1. Acid generation may occur from pits, pit walls, waste rock and lean ore piles, but will be managed on-site through collection, treatment, disposal, and use of adaptive management as needed.	1,4	Conceptually Resolved	Response to EPA Comment #2: Water Quality - waste rock and acid rock drainage FEIS Section 5.2.2.3	
EPA	2. During active mining and post-closure, water quality standard exceedances will be prevented through on-site treatment, before discharge to waters of the U.S. --SDS approach to monitoring	1,3	Conceptually Resolved	Response to EPA Comment #7 : NPDES Permitting FEIS Section 5.2.2.3.5 Mitigation and Monitoring	
EPA	3. A groundwater capture and containment system will be installed at the tailings basin.	1,4	Conceptually Resolved	Project Description FEIS Chapter 3 FEIS Section 5.2.2.3.3 Tailings Basin Groundwater Containment System Response to EPA comment #32: TB groundwater capture	
EPA	4. An existing coal ash landfill located in the tailings basin will be removed, and resulting materials will be disposed of at the hydrometallurgical residue facility in accordance with applicable laws.	1,3	Conceptually Resolved	Project Description FEIS Chapter 3 FEIS Section 3.2.2.1.3 Project Construction	
EPA	5. Ground water will be collected from faults and fractures in the upper bedrock using negative pressure from the tailings basin capture and containment system. Adaptive management techniques will be used at the mine site as needed to stop groundwater flow along faults and fractures.	1	Conceptually Resolved	Response to EPA Issue 5: faults/fractures NorthMet Pit: Conceptual Plan for Bedrock Groundwater Flow Mitigation (Barr and Foth August, 2014) NorthMet Project FEIS Bedrock Hydrology at the NorthMet Mine and Plant Sites Rationale for Model Change Recommendations (Co-Leads, November 17, 2014)	
EPA	6. a) The water model is not designed to estimate the duration of active water treatment. The EIS will clarify this, b) the role of financial assurance and adaptive management in ensuring that water quality standards are met, and DNR's intent to require the project proposer to pilot, and potentially implement, passive treatment as a permit condition if the project proceeds.	4	Conceptually Resolved	FEIS Section 5.2.2, Summary Response to EPA Comment #14: Duration of Treatment NorthMet Project FEIS Duration of Water Treatment at Mine Site and Plant Site Rationale for Thematic Response (Co-leads, November 17, 2014)	
EPA	7. The EIS will clearly and concisely summarize the USFS alternatives analysis for the proposed land exchange.	4	Conceptually Resolved	FEIS Section 3.3.3 USFS LA Alternatives Response to EPA Comment #31: USFS Land Exchange	
EPA	8. Pending NPDES-related questions will be deferred until permitting, when they will be addressed by USEPA and MPCA.	N/A	Resolved	N/A	
EPA	9. The sensitivity of water quality impacts to groundwater base flow at the mine site is being investigated. • Action: Provide sensitivity analysis to EPA for review.	2	Unresolved	Response to EPA Comment #11: Water Modeling - Partridge River flow NorthMet Project FEIS Partridge River Groundwater Baseflow & Sensitivity Analysis Background and Rationale for Agency Recommendations (Co-leads, November 17, 2014) Partridge River Baseflow Sensitivity Analysis	
EPA	10. Modeling and mitigation measures for mercury releases in the Lake Superior watershed can use a mass-balance approach, if this is combined with adaptive management to assure future mitigation of releases as needed. • Action: Co-lead agencies agree to use adaptive management.	1,3	Unresolved	Adaptive Water Management Plan and Appendices Response to EPA Comment #15: Mercury FEIS Section 5.2.2.3.5 Mitigation and Monitoring	
EPA	11. Additional model inputs will be used to calculate water quality in Colby Lake. • Action: Provide a list of additional input variables to EPA for review.	3	Unresolved	Colby Lake Modeling Inputs Response to EPA Comment #8: Colby Lake Modeling	
EPA	12. Co-lead agencies are continuing to assess the design of the hydrometallurgical residue facility. • Action: Provide updated data packages and management plans to EPA for review.	2	Unresolved	Geotechnical Data Package Volume 2: HRF Hydrometallurgical Residue Management Plan Response to EPA Comments #3 : HRF Design	
EPA	13. The newly proposed (post-SDEIS) east tailings basin containment system will directly impact a small amount of wetlands. • Action: Co-lead agencies will discuss how these wetland impacts will be considered for the FEIS.	3,4	Unresolved	Response to EPA Issue 13: wetland impacts due to new east side TB containment system FEIS Section 5.2.3.2.3: Plant Site Direct Effects	

EPA	14. The monitoring and mitigation plan for indirect impacts has not been finalized. • Action: Co-leads will summarize available information on the monitoring and mitigation plan for indirect wetland impacts in draft EIS sections and provide to EPA for review and comment. In addition, EPA will continue to work with USACE to make sure monitoring and mitigation for indirect impacts meets permitting requirements.	3, 4	Unresolved	Wetland Management Plan Section 4.3 Response to EPA Comment #17: Wetlands - indirect impacts and mitigation FEIS Section 5.2.3.3 Wetland Mitigation and Monitoring	
EPA	15. The proposed wetland mitigation sites may not provide sufficient credits for the proposed direct and indirect wetland impacts. • Action: PolyMet is currently looking into prospective wetland mitigation options. Once this review is complete, EPA and USACE will determine if the proposed sites and acreage are sufficient to cover direct and indirect wetland impacts.	3	Unresolved	Response to EPA Comment #21: Update on wetland mitigation credits	
EPA	16. Augmentation to adjacent tributary streams and wetlands is proposed to come from water that has been treated at the water treatment plant.	1	Unresolved	Project Description	
EPA	17. A change in ore processing is proposed to use a sag mill instead of a rod mill and ball mill.	1	Unresolved	Project Description	
EPA	18. A deep soil cement mixing technology is proposed within the existing tailings basin to increase dam stability at the slime layer.	1	Unresolved	Project Description	
EPA	19. A capture and containment system is being proposed to the East of the tailings basin. (see EPA issue 3)	N/A	N/A	(see EPA issue 3)	
EPA	20. Comment #13 – pH extrapolation	3	Unresolved	Response to EPA Comment #13: pH extrapolation	
EPA	21. Comment #19 criteria for wetland fragmentation loss	3	Unresolved	Response to EPA Comment #19: criteria for wetland fragmentation loss	
EPA	22. Comment #20 20% threshold for fragmentation	3	Unresolved	Response to EPA Comment #20: 20% threshold for fragmentation	
EPA	23. Comment #22 on-site wetland reclamation not used for mitigation credits	3	Unresolved	Response to EPA Comment #22: on-site wetland reclamation not used for mitigation credits	
EPA	24. Comment #23 Inconsistency between Table 6.2-8 and Table 6.2-11	4	Unresolved	Response to EPA Comment #23: Inconsistency between Table 6.2-8 and Table 6.2-11 FEIS Section 6.2.2	
EPA	25. Comment #25 Cumulative effects to water resources – changes to Partridge River Flow	4	Unresolved	Response to EPA Comment #25: Cumulative effects to water resources – changes to Partridge River Flow FEIS Section 6.2.2	

FEIS Supporting Information, Responses to EPA Comments and FEIS Text Related to EPA Topics			
Batch 1 EPA	Batch 2 EPA	Batch 3 EPA	Batch 4 EPA
Project Description [3, 4, 16, 17, 18] Response to EPA Comment #2: Water Quality - waste rock and acid rock drainage [1] FEIS Chapter 3 [3, 4] Adaptive Water Management Plan [10] and Appendices NorthMet Pit: Conceptual Plan for Bedrock Groundwater Flow Mitigation (Barr and Foth August, 2014) [5] NorthMet Project FEIS Bedrock Hydrology at the NorthMet Mine and Plant Sites Rationale for Model Change Recommendations (Co-Leads, November 17, 2014)[5] Response to EPA Issue 5: faults/fractures [5]	NorthMet Project FEIS Partridge River Groundwater Baseflow & Sensitivity Analysis Background and Rationale for Agency Recommendations (Co-leads, November 17, 2014) [9] Partridge River Baseflow Sensitivity Analysis [9] Response to EPA Comment #11: Water Modeling - Partridge River flow [9] Geotechnical Data Package Volume 2: HRF [12] Hydrometallurgical Residue Management Plan [12] Response to EPA Comment #3: HRF Design [12]	Wetland Management Plan Section 4.3 [14] Response to EPA Issue 13: wetland impacts due to new east side TB containment system [13] Response to EPA Comment #17: Wetlands - indirect impacts and mitigation [14] Response to EPA Comment #19: criteria for wetland fragmentation loss [21] Response to EPA Comment #20: 20% threshold for fragmentation [22] Response to EPA Comment #21: Update on wetland mitigation credits [15] Response to EPA Comment #22: on-site wetland reclamation not used for mitigation credits [23] Response to EPA Comment #13: pH extrapolation [20] Response to EPA Comment #15: Mercury [10] Response to EPA Comment #7 : NPDES Permitting [2] Response to EPA Comment #8: Colby Lake Modeling [11] Colby Lake Modeling Inputs [11] FEIS Section 3.2.2.1.3 Project Construction [4]	FEIS Section 3.3.3 USFS LA Alternatives [7] Response to EPA Comment #31: USFS Land Exchange [7] FEIS Section 5.2.2.3.5 Mitigation and Monitoring [2, 10] FEIS Section 5.2.2.3 [1] FEIS Section 5.2.2, Summary [6a] Response to EPA Comment #14: Duration of Treatment [6a] NorthMet Project FEIS Duration of Water Treatment at Mine Site and Plant Site Rationale for Thematic Response (Co-leads, November 17, 2014) [6a] FEIS Section 5.2.3.3 Wetland Mitigation and Monitoring [14] FEIS Section 5.2.3.2.3: Plant Site Direct Effects [13] Response to EPA Comment #23: Inconsistency between Table 6.2-8 and Table 6.2-11 [24] Response to EPA Comment #25: Cumulative effects to water resources – changes to Partridge River Flow [25] FEIS Section 6.2.2 [24, 25] FEIS Section 5.2.2.3.3 Tailings Basin Groundwater Containment System [3] Response to EPA comment #32: TB groundwater capture [3]

Unresolved	1
Conceptually Resolved	2
Partially Resolved	3
Resolved	4
Impasse	1,2
N/A	1,3
	1,4
	3,4
	N/A