VIA EMAIL
May 8, 2023

Greg Aaron, PG
DEP Moshannon District Mining Office
186 Enterprise Drive
Phillipsburg, PA 16866

Re: Minard Mine – Large Noncoal SMP Application
Bishop Brothers Construction Company, Inc.
Athens Township, Bradford County, Pennsylvania

Mr. Aaron:

We are pleased to submit for your review and approval a surface mining application for the aforementioned project. The SMP application fee of $17,025; NPDES application fee of $1,000; and Chapter 105 fee of $62,000 are enclosed. Four (4) copies of the submission are provided.

Should you have any questions, please contact me at 814-272-0301.

Tract Engineering, PLLC

/s Timothy S Gourley

Timothy S. Gourley, P.E.

encl. SMP Application Packet – four (4) copies

cc: D. Bishop, J. Haggerty, M. Lee, Bishop Brothers (w/ encl.) via email & hardcopy
G. Aaron, PG, PA DEP (w/ encl.) via email
J. Mital, PG, PA DEP (w/ encl.) via email
N. Folmar, PE, PA DEP (w/ encl.) via email
R. Stormer, PG (w/ encl.) EADS via email

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Response to Technical Deficiencies Letter dated May 6, 2022
General Comments

1. Provide all required seals and signatures where required when the permit application is submitted. (Application Instructions and Chapter 77.410)

   All seals and signatures provided.

2. Complete the PNDI certification page. (Application Instructions)

   PNDI updated on April 6, 2023 and the certification page completed.

3. Provide signed and notarized building waivers when the permit application is submitted. (Chapter 77.504)

   Building waivers for signed and notarized.

4. Provide bonding calculations and a map showing the bonded areas for the Department's review and approval. (Chapter 77.202)

   Bonding calculations provided in Module 10.

5. Please use the most recent versions of the forms provided on the Department's website when submitting a new application. (Chapter 77.104)

   Most recent versions of modules provided.

Module 1 - Application

1. Section A: List Chemung River as a receiving stream since mining is proposed within the drainage area of the Chemung River in addition to Tutelow Creek, even if all drainage from the operation is proposed to be discharged to Tutelow Creek. (Chapter 77.406(a))

   Section C updated to list Chemung River.

2. Section A: Enter the acreage to be affected for the processing facility that will be operated on site. (Application Instructions)

   Section C updated to provide processing facility area.

3. When available, provide the Department a copy the Land Development Plan, Road Use Maintenance Agreement, and Driveway Permit that are required by Athens Township in the February 24, 2021 Conditional Use Approval document.

   Athens Township approvals will be provided upon receipt.

4. Draft Public Notice: Please describe each of the proposed stream barrier encroachments in the notice. (Chapter 77.121(a)(7))

   Draft public notice updated.

5. Draft Public Notice: Include a statement that the application for an individual NPDES permit is included with the mining permit application. (Chapter 92a.21(c)(3))

   Draft public notice updated.

6. Please note that the PNDI report is dated January 31, 2020 and it is only valid for two years. An new PNDI report will be required to be submitted with the full application, however, no further action will be required unless there are new results that weren't already addressed based on the 2020 report. (Application Instructions)

   PNDI updated and provided in Module 1.

Module 2 – NPDES Information

1. Outfall 002 for Basin 2 is identified as a treatment facility in Module 13. It is stated that water may be pumped to Basin 2 from the pit sump. As such, please identify outfall 002 as a treatment facility rather than a sediment pond. (Chapter 77.526)

   Section C, #21 updated as requested.

2. Provide the signatures and seals on page 2-8 of the NPDES application when the permit application is submitted. (Application Instructions)

   Signatures and seals provided.

Module 4 – Areas Where Mining is Prohibited or Limited

1. Module 4 was removed as a separate module from the large noncoal application so it can be removed from the Minard application. The items that were included in Module 4 should be submitted as part of other modules (Module 1, Module 5, and Module 14).

   Noted; no response required.

2. The stream crossing discussion on page 4-23 and the schematic shown on page 4-25 no longer appear to reflect the operations plan outlined on the Exhibit 9 map. The schematic shown on page 4-25 indicates that the bridge crossing of Tutelow Creek will be constructed in the immediate vicinity of the geotextile lined staging area, however the Exhibit 9 map now indicates that the bridge crossing will be upstream from this location. The implications of this shift are that it is now also necessary to cross Unnamed Tributary 1 to Tutelow Creek which will utilize a culvert crossing as currently proposed. The culvert crossing would require USACE permitting which will change the conclusions in the stream crossing discussion on page 4-23. Past history has shown that the USACE will require a Phase 1 archeological study to be done for the stream crossing area as well as for any areas that are not accessible without federal authorization (i.e.: the hard rock mining area). The relevant portions of the application should be updated and the current operations plans discussed with the relevant agencies to determine the best path to proceed. (Chapters 77.126 and 77.464)

   The project area has remained nearly the same since the initial submission to PHMC. The project area has decreased in size because some areas have been removed due to the potential location of an archaeological site and infeasible mining areas due to stream barrier areas. The relocation of the Tutelow Creek crossing and additional stream crossing of the UNT 1 Tutelow Creek is proposed to avoid impacts to wetlands. The PHMC response is still valid as the proposed project area has not increased and is included in the original PHMC submission dated January 31, 2020. The September 15, 2020 PHMC letter is provided in Module 1 of the application.

   The proposed impacts to streams are identified in Module 14 of the application.

Module 6.2 – Environmental Resources Map

1. Provide the northings and eastings (or latitudes and longitudes) at the corners of all Exhibit maps for georeferencing. (Chapter 77.410)

   Georeferencing noted on all exhibits.

2. All water supplies within 1,000 feet of the permit area must be shown on the Exhibit 6.2 map. Show the water supply for each dwelling to the north of the proposed permit area. (Application Instructions and Chapter 77.410)

   All water supply locations where known are identified on the exhibit map.

3. The haul road must be extended to meet the first township or state road. The small section of Minard Land along property 103 must be added to the permit area. Show this section of the haul road on all applicable mapping. (Chapter 77.466)

   Haul road and mine permit boundary extended to township road.

4. The FEMA Floodway is part of the 100 year flood plain therefore the floodway area should be hatched as well. Please also identify the floodplain areas that are outside of the permit boundary but within 1,000 feet of the permit. Revise the 6.2 map as needed.

   Floodway hatched as requested.

5. Show the extent of the abandoned irrigation canal that is located where the electric line is in place. (Chapter 77.410(a)(4))

   The extent of the abandoned irrigation canal noted on exhibits.

6. Identify the name of the roads south of the permit boundary. According to Google Maps it is called "Bobcat Road". A small portion of Weaver Road T-827 is also shown on the map and should be labeled. Also show the access road that branches off to the cell phone tower and identify the cell phone tower with a label on the map. Show those features on all applicable maps. (Chapter 77.410(a)(4))

   Road labels provided for roads south of the permit area.

7. Shade the pond at Sampling Point S4A with a light blue fill color to identify it as an open water body. The channel from the pond outlet is identified on the map with a solid blue line but the channel isn't labeled as a tributary on the map. Is it an ephemeral channel? If so, use a different symbol to distinguish it from the other perennial or intermittent streams. Also, show and label the cabin next to the pond. (Chapter 77.410(a)(10))

   The pond at sample S4A shaded to indicate open water and the stream channel identifier updated. The pond outfall flows to the adjacent wetland. The blue line represents the flood plain and has been revised as request in #4 above.

8. Label the Wetlands on the 6.2 map and other maps (Wetland A, B, C, etc.). (Chapter 77.410(a)(10))

   Wetlands labeled on all exhibit maps.

9. The line for UNT 4 to Tutelow Creek does not intersect with Tutelow Creek. If the stream goes subsurface please show that with a dashed line from where it goes subsurface. (Chapter 77.410(a)(10))

   UNT 4 updated (see #7 above).

10. There is a small area of the permit on the south side of Tutelow Creek in between UNT 3 and UNT 4 that does not appear to be feasible to mine or utilize for support area. That area should be removed from the permit area on the 6.2 and other maps.

    Permit area revised as requested.

11. A small section of stream barrier hatch associated with UNT 3 to Tutelow Creek should be shown approximately 800 feet upstream of its confluence with Tutelow Creek. (Chapter 77.410(a)(7))

    Permit area revised to avoid stream barrier.

12. Show the locations of springs that emanate from the hillside within the Hard Rock Mining Area. (77.410(a)(10))

    Springs noted in the vicinity of the Hard Rock Mining Area.

13. Show the proposed fencing at the property line above the hard rock mining area. Include a note on the map about the signage to be placed along the property line. Revise all mapping as needed. (Chapter 77.410)

    The proposed fencing is not shown on Exhibit 6.2. The fence and signage are provided on other exhibits related to the operation of the facility.

14. Identify the purpose of the 300-foot barrier along the property line above the hard rock mining area. Revise all mapping as needed. (Chapter 77.410)

    The purpose of the 300' barrier south of the hard rock mining area is noted on all exhibits.

Module 8 – Hydrology

1. All monitoring points shown on the mapping must be listed on page 8-4 of the permit application. Revise as needed. (Application Instructions)

   All monitoring points shown on the Exhibit 6.2 are now listed on page 8-4.

2. Provide the required number of background samples for each background sampling point and monitoring point. Background samples should be collected from all household wells within 1,000 feet of the permit boundary. Once background sample results are reviewed, the drilled wells to be used as monitoring points will be established. The wells must be sampled for the following parameters: pH, alkalinity, acidity, iron, manganese, sulfate, suspended solids and turbidity. Static water level measurements must also be obtained for each drilled well. If certified letters were sent notifying the owners of testing and no response was received, monitoring sampling will not be required. However, if after the public meeting the owner wants sampling, the required background sampling will be required and the well may be added to the monitoring plan. (Application Instructions and Chapter 77.532)

   No additional samples have been obtained. It is understood that sampling will be completed if a previously non-cooperative owner requests their water to be sampled in the future.

3. The Jeanette Minard well is listed as monitoring point 104 (1A) on the Private Water Supply Sheet, but is shown on the mapping as MP1A. Be consistent with the identification of monitoring points throughout the application. (Application Instructions)

   Table 8.2(a)(8) has been revised to list the Jeanette Minard well as 1A.

4. In Module 8.3(a) it is stated that there are no known quality or quantity issues involving the valley floor aquifer, yet two individuals (MP1A and MP104-A) have reported iron staining and one individual (MP107-1) has iron removal treatment installed on his water supply. In addition the sample results for these wells surrounding the proposed quarry have iron concentrations that are slightly elevated. Please describe the quality of the groundwater and reference specific water sampling reports from Module 8.1 that support your narrative. (Chapter 77.405)

   Module 8.3a has been revised to address the iron concentrations observed in the water supply wells.

5. Additional data for the Marvin Miller well (MP106) and the Arthur Forrest well (MP100) are located in Water Resource Report 68 titled Hydrogeology and Groundwater Quality of the Glaciated Valleys of Bradford, Tioga and Potter Counties, Pennsylvania. The wells are is identified as well numbers Br-678 and Br-724 in the report. Additional groundwater information may also be found in this report. Please incorporate these data into the permit application. In addition Figure 9 on page 14 of the report, provides groundwater elevations for the unconfined stratified drift aquifer in the Sayre area. (Chapter 77.405(b))

   Table 8.2(a)(8) has been updated with information from Water Resource Report 68 for sample point 108 (Marvin Miller). Information for sample point 100 (Arthur Forrest) was already obtained from PaGWIS records and shown on the table. Groundwater elevations were derived from site specific measurements, rather than regional mapping, and are subject to seasonal fluctuations.

6. Discuss the groundwater quality of the area as described in the Water Resource Report 68 titled Hydrogeology and Groundwater Quality of the Glaciated Valleys of Bradford, Tioga and Potter Counties, Pennsylvania. Median values for selected parameters are provided in Table 10 of this report for stratified drift. Compare and contrast data collected from the area around the proposed mine site to the Table 10 data. (Chapter 77.405(b))

   Discussion has been added to Module 8.3a regarding the median values published in Table 10 of WRR 68, which were derived from an extensive area containing multiple river valleys, and the values from the samples collected at the local level.

7. Discuss and compare the groundwater quality from the sand and gravel mining area to the surface waters (Tutelow Creek and Chemung River) of the hard stone mining area. (Chapter 77.405 and 77.406)

   Discussion has been added to Module 8.3a regarding the similarities and differences between the chemistry of the valley and hard rock aquifers.

8. Mining in the water table in close proximity to water supplies has the potential to affect these supplies with sediment being introduced to the groundwater system. Identify a means to restore or replace a well affected by an increase in sediment in the groundwater system. The Jeanette Minard will has the highest potential for being impacted by the mining upgradient of the drilled well. (Chapter 77.407)

   Discussion has been added to Module 8.3a regarding the naturally occurring presence of sediment (fines) already in the sand and gravel and the lack of impact that it is generating in the background samples collected from the private water supply wells. No additional sediment will be introduced. Discussion focuses on the Jeanette Minard well (1A).

9. Monitoring Point S4A is identified as "UNT 4 to Tutelow Creek (pond outfall)" although the channel from the pond is not UNT 4, UNT 4 is located farther north. Please correct the description of the point. (Chapter 77.126(a)(1))

   The description for sample point S4A has been revised to indicate that this point is a pond outfall.

Module 9 – Operations Map

1. Show the first cut and direction of mining on the Exhibit 9 map for the Hard Rock Mining Area. (Chapter 77.454(a)(1))

   First cut and direction of mining shown on Exhibit 9.

2. Show the area where no mining activities will be conducted in accordance with the avoidance plan agreed to by PHMC on all applicable mapping. That area should be deleted from the permit since it cannot be affected. The avoidance plan is required due to the potential presence of archaeological resources identified at the Pennsylvania Archaeological Site Survey (P. A. S. S) site # 36BR0035. (Chapter 77.410(a)(7))

   The permit area revised to avoid the PHMC site.

3. According to the avoidance plan submitted to the PHMC the staging area and Tutelow Creek stream crossing were proposed to be farther east than their present locations on the Exhibit 9 Map. However, the geofabric area and the sediment pond are still shown in the same location as they were on the avoidance plan. Will the geofabric area be used as part of the mining operation now the support area is proposed to be established farther west? (Chapter 77.454(a)(4))

   The geofabric area will be used in a future phase of mining.

4. Show how drainage is conveyed to Sediment Basin 1 from the support area. Module 13 states that containment berms will be constructed around the support area to direct water to the Basin 1 but no berms are shown on the operations map. (Chapter 77.454(a)(6))

   Containment berm is shown around the support area to direct runoff to Basin 1.

5. A gravity channel for drainage from the pit sump to Basin 2 is proposed as per Module 13. Please show the channel between the pit sump and the Basin 2. Please note that a gravity discharge from the pit is only permitted if the pit only collects and discharges stormwater with no groundwater contribution.

   Ditch 1 is noted on the exhibit and a ditch data sheet provided in Module 12. Basin 2 is a treatment facility with an NPDES outfall. Stormwater and groundwater can be routed through Basin 2.

6. Delineate the extent of Phases 1, 2, and 3 on the Exhibit 9 map. The Exhibit 9.1 Exhibit only shows Phases 1 and 2. Phase 3 is described in Module 10.1 but not shown on Exhibit 9.1. Also, instead of describing the hard rock areas northwest of the UNT 1 and the initial Phase 1-2-3 mining area as "Future Mining Area" please identify those areas with a phase number that is referenced in Module 10.1 (Chapter 77.454(a)(1))

   Mining phases 1, 2, & 3 noted on Exhibit 9 and Exhibit 9.1.

7. Show a 100 foot gravel pad to be installed prior to the intersection with the first paved road. Note any other measures to be installed to prevent mud from being tracked on to Meadowlark Drive. (Chapter 77.454(a)(2))

   A gravel pad is noted at the entrance along with a note for cleaning the road. A rock construction entrance provided on Exhibit 10.2, detail 9.

8. Show any erosion and sedimentation controls (i.e.: roadside ditches and sumps) that will be constructed along the access road to the support area and Hard Rock mining area. (Chapter 77.454(a)(6))

   Roadside sumps provided along the access road.

9. Show the CPP culvert under Minard Drive just before the road reaches the house. The culvert pipe should be shown on all other applicable mapping. (Chapter 77.410(a)(4))

   Culvert pipe noted on all plans.

10. Show the evergreen tree hedge required to be planted between the homes along Meadowlark Drive and the mining operation. That evergreen tree hedge is required as per the February 24, 2021 Conditional Use Approval document from Athens Township. (Chapter 77.454(a)(2))

    Evergreen tree hedge noted on Exhibit 9.

11. To reduce cluttering the symbols on the map please remove the floodplains from the Exhibit 9 Map. The floodplains should remain shown on the 6.2 map. Also, please use a less dense hatching for the 100 foot stream barrier so other features are better visible within the barrier. (Chapter 77.454(c))

    Floodplain hatch removed from Exhibit 9 and the hatch scale of the stream barrier modified.

12. Use a different color hatching for the areas where an encroachment on the 100 foot barrier is proposed and include a label with an ID number that is referenced to Module 14 with the details of the encroachment. (Chapter 77.454(c))

    There is no hatching for the stream variance area. The stream variance area is delineated as noted in the legend. An identification number provided for each encroachment.

13. Delineate the areas within the FEMA Floodway that are proposed to be affected by the mining operations. (Chapter 105.13(e)(1)(i)(A))

    Areas within the floodway are identified.

14. Identify the light brown lines as existing roads/paths in the map legend. (Chapter 77.410(a)(4))

    Legend updated.

15. Show the emergency spillway outlet for Basin 1. Will the construction of the emergency spillway require disturbance within the 100 foot stream barrier of Tutelow Creek? (Chapter 77.454(a)(6))

    Emergency spillway provided for Basin 1. The spillway will not encroach within 100' of Tutelow Creek.

Module 10 – Operational Information

1. Portions of the proposed mining area are within the FEMA delineated floodplain and floodway. Revise Module 10.1 to provide a plan for how floodwater will be handled if it enters the sand and gravel mining area, the support area, the processing and stockpile area, and Basin 1. If berms will be used to keep the floodwater out of the mining area, a backwater analysis will need to be provided to document the potential for any impacts to upstream properties because of narrowing the floodplain and floodway. What are the potential effects of floodwaters entering these areas? (Chapter 77.452 and Chapter 105)

   Module 10.1 updated to discuss flooding.

2. Module 10.1 states that grading of surplus material in adjacent areas will be utilized to help achieve final reclamation slopes. Please define surplus materials and adjacent areas. (Chapter 77.452)

   Module 10.1 updated with specific wording.

3. Module 10.1: The Phase 1 Sand & Gravel mining area includes the proposed processing, stockpiling and other support areas. The access road is also within the proposed area to be mined. Will the support area and access road be relocated during the Phase 1 Sand & Gravel mining? (Chapter 77.452(3))

   Module 10.1 updated to note these areas may be relocated for Phase 1 S&G mining.

4. Item 4 on page 10-1 references installation of a containment berm around the hard rock mineral extraction area. Due to site topography, it does not appear feasible to construct any sort of berm. Instead, it will likely be necessary to maintain a low wall that functions similar to a containment berm. Overburden material should not be placed downslope of the low wall. Please provide additional information about how containment will be achieved in the hard rock mining area. The runoff from affected areas should be routed to the proposed sediment basin, not to rock filters as discussed in Item 9 on page 10-2. (Chapter 77.452)

   Module 10.1 updated with additional information and removal of rock filters.

5. Item 7 on page 10-2 should also reference the installation of any erosion and sedimentation controls associated with the access road. (Chapter 77.452)

   Module 10.1 updated.

6. Item 10 on page 10-2 and Module 10.4 suggest placing excess overburden in the sand and gravel Phase 1 mineral extraction area after the sand and gravel reserves have been extracted. The narrative for the sand and gravel Phase 1 implies that it will not be bonded initially. References to placing the excess overburden in the sand and gravel Phase 1 area should be removed or the sand and gravel Phase 1 area should be bonded initially. (Chapter 77.452)

   Module 10.1 updated to eliminate placement of overburden in the sand and gravel excavation. Overburden will be placed in the Overburden Storage Pile.

7. Module 10.5: Please include an evaluation of the setback area between the post-mining flooded pit and the Chemung River. It must be demonstrated that the barrier will be adequate to prevent future erosion. (Chapter 77.462(b))

   Module 10.5 updated.

8. In unconsolidated material, the minimum underwater safety bench that the Department will consider is a three horizontal to one vertical slope with a minimum width of 25 feet. Revise Module 10.5 to provide additional information regarding the underwater safety bench. Module 10.5 must also provide a demonstration that the proposed width of the safety bench is sufficient for the anticipated seasonal water table fluctuation. Revise the application to include a cross section and or typical drawing showing the underwater safety bench. (Chapter 77.594)

   Module 10.5 updated. Refer to Exhibit 10.2, detail 7 for benching detail.

9. Show the permit line setbacks on the cross-sections where applicable. The minimum setback distance is equal to the highwall height in unconsolidated material. Revise as need where the highwall is near the permit boundary or a variance area. (Chapter 77.572)

   Cross section exhibit updated.

10. Please verify that the proposed benching and final grade are shown correctly on cross section D-D' between station 12+00 and 18+00. The proposed final grade does not seem consistent with the contours shown on the Exhibit 18 map in this section. For example, at station 15+00 the Exhibit 18 map indicates an elevation of approximately 800 feet while the cross section indicates an elevation of 870 feet. (Chapter 77.126)

    Cross section exhibit updated.

11. Module 10.14: The electric line and poles for the Minard residence currently exists in an area that is proposed to be mined through as part of the Phase 1 Sand & Gravel mining area. Does the operator plan to relocate this electric line? Provide an agreement from the utility company allowing this electric line to be relocated. In addition, notify the utility company that mining activities will be taking place near the electric line that runs north to south across the mining area. (Application Instructions)

    Module 10.14 updated. The utility company has been notified and will be notified again prior to mining this area to relocate the utility line.

12. Explain how the containment berm and Basin 2 will be installed without impacting Tutelow Creek. Currently the low wall of mining is adjacent to the 100 foot stream barrier, how will the operator control overburden from entering the stream barrier and Tutelow Creek when blasting operations take place? (Chapter 77.452(2))

    Module 10.1 details the construction sequence in "Hard Rock Phase 1 Mining Area".

13. In Module 10 it is stated that excess overburden from the hard rock mining area will be placed in the Phase 1 mineral extraction area. Indicate on the mapping where the excess spoil from the hard rock mining area will be placed. This material will need to be bonded until final placement. Keep in mind the excess spoil cannot be placed directly into the open water impoundment that will exist after the sand and gravel have been removed. (Chapter 77.452(2))

    Hard rock mining area overburden will be placed in the Overburden Storage Pile. The Phase 1 S&G mineral extraction area will not be utilized for hard rock overburden placement.

14. Revise the mining and reclamation plan with the details of the proposal to remove hard rock overburden and dispose of it in the sand and gravel pits. Revise the reclamation plan for the sand and gravel areas that will be backfilled to grade with excess hard rock overburden. (Chapter 77.456)

    The mineral extraction area of the sand and gravel pits will not be utilized to dispose of hard rock mining overburden.

15. Revise the mining and reclamation plan as discussed during the onsite field meeting with the reconfiguration of the support area to stockpiles and processing equipment out of the floodway. (Chapter 77.456)

    Support area structures relocated out of the floodway.

16. Revise the mining and reclamation plan for the final reclamation of the hard rock mining area to establish positive drainage and control the drainage during final reclamation when the pond and low wall will be removed. (Chapter 77.456)

    Module 10.5 updated to note Basin 2 and low wall containment berm shall remain during reclamation and removed once the site is stabilized.

17. Describe the plan to clear and grub the hard rock mining area and how trees and or stumps will be disposed.

    Module 10.1 construction sequences describe the clear and grub. Trees will be harvested and stumps and brush shall be chipped or placed in the Overburden Storage Pile.

Module 12

1. Due to the slope of the hill, upslope diversion ditches must be installed as part of the preparations to mine the Hard Rock Mining Area. Currently only an upslope berm is proposed. Revise the Exhibit 9 map to show the diversion ditches. (Chapter 77.458)

    Exhibit 9.1 and the construction sequence in Module 10.1 updated.

2. Due to the steep slopes and proximity to the stream super silt fence and/or other enhanced E&S controls should be utilized in the area between Tutelow Creek and the initial area affected in the Phase 1 Hard Rock mining area. Show those E&S controls on the Exhibit 9 Map. (Chapter 77.458)

    E&S controls noted on Exhibit 9.1 and detail 2 on Exhibit 10.1.

3. The containment berm in the vicinity of Basin 2 does not appear to offer positive drainage towards Basin 2. It appears there would be a low spot on the berm approximately 800 feet to the east of Basin 2 based on the existing contours. Please clarify how the berm will convey runoff to Basin 2. (Chapter 77.459)

    The low spot in question will be part of the Phase 3 Hard Rock Mining Area. The existing ground elevation in this area is greater than the proposed pit floor elevation of 770. Hard Rock Mining Area Phase 1 and Phase 2 perimeter controls and containments will be operational prior to the development of the Phase 3 area. Implementation of Phase 1 and 2 will ensure Phase 3 mining will provide positive drainage to Basin 2.

4. Will it be feasible to stockpile topsoil and overburden around the perimeter of the Hard Rock Mining Area considering the steep slopes? It is difficult to envision how these stockpiles would stay in place and how they could be constructed without placing material over and/or below the highwall/low wall. Please clarify how these stockpiles will be constructed and function. (Chapter 77.458)

    A limited amount of topsoil can be stockpiled at the perimeter. The topsoil and overburden that cannot be placed in the perimeter stockpiles will be transported and stored in the Overburden Storage Pile. Refer to Module 10.1 for construction sequence.

5. The containment berm proposed to be constructed within the floodway between the support area and the Chemung River should be armored with riprap to prevent erosion during flood events. (Chapter 77.458)

   The proposed berms along the Chemung River will have flat slopes and be vegetated. Refer to the safety berm detail 7 on Exhibit 10.1.

6. Provide a typical drawing for a rock construction entrance. Page 14 of the erosion and sedimentation pollution control manual contains a typical drawing for a rock construction entrance. (Chapter 77.458)

   Refer to Exhibit 10.2, detail 9.

Module 13

1. Please provide the following details regarding the proposed use of flocculants (Chapter 77.457(b)(2)):
   a. Describe where flocculant will be added and identify a point on the Exhibit 9 Map where the flocculant will be added. Is flocculant proposed to be used at both Basin 1 and Basin 2 or just Basin 2?
   b. Describe how the flocculant will be dispensed in order to prevent it from entering the stream.
   c. Provide the Material Safety Data Sheet for the flocculant.

   Module 13.1 updated to describe flocculant usage. SDS provided; see page 13-14.

2. The drainage area of Basin 1 is listed as 3.0 acres. However, the area that includes the geofabric area over to the edge of the processing/stockpile area is about 8.0 acres. Please address that discrepancy and show the proposed drainage area to Basin 1. (Chapter 77.461)

   The drainage area to Basin 1 is 3 acres. A sump is provided for the processing and support area. A drainage area map is provided; refer to page 13-23.

3. Basin 2 is designed as a treatment pond but is proposed to receive gravity drainage from the pit. The basin construction details are the same for Basin 1 and Basin 2 on page 13-5. That includes an emergency spillway for Basin 2. However. there are no design details for an emergency spillway on the pond certification form for Basin 2. Please address this discrepancy. (Chapter 77.461)

   Basin 2 pond certification form updated to include emergency spillway data.

4. Provide several cross sections in the vicinity of Basin 2 and the proposed containment berm in the hard rock mining area. The goal of these cross sections is to depict the stream, floodway, floodplain, stream barrier area to be retained, stream variance area, existing ground, proposed ground, alternate erosion and sedimentation controls below Basin 2, Basin 2, the containment berm, and any proposed low wall to provide a more clear picture of how these features will interface. (Chapter 77.461)

   Additional cross sections provided; refer to Exhibit 9.1 and Exhibit 9.2.

5. Provide a map showing how the drainage areas listed in the pit sump sizing table were determined. The drainage area should include not only the pit floor acreage but also any upslope areas that will drain into the pit. (Chapter 77.461)

   Drainage area map provided; refer to 13-23.

6. Module 13.1 indicates that the outfall for Basin 2 is identified as 001 while Module 13.3 indicates that the outfall of Basin 1 is identified as 001. Please revise as necessary. (Chapter 77.126)

   The outfall label corrected. Basin 1 discharges to 001 and Basin 2 discharges to 002.

7. Item 5 under the operation section for Basin 1 and Treatment Facility 1 on page 13-7 should be removed from the application. When the impounded water meets effluent limits it must be dewatered so that sufficient capacity is available in the pond for the next storm event. (Chapter 77.461)

   Basin operation updated as requested.

8. Revise the entire application to ensure that all basins are named and identified consistently in the modules and on the exhibit maps. The following terms are used throughout the application and it is difficult to determine what facility is being referenced: Basin 1, Basin 2, Treatment Facility 1, 001, 002, TF01, etc. (Chapter 77.126)

   Basin names revised to be consistent throughout the application.

Module 14

1. Provide the Chapter 105 fee worksheet (Form No. 3150-PM-BWEW0553). As previously discussed the Department will only require Chapter 105 fees to be paid for the Phase 1 area to be bonded at time of the initial permit issuance. Further 105 fees will need to be paid during revisions to expand the mining operation beyond the initial phase. Based on the currently proposed encroachments, 105 fees would be needed with the permit application for the following: (105.13(c))

   a. The crossing of Tutelow Creek.
   b. The crossing of UNT 1 to Tutelow Creek.
   c. Encroachment for the support area within the floodway.

   The encroachments proposed above would be permanent encroachments which have a required fee of $8,000/acre. For example, the support area proposed within the floodway is approximately 7.5 acres which would equate to a fee of $60,000.

   Chapter 105 fees should be submitted with the permit application for those encroachments that should not need to be significantly revised as part of the application review. However, if the extent of an encroachment may be subject to revision during the application review then the Chapter 105 fees may be deferred until later in the review process. Please note that if there is a proposed increase to a proposed encroachment area after the initial application submission then that may delay permit issuance due to the need for further review and possible need to rerun public notices.

   Chapter 105 fee information provided on pages 14-16 & 14-17. The fee is provided with the initial application submission.

2. Provide the Aquatic Resource Impact Table (3150-PM-BWEW0557) identifying each of the proposed encroachments for the initial phase. (Chapter 105.13(a)

   The Aquatic Resource Impact Table provided (pg 14-15).

3. The mapping shows portions of the proposed mine site where stockpiling and other support activities will be conducted are within the FEMA regulatory Floodway. Include an analysis of the project's impact on the floodway delineation and water surface profiles and a letter from the municipality commenting on the analysis. (Chapter 105.13(e)(1)(vi))

   The HEC-RAS analysis of the mining area provided herein (pgs 14-181 to 14-194). This information will be submitted to Athens Township as part of the Land Development application. Correspondence from the Township regarding the floodplain will be provided to the Department.

4. Is there any record from the landowner of how often the area of the farm fields is flooded?

   Discussions with the landowner and local residents indicated the farm field did not in 1972 (Agnus) or the 2011 flood.

5. Provide the Wetland and Stream Delineation Maps in a larger scale. The maps cannot be read at the scale they are printed. (Chapters 77.104 & 105.13(e))

   Full sized prints provided for the wetland and stream delineation maps.

6. The open water pond at Monitoring Point S4A should be identified as a wetland. (Chapter 105.13(e)(1)(i)(A))

   Sampling point S4A description revised to Pond A outfall.

7. Mining will be conducted on both sides of the wetland located at background sampling point 1B (Wetland I). There are concerns that this wetland will dewater at the conclusion of mining at the site. The wetland elevation is at 770 feet msl and the final water level of the pit is projected to be at 755 feet msl. Background groundwater levels must be obtained around this wetland prior to mining. It is recommended that the applicant install a series of piezometers around this wetland and obtain monthly water level measurements for at least a year prior to mining on either side of the wetland. Should the wetland be impacted by mining the operator must provide a plan for replacing the wetland area. There are also concerns for the other wetland areas (Wetland J and Wetland JJ) in close proximity to Wetland I and the wetland (Wetland M) near the haul road entrance for the same reasoning. (Chapter 77.403)

   Six (6) piezometers shall be installed prior to mining adjacent to Wetland I, II, & J. See Exhibit 9 for proposed piezometer locations. A typical piezometer detail provided on Exhibit 10-2, detail 8.

   Wetland M is a low lying area in an existing agricultural field. This area has been continuously plowed since the original delineation. Due to agricultural practices and depressed topography the area has become a runoff collection area that, on wet years, can become a pool providing hydrology, soil development and wetland vegetation. The wetland is not connected to ground water and will still receive runoff from the adjacent fields and roadway. No impacts to the hydrology or the wetland's function values will occur due to the proposed mining.

8. Evaluate the potential for the proposed mining operation to cause indirect impacts to the adjacent streams due to the proposed depth of mining extending to an elevation below the stream beds. The evaluation should include the potential for reduced hydrology due to any fracturing (Hard Rock area) as well the potential for any streams migrating into the post mining impoundments (sand and gravel area). (Chapter 105)

   Module 14.1c (pg 14-13) evaluates the potential for indirect impacts.

9. Identify each of the encroachments within 100 feet of the streams (Tutelow Creek - Northern Encroachment, Tutelow Creek - Southern Encroachment, and UNT to Tutelow Creek Encroachment) with an ID number that referenced on the Exhibit 9 Map. (Chapter 105.13(e)(1)(i)(C))

   Stream encroachments identified on page 14-12 with a unique number utilized on the Exhibit 9.

10. Currently the operator proposes to cross Tutelow Creek with a bridge and install a 48 inch pipe in unnamed tributary #1 to cross it. In order to minimize the streambed disturbance to unnamed tributary #1 to Tutelow Creek the Department recommends installing bridges over both streams.

    A culvert pipe is the best method to cross the stream and minimize impacts during construction and during the life of the project.

11. Review the culvert design on unnamed tributary #1 to Tutelow Creek as discussed at onsite field meeting with Dan Ryan from the Fish and Boat Commission. (Chapter 77.459 and 77.523)

    The culvert will be depressed into the stream bed to accommodate natural substrate in the culvert.

12. There is no discussion of encroachments that may be required for future phases. For example, whether a stream crossing that would be needed for UNT 2 to Tutelow Creek or impacts to Wetland K or the S4A Pond due to future up-gradient hard rock mining. No specific mining plan was provided or shown on the maps for those future phases. Without a specific plan no variance can be granted for those areas. As such a major permit revision would be required for those future phases, not just a bond increment. (Chapter 105.13(e)(1))

    Noted; a specific mining plan is not provided for Future Mining Area Phase 4 & 5 as identified on Exhibit 9. A mining plan will be submitted as a major permit revision before mining expands to these areas.

13. Page 14-16 and 14-17 indicate that an individual 404 permit will be applied for, however, the scale of the proposed impacts appear to make the project eligible for PASPGP-6 authorization from the USACE. Form 14A does not need to be completed if PASPGP-6 authorization will be obtained instead of an individual 404 permit.

    Noted; PASPGP-6 authorization is being requested. Form 14A removed.

14. The maximum carrying capacity of the 497 CFS on Page 14-8 for the 48" culvert crossing of UNT to Tutelow Creek appears to be too high for the size of the culvert.

    Culvert capacity calculations provided on pages 14-196 to 14-200.

15. The design nomograph on page 14-196 indicates that the peak discharge from the 25 year storm event (200 CFS) will not be passed by the proposed culvert which has a capacity of 150 CFS. Please clarify why the crossing was not sized to pass the 25-year storm event as required by Chapter 105.161. (Chapter 105.161)

    The culvert designed to pass the 25 year storm. The design storm peak discharge corrected on page 14-195. Culvert capacity detail in #14 above.

16. Chapter 105.161(e) requires that the structures shall pass the 100-year frequency flood with less than a 1.0-foot increase in the natural unobstructed 100-year water surface elevation, except where the structure would be located in a floodway which is delineated on a FEMA map, in which case no increase in the 100-year water surface elevation will be permitted. Exceptions to this criteria may be approved by the Department if the applicant prepares a risk assessment which demonstrates, and the Department finds, that the structure will not significantly increase the flooding threat to life and property or the environment, and if applicable, is consistent with municipal floodplain management programs adopted under the National Flood Insurance Program and a FEMA Flood Insurance Study. Provide the necessary calculations and drawings to demonstrate compliance with Chapter 105.161(e). (Chapter 105)

    The HEC-RAS analysis shows the backwater flooding of the Chemung River will inundate the access road and bridge over Tutelow Creek regardless of the structure capacity of the proposed bridge. The bridge structure will create an insignificant change to the flood water elevation of the broad floodplain area of the Chemung River.

17. Module 14.1(a) on page 14-7 indicates that a steel or corrugated plastic culvert will be used. If the culvert will be corrugated, the design nomograph used for sizing the proposed culvert should be for a corrugated pipe instead of a smooth pipe. (Chapter 105)

    A typical corrugated plastic culvert has a smooth interior. The pipe type material specified on exhibits and calculations.

18. Item 7 on page 14-9 indicates that a minimum of 2 feet of cover should be placed over the culvert, but the design nomograph for the culvert indicates that 3.2 feet of covers should be placed over the culvert. Revise these areas of the application to be consistent. (Chapter 105)

    The cover depth revised to be consistent. A minimum of 3' of cover is required at the upstream end of the pipe to provide the necessary headwater for the required culvert capacity.

19. The construction sequence on the drawing for the UNT 1 to Tutelow Creek crossing appears to be specific to a bridge crossing, while the proposed crossing is a culvert crossing. Revise to be site specific. (Chapter 105)

    The construction sequence revised.

20. The drawing for the UNT 1 to Tutelow Creek crossing does not show inlet or outlet protection for the proposed culvert or the safety berms that will need to be installed at the edge of the travel way. (Chapter 105)

    The drawing revised.

Module 16

1. Include a draft Module 16, Blast Plan, that explains how blasting will be completed while maintaining the stability of the slope. Discuss how blasted material will be kept from entering the stream barrier and the stream. (Chapter 77.564)

    Module 16 to be provide once the permit review is complete and before permit issuance in accordance with DMO protocol.

Module 18

1. The NPDES outfalls markers do not need to be shown on the Exhibit 18 Map.

    Exhibit 18 revised to remove the NPDES outfalls.

2. Include a note on the map that the stream crossings will be removed as per Module 14. (Chapter 77.652)

    Noted added to remove crossings.

3. Include a note that areas within 100 feet of the stream that are affected by mining will be planted with trees. Identify the proposed stream encroachment areas on map that are proposed to be affected and will need to have trees planted as part of the reclamation of the riparian area (see Module 23 comment). (Chapter 77.456(5))

    Noted added for tree planting in stream encroachment areas.

Module 23

1. Module 23.4: There are forested riparian areas proposed to be affected by the mining operations in which trees will be removed. Riparian areas within the 100 foot tree variance areas that are affected by mining should have trees species planted to reestablish the forested riparian buffer area. Include the tree species to be planted in Module 23.4. (Chapter 77.456(5))

   Module 23.4 completed.

TRANSMITTAL

Tract Engineering, PLLC

Date: June 12, 2023

To: Greg Aaron, PG
DEP Moshannon DMO
186 Enterprise Drive
Philipsburg, PA 16866

From: Tim Gourley, PE
Tract Engineering, PLLC
120 Ridge Avenue
State College, PA 16803

Project	Transmitted	Remarks
Minard Mine SMP 08230301 Bishop Brothers Construction Co. Inc. Athens Township, Bradford Co, PA	USPS	For your records

Item #	Description	Quantity
1	Building Waiver – Jeanette H Minard Bradford County Recorder of Deeds, Instr. No. 202305330 (SMP pages 1-35 to 1-37) ORIGINAL	1
2	Building Waiver – Richard L & Rebecca J Minard Bradford County Recorder of Deeds, Instr. No. 202305331 (SMP pages 1-38 to 1-40) ORIGINAL	1
3	Building Waiver – JDS Group Holdings, LLC Bradford County Recorder of Deeds, Instr. No. 202305333 (SMP pages 1-41 to 1-43) ORIGINAL	1
	cc: Mindy Lee, BB (w/ encl) VIA EMAIL	

Please contact this office with any questions or comments.

Tract Engineering, PLLC
120 Ridge Avenue, State College PA 16803
P: 814-272-0301 tg@tractllc.com

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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

May 6, 2022

VIA E-MAIL

Andrew Bishop, President
Bishop Brothers Construction Company, Inc.
1376 Leisure Drive
Towanda, PA 18848

RE: Technical Deficiency Letter for Noncoal Pre-Application
Bishop Brothers Construction Company, Inc.
Permit No. 08220301, Minard Mine
Athens Township, Bradford County
APS ID No. 1054498, AUTH ID No. 1381171

Dear Mr. Bishop:

A Pre-Application Meeting for the Minard Mine was held on April 26, 2022 with the following in attendance (see attached scanned meeting log):

Name	Representing
John Mital	PA DEP MDMO (Geologist)
Norman Folmar	PA DEP MDMO (Engineer)
Paul Kephart	PA DEP MDMO (Acting District Mining Manager)
Gregory Aaron	PA DEP MDMO (Tech Chief)
Shane Moyer	PA DEP MDMO (Inspector)
H. Dave Goss	PA DEP MDMO (Inspector Supervisor)
Dustin Bishop	Bishop Brothers Construction Company, Inc.
Jim Haggerty	Bishop Brothers Construction Company, Inc.
Tim Gourley	Tract Engineering PLLC (consultant)
Rob Stormer	EADS Group (consultant)
Dan Ryan	PA Fish & Boat Commission
Jeff Painter	PA Game Commission

The comments listed below were reviewed at the Pre-Application Meeting. Any bold italicized comments were added as the result of discussions during that meeting.

TECHNICAL DEFICIENCIES

GENERAL COMMENTS

1. Provide all required seals and signatures where required when the Permit Application is submitted. (Application Instructions and Chapter 77.410)

2. Complete the PNDI certification page. (Application Instructions)

3. Provide signed and notarized building waivers when the Permit Application is submitted. (Chapter 77.504)

4. Provide bonding calculations and a map showing the bonded areas for the Department's review and approval. (Chapter 77.202)

5. Please use the most recent versions of the forms provided on the Department's website when submitting a new application. (Chapter 77.104)

MODULE 1- APPLICATION

1. Section A: List Chemung River as a receiving stream, in addition to Tutelow Creek, since mining is proposed within the drainage area of the Chemung River even if all drainage from the operation is proposed to be discharged to Tutelow Creek. (Chapter 77.406(a))

2. Section A: Enter the acreage to be affected for the processing facility that will be operated on site. (Application Instructions)

3. When available, provide the Department a copy of the Land Development Plan, Road Use Maintenance Agreement, and Driveway Permit that are required by Athens Township in the February 24, 2021 Conditional Use Approval Document.

4. Draft Public Notice: Please describe each of the proposed stream barrier encroachments in the notice. (Chapter 77.121(a)(7))

5. Draft Public Notice: Include a statement that the application for an individual NPDES Permit is included with the Mining Permit Application. (Chapter 92a.21(c)(3))

6. Please note that the PNDI Report is dated January 31, 2020 and it is only valid for two years. A new PNDI Report will be required to be submitted with the full application; however, no further action will be required unless there are new results that weren't already addressed based on the 2020 Report. (Application Instructions)

MODULE 2-NPDES INFORMATION

1. Outfall 002 for Basin 2 is identified as a treatment facility in Module 13. It is stated that water may be pumped to Basin 2 from the pit sump. As such, please identify Outfall 002 as a treatment facility rather than a sediment pond. (Chapter 77.526)

2. Provide the signatures and seals on Page 2-8 of the NPDES Application when the Permit Application is submitted. (Application Instructions)

MODULE 4-AREAS WHERE MINING IS PROHIBITED OR LIMITED

1. Module 4 was removed as a separate module from the Large Noncoal Application; therefore, it can be removed from the Minard Application. The items that were included in Module 4 should be submitted as part of other modules (Module 1, Module 5, and Module 14).

2. The stream crossing discussion on Page 4-23 and the schematic shown on Page 4-25 no longer appear to reflect the Operations Plan outlined on the Exhibit 9 map. The schematic shown on Page 4-25 indicates that the bridge crossing of Tutelow Creek will be constructed in the immediate vicinity of the geotextile lined staging area; however, the Exhibit 9 map now indicates that the bridge crossing will be upstream from this location. The implications of this shift are that it is now also necessary to cross Unnamed Tributary 1 to Tutelow Creek which will utilize a culvert crossing as currently proposed. The culvert crossing would require USACE Permitting which will change the conclusions in the stream crossing discussion on Page 4-23. Past history has shown that the USACE will require a Phase 1 archeological study to be done for the stream crossing area as well

as for any areas that are not accessible without federal authorization (i.e. the hard rock mining area). The relevant portions of the application should be updated, and the current Operations Plan discussed with the relevant agencies to determine the best path to proceed. (Chapters 77.126 and 77.464)

MODULE 6.2-ENVIRONMENTAL RESOURCES MAP

1. Provide the northings and eastings (or latitudes and longitudes) at the corners of all Exhibit maps for georeferencing. (Chapter 77.410)

2. All water supplies within 1,000 feet of the permit area must be shown on the Exhibit 6.2 map. Show the water supply for each dwelling to the north of the proposed permit area. (Application Instructions and Chapter 77.410)

3. The haul road must be extended to meet the first township or state road. The small section of Minard Land along Property 103 must be added to the permit area. Show this section of the haul road on all applicable mapping. (Chapter 77.466)

4. The FEMA Floodway is part of the 100 Year Flood Plain; therefore, the floodway area should be hatched as well. Please also identify the floodplain areas that are outside of the permit boundary but within 1,000 feet of the Permit. Revise the Exhibit 6.2 map as needed.

5. Show the extent of the abandoned irrigation canal that is located where the electric line is in place. (Chapter 77.410(a)(4))

6. Identify the name of the roads south of the permit boundary. According to Google Maps it is called "Bobcat Road." A small portion of Weaver Road T-827 is also shown on the map and should be labeled. In addition, show the access road that branches off to the cell phone tower and identify the cell phone tower with a label on the map. Show those features on all applicable maps. (Chapter 77.410(a)(4))

7. Shade the pond at Sampling Point S4A with a light blue fill color to identify it as an open water body. The channel from the pond outlet is identified on the map with a solid blue line, but the channel isn't labeled as a tributary on the map. Is it an ephemeral channel? If so, use a different symbol to distinguish it from the other perennial or intermittent streams. Also, show and label the cabin next to the pond. (Chapter 77.410(a)(10))

8. Label the wetlands on the Exhibit 6.2 map and other maps (Wetland A, B, C, etc.). (Chapter 77.410(a)(10))

9. The line for UNT 4 to Tutelow Creek does not intersect with Tutelow Creek. If the stream goes subsurface, please show where it goes subsurface with a dashed line. (Chapter 77.410(a)(10))

10. There is a small area of the permit on the south side of Tutelow Creek in between UNT 3 and UNT 4 that does not appear to be feasible to mine or to utilize for support area. That area should be removed from the permit area on the Exhibit 6.2 and other maps.

11. A small section of stream barrier hatch associated with UNT 3 to Tutelow Creek should be shown approximately 800 feet upstream of its confluence with Tutelow Creek. (Chapter 77.410(a)(7))

12. Show the locations of the springs which emanate from the hillside within the Hard Rock Mining Area. (77.410(a)(10))

13. Show the proposed fencing at the property line above the Hard Rock Mining Area. Include a note on the map about the signage to be placed along the property line. Revise all mapping as needed. (Chapter 77.410)

14. Identify the purpose of the 300-foot barrier along the property line above the Hard Rock Mining Area. Revise all mapping as needed. (Chapter 77.410)

MODULE 8-HYDROLOGY

1. All monitoring points shown on the mapping must be listed on Page 8-4 of the Permit Application. Revise as needed. (Application Instructions)

2. Provide the required number of background samples for each background sampling point and monitoring point. Background samples should be collected from all household wells within 1,000 feet of the permit boundary. Once background sample results are reviewed, the drilled wells to be used as monitoring points will be established. The wells must be sampled for the following parameters: pH, alkalinity, acidity, iron, manganese, sulfate, suspended solids, and turbidity. Static water level measurements must also be obtained for each drilled well. ***If certified letters were sent notifying the owners of testing and no response was received, monitoring sampling will not be required. However, if after the public meeting the owner wants sampling, the required background sampling will be required, and the well may be added to the Monitoring Plan.*** (Application Instructions and Chapter 77.532)

3. The Jeanette Minard well is listed as Monitoring Point 104 (1A) on the Private Water Supply Sheet but is shown on the mapping as MP1A. Be consistent with the identification of monitoring points throughout the Application. (Application Instructions)

4. In Module 8.3(a), it is stated that there are no known quality or quantity issues involving the valley floor aquifer. Yet, two individuals (MP1A and MP104-A) have reported iron staining, and one individual (MP107-1) has iron removal treatment installed on his water supply. In addition, the sample results for these wells surrounding the proposed quarry have iron concentrations that are slightly elevated. Please describe the quality of the groundwater and reference specific water sampling reports from Module 8.1 that support your narrative. (Chapter 77.405)

5. Additional data for the Marvin Miller well (MP106) and the Arthur Forrest well (MP100) are located in Water Resource Report 68 titled, *Hydrogeology and Groundwater Quality of the Glaciated Valleys of Bradford, Tioga and Potter Counties, Pennsylvania*. The wells are identified as numbers Br-678 and Br-724 in the Report. Additional groundwater information may be found in this Report. Please incorporate these data into the Permit Application. Also, Figure 9 on Page 14 of the Report provides groundwater elevations for the unconfined stratified drift aquifer in the Sayre Area. (Chapter 77.405(b))

6. Discuss the groundwater quality of the area as described in the Water Resource Report 68, *Hydrogeology and Groundwater Quality of the Glaciated Valleys of Bradford, Tioga and Potter Counties, Pennsylvania*. Median values for selected parameters are provided in Table 10 of this Report for stratified drift. Compare and contrast data collected from the area around the proposed mine site to the Table 10 data. (Chapter 77.405(b))

7. Discuss and compare the groundwater quality from the Sand and Gravel Mining Area to the surface waters (Tutelow Creek and Chemung River) of the Hard Rock Mining Area. (Chapter 77.405 and 77.406)

8. Mining in the water table in close proximity to water supplies has the potential to affect these supplies with sediment being introduced to the groundwater system. Identify a means to restore or replace a well affected by an increase in sediment in the groundwater system. The Jeanette Minard well has the highest potential for being impacted by the mining upgradient of the drilled well. (Chapter 77.407)

9. Monitoring Point S4A is identified as "UNT 4 to Tutelow Creek (pond outfall)" although the channel from the pond is not UNT 4. UNT 4 is located farther north. Please correct the description of the point. (Chapter 77.126(a)(1))

MODULE 9-OPERATIONS MAP

1. Show the first cut and direction of mining on the Exhibit 9 map for the Hard Rock Mining Area. (Chapter 77.454(a)(1))

2. Show the area where no mining activities will be conducted in accordance with the Avoidance Plan agreed to by PHMC on all applicable mapping. That area should be deleted from the Permit since it cannot be affected. The Avoidance Plan is required due to the potential presence of archaeological resources identified in the Pennsylvania Archaeological Site Survey (P. A. S. S) Site #36BR0035. (Chapter 77.410(a)(7))

3. According to the Avoidance Plan submitted to the PHMC, the Staging Area and Tutelow Creek Stream Crossing were proposed to be farther east than their present locations on the Exhibit 9 map. However, the Geofabric Area and the sediment pond are still shown in the same location as they were on the Avoidance Plan. Will the Geofabric Area be used as part of the mining operation now that the Support Area is proposed to be established farther west? (Chapter 77.454(a)(4))

4. Show how drainage is conveyed to Sediment Basin 1 from the Support Area. Module 13 states that containment berms will be constructed around the Support Area to direct water to Sediment Basin 1, but no berms are shown on the Operations Map. (Chapter 77.454(a)(6))

5. A gravity channel for drainage from the pit sump to Basin 2 is proposed as per Module 13. Please show the channel between the pit sump and Basin 2. Please note that a gravity discharge from the pit is permitted if only the pit collects and discharges stormwater with no groundwater contribution.

6. Delineate the extent of Phases 1, 2, and 3 on the Exhibit 9 map. The Exhibit 9.1 only shows Phases 1 and 2. Phase 3 is described in Module 10.1 but not shown on Exhibit 9.1. Also, instead of describing the Hard Rock Areas northwest of UNT 1 and the initial Phase 1-2-3 Mining Area as "Future Mining Area," please identify those areas with a phase number that is referenced in Module 10.1. (Chapter 77.454(a)(1))

7. Show a 100 foot gravel pad to be installed prior to the intersection with the first paved road. Note any other measures to be installed to prevent mud from being tracked on to Meadowlark Drive. (Chapter 77.454(a)(2))

8. Show any erosion and sedimentation controls (i.e. roadside ditches and sumps) that will be constructed along the access road to the Support Area and Hard Rock Mining Area. (Chapter 77.454(a)(6))

9. Show the CPP culvert under Minard Drive just before the road reaches the house. The culvert pipe should be shown on all other applicable mapping. (Chapter 77.410(a)(4))

10. Show the evergreen tree hedge required to be planted between the homes along Meadowlark Drive and the Mining Operation. That evergreen tree hedge is required as per the February 24, 2021 Conditional Use Approval Document from Athens Township. (Chapter 77.454(a)(2))

11. To reduce cluttering the symbols on the map, please remove the floodplains from the Exhibit 9 map. The floodplains should remain on the Exhibit 6.2 map. Also, please use a less dense hatching for the 100 foot stream barrier so other features are better visible within the barrier. (Chapter 77.454(c))

12. Use a different color hatching for the areas where an encroachment on the 100 foot barrier is proposed and include a label with an ID number that is referenced to Module 14 with the details of the encroachment. (Chapter 77.454(c))

13. Delineate the areas within the FEMA Floodway that are proposed to be affected by the mining operations. (Chapter 105.13(e)(1)(i)(A))

14. Identify the light brown lines as existing roads/paths in the Map Legend. (Chapter 77.410(a)(4))

15. Show the emergency spillway outlet for Basin 1. Will the construction of the emergency spillway require disturbance within the 100 foot stream barrier of Tutelow Creek? (Chapter 77.454(a)(6))

MODULE 10-OPERATIONAL INFORMATION

1. Portions of the proposed mining area are within the FEMA Delineated Floodplain and Floodway. Revise Module 10.1 to provide a plan for how floodwater will be handled if it enters the Sand and Gravel Mining Area, the Support Area, the Processing and Stockpile Area, and Basin 1. If berms will be used to keep the floodwater out of the Mining Area, a backwater analysis will need to be provided to document the potential for any impacts to upstream properties because of narrowing the Floodplain and Floodway. What are the potential effects of floodwaters entering these areas? (Chapter 77.452 and Chapter 105)

2. Module 10.1 states that grading of surplus material in adjacent areas will be utilized to help achieve final reclamation slopes. Please define surplus materials and adjacent areas. (Chapter 77.452)

3. Module 10.1: The Phase 1 Sand and Gravel Mining Area includes the proposed Processing, Stockpiling, and other Support Areas. The access road is also within the proposed area to be mined. Will the Support Area and access road be relocated during the Phase 1 Sand and Gravel Mining? (Chapter 77.452(3))

4. Item 4 on Page 10-1 references installation of a containment berm around the Hard Rock Mineral Extraction Area. Due to site topography, it does not appear feasible to construct any sort of berm. Instead, it will likely be necessary to maintain a low wall that functions similar to a containment berm. Overburden material should not be placed downslope of the low wall. Please provide additional information about how containment will be achieved in the Hard Rock Mining Area. The runoff from affected areas should be routed to the proposed sediment basin, not to rock filters as discussed in Item 9 on Page 10-2. (Chapter 77.452)

5. Item 7 on Page 10-2 should also reference the installation of any erosion and sedimentation controls associated with the access road. (Chapter 77.452)

6. Item 10 on Page 10-2 and Module 10.4 suggest placing excess overburden in the Sand and Gravel Phase 1 Mineral Extraction Area after the sand and gravel reserves have been extracted. The narrative for the Sand and Gravel Phase 1 implies that it will not be bonded initially. References to

placing the excess overburden in the Sand and Gravel Phase 1 area should be removed, or the Sand and Gravel Phase 1 Area should be bonded initially. (Chapter 77.452)

7. Module 10.5: Please include an evaluation of the Setback Area between the post-mining flooded pit and the Chemung River. It must be demonstrated that the barrier will be adequate to prevent future erosion. (Chapter 77.462(b))

8. In unconsolidated material, the minimum underwater safety bench that the Department will consider is a three horizontal to one vertical slope with a minimum width of 25 feet. Revise Module 10.5 to provide additional information regarding the underwater safety bench. Module 10.5 must also provide a demonstration that the proposed width of the safety bench is sufficient for the anticipated seasonal water table fluctuation. Revise the Application to include a cross section and/or typical drawing showing the underwater safety bench. (Chapter 77.594)

9. Show the permit line setbacks on the cross-sections where applicable. The minimum setback distance is equal to the highwall height in unconsolidated material. Revise as needed where the highwall is near the permit boundary or a variance area. (Chapter 77.572)

10. Please verify that the proposed benching and final grade are shown correctly on Cross Section D-D' between Stations 12+00 and 18+00. The proposed final grade does not seem consistent with the contours shown on the Exhibit 18 map in this section. For example, at Station 15+00, the Exhibit 18 map indicates an elevation of approximately 800 feet while the cross section indicates an elevation of 870 feet. (Chapter 77.126)

11. Module 10.14: The electric line and poles for the Minard Residence currently exist in an area that is proposed to be mined through as part of the Phase 1 Sand and Gravel Mining Area. Does the Operator plan to relocate this electric line? Provide an agreement from the utility company allowing this electric line to be relocated. In addition, notify the utility company that mining activities will be taking place near the electric line that runs north to south across the Mining Area. (Application Instructions)

12. Explain how the containment berm and Basin 2 will be installed without impacting Tutelow Creek. Currently the low wall of mining is adjacent to the 100 foot stream barrier. How will the Operator control overburden from entering the stream barrier and Tutelow Creek when blasting operations take place? (Chapter 77.452(2))

13. In Module 10 it is stated that excess overburden from the Hard Rock Mining Area will be placed in the Phase 1 Mineral Extraction Area. Indicate on the mapping where the excess spoil from the Hard Rock Mining Area will be placed. This material will need to be bonded until final placement. Keep in mind that the excess spoil cannot be placed directly into the open water impoundment that will exist after the sand and gravel have been removed. (Chapter 77.452(2))

14. Revise the Mining and Reclamation Plan with the details of the proposal to remove hard rock overburden and to dispose of it in the sand and gravel pits. Revise the Reclamation Plan for the Sand and Gravel Areas that will be backfilled to grade with excess hard rock overburden. (Chapter 77.456)

15. Revise the Mining and Reclamation Plan as discussed during the onsite Field Meeting with the reconfiguration of the Support Area to stockpiles and processing equipment out of the floodway. (Chapter 77.456)

16. Revise the Mining and Reclamation Plan for the final reclamation of the Hard Rock Mining Area to establish positive drainage and control the drainage during final reclamation when the pond and low wall will be removed. (Chapter 77.456)

17. Describe the plan to clear and grub the Hard Rock Mining Area, and describe how trees and/or stumps will be disposed.

MODULE 12-EROSION AND SEDIMENTATION CONTROLS

1. Due to the slope of the hill, upslope diversion ditches must be installed as part of the preparations to mine the Hard Rock Mining Area. Currently only an upslope berm is proposed. Revise the Exhibit 9 map to show the diversion ditches. (Chapter 77.458)

2. Due to the steep slopes and proximity to the stream, super silt fence and/or other enhanced erosion and sedimentation controls should be utilized in the area between Tutelow Creek and the initial area affected in the Phase 1 Hard Rock Mining Area. Show those erosion and sedimentation controls on the Exhibit 9 map. (Chapter 77.458)

3. The containment berm in the vicinity of Basin 2 does not appear to offer positive drainage towards Basin 2. Rather, it appears there would be a low spot on the berm approximately 800 feet to the east of Basin 2 based on the existing contours. Please clarify how the berm will convey runoff to Basin 2. (Chapter 77.459)

4. Will it be feasible to stockpile topsoil and overburden around the perimeter of the Hard Rock Mining Area considering the steep slopes? It is difficult to envision how these stockpiles would stay in place and how they could be constructed without placing material over and/or below the highwall and/or low wall. Please clarify how these stockpiles will be constructed and function. (Chapter 77.458)

5. The containment berm proposed to be constructed within the Floodway between the Support Area and the Chemung River should be armored with riprap to prevent erosion during flood events. (Chapter 77.458)

6. Provide a typical drawing for a rock construction entrance. Page 14 of the Erosion and Sedimentation Pollution Control Manual contains a typical drawing for a rock construction entrance. (Chapter 77.458)

MODULE 13-TREATMENT FACILITIES/SEDIMENTATION PONDS/DAMS AND IMPOUNDMENTS

1. Please provide the following details regarding the proposed use of flocculants: (Chapter 77.457(b)(2))

    a. Describe where flocculant will be added and identify a point on the Exhibit 9 map where the flocculant will be added. Is flocculant proposed to be used at both Basin 1 and Basin 2 or just Basin 2?
    b. Describe how the flocculant will be dispensed in order to prevent it from entering the stream.
    c. Provide the Material Safety Data Sheet for the flocculant.

2. The drainage area of Basin 1 is listed as 3.0 acres. However, the area that includes the Geofabric Area over to the edge of the Processing/Stockpile Area is about 8.0 acres. Please address that discrepancy, and show the proposed drainage area to Basin 1. (Chapter 77.461)

3. Basin 2 is designed as a treatment pond but is proposed to receive gravity drainage from the pit. The basin construction details are the same for Basin 1 and Basin 2 on Page 13-5. That includes an emergency spillway for Basin 2. However. there are no design details for an emergency spillway on the Pond Certification Form for Basin 2. Please address this discrepancy. (Chapter 77.461)

4. Provide several cross sections in the vicinity of Basin 2 and the proposed containment berm in the Hard Rock Mining Area. The goal of these cross sections is to depict the stream, Floodway, Floodplain, Stream Barrier Area to be retained, Stream Variance Area, existing ground, proposed ground, alternate erosion and sedimentation controls below Basin 2, Basin 2, the containment berm, and any proposed low wall to provide a more clear picture of how these features will interface. (Chapter 77.461)

5. Provide a map showing how the drainage areas listed in the Pit Sump Sizing Table were determined. The Drainage Area should include, not only the pit floor acreage, but also any upslope areas that will drain into the pit. (Chapter 77.461)

6. Module 13.1 indicates that the outfall for Basin 2 is identified as 001 while Module 13.3 indicates that the outfall for Basin 1 is identified as 001. Please revise as necessary. (Chapter 77.126)

7. Item 5 under the Operation Section for Basin 1 and Treatment Facility 1 on Page 13-7 should be removed from the Application. When the impounded water meets effluent limits, it must be dewatered so that sufficient capacity is available in the pond for the next storm event. (Chapter 77.461)

8. Revise the entire Application to ensure that all basins are named and identified consistently in the modules and on the exhibit maps. The following terms are used throughout the Application, and it is difficult to determine what facility is being referenced: Basin 1, Basin 2, Treatment Facility 1, 001, 002, TF01, etc. (Chapter 77.126)

MODULE 14-STREAM/WETLANDS

1. Provide the Chapter 105 Fee Worksheet (Form No. 3150-PM-BWEW0553). As previously discussed, the Department will only require Chapter 105 fees to be paid for the Phase 1 Area to be bonded at time of the initial permit issuance. Further 105 fees will need to be paid during revisions to expand the mining operation beyond the initial phase. Based on the currently proposed encroachments, 105 fees would be needed with the Permit Application for the following: (105.13(c))

    a. The crossing of Tutelow Creek.
    b. The crossing of UNT 1 to Tutelow Creek.
    c. Encroachment for the support area within the floodway.

    The encroachments proposed above would be permanent encroachments which have a required fee of $8,000/acre. For example, the support area proposed within the floodway is approximately 7.5 acres which would equate to a fee of $60,000.

    Chapter 105 fees should be submitted with the Permit Application for those encroachments that should not need to be significantly revised as part of the application review. However, if the extent of an encroachment may be subject to revision during the application review, then the Chapter 105 fees may be deferred until later in the review process. Please note that if there is a proposed increase to a proposed encroachment area after the initial Application submission, then that may delay permit issuance due to the need for further review and possible need to rerun public notices.

2. Provide the Aquatic Resource Impact Table (3150-PM-BWEW0557) identifying each of the proposed encroachments for the Initial Phase. (Chapter 105.13(a))

3. The mapping shows that portions of the proposed mine site where stockpiling and other support activities will be conducted are within the FEMA Regulatory Floodway. Include an analysis of the

project's impact on the Floodway delineation and water surface profiles and a letter from the municipality commenting on the analysis. (Chapter 105.13(e)(1)(vi))

4. Is there any record from the landowner indicating how often the area of the farm fields is flooded?

5. Provide the Wetland and Stream Delineation Maps in a larger scale. The maps cannot be read at the scale on which they are printed. (Chapters 77.104 & 105.13(e))

6. The open water pond at Monitoring Point S4A should be identified as a wetland. (Chapter 105.13(e)(1)(i)(A))

7. Mining will be conducted on both sides of the wetland located at Background Sampling Point 1B (Wetland I). There are concerns that this wetland will dewater at the conclusion of mining at the site. The wetland elevation is at 770 feet msl, and the final water level of the pit is projected to be at 755 feet msl. Background groundwater levels must be obtained around this wetland prior to mining. It is recommended that the applicant install a series of piezometers around this wetland and obtain monthly water level measurements for at least one year prior to mining on either side of the wetland. Should the wetland be impacted by mining, the Operator must provide a plan for replacing the wetland area. There are also concerns for the other wetland areas (Wetland J and Wetland JJ) in close proximity to Wetland I and the wetland (Wetland M) near the haul road entrance for the same reasoning. (Chapter 77.403)

8. Evaluate the potential for the proposed mining operation to cause indirect impacts to the adjacent streams due to the proposed depth of mining extending to an elevation below the stream beds. The evaluation should include the potential for reduced hydrology due to any fracturing (Hard Rock Area) as well the potential for any streams migrating into the post mining impoundments (Sand and Gravel Area). (Chapter 105)

9. Identify each of the encroachments within 100 feet of the streams (Tutelow Creek - Northern Encroachment, Tutelow Creek - Southern Encroachment, and UNT to Tutelow Creek Encroachment) with an ID number that is referenced on the Exhibit 9 map. (Chapter 105.13(e)(1)(i)(C))

10. Currently the Operator proposes to cross Tutelow Creek with a bridge and install a 48 inch pipe in Unnamed Tributary 1 to cross it. In order to minimize the streambed disturbance to Unnamed Tributary 1 to Tutelow Creek, the Department recommends installing bridges over both streams.

11. Review the culvert design on Unnamed Tributary 1 to Tutelow Creek as discussed at the onsite Field Meeting with Dan Ryan from the Fish and Boat Commission. (Chapter 77.459 and 77.523)

12. There is no discussion of encroachments that may be required for future phases (for example: whether a stream crossing that would be needed for UNT 2 to Tutelow Creek, or impacts to Wetland K, or the S4A Pond due to future up-gradient hard rock mining). No specific Mining Plan was provided or shown on the maps for those future phases. Without a specific plan, no variance can be granted for those areas. As such, a major permit revision would be required for those future phases, not just a bond increment. (Chapter 105.13(e)(1))

13. Pages 14-16 and 14-17 indicate that an individual 404 Permit will be applied for; however, the scale of the proposed impacts appear to make the project eligible for PASPGP-6 Authorization from the USACE. Form 14A does not need to be completed if PASPGP-6 Authorization will be obtained in lieu of an individual 404 Permit.

14. The maximum carrying capacity of the 497 CFS on Page 14-8 for the 48" culvert crossing of UNT to Tutelow Creek appears to be too high for the size of the culvert.

15. The design nomograph on Page 14-196 indicates that the peak discharge from the 25 Year Storm Event (200 CFS) will not be passed by the proposed culvert which has a capacity of 150 CFS. Please clarify why the crossing was not sized to pass the 25 Year Storm Event as required by Chapter 105.161. (Chapter 105.161)

16. Chapter 105.161(e) requires that the structures shall pass the 100 Year Frequency Flood with less than a 1.0 foot increase in the natural unobstructed 100 Year Water Surface Elevation, except where the structure would be located in a floodway which is delineated on a FEMA map, in which case no increase in the 100 Year Water Surface Elevation will be permitted. Exceptions to this criteria may be approved by the Department if the applicant prepares a risk assessment which demonstrates, and the Department finds, that the structure will not significantly increase the flooding threat to life and property or the environment, and if applicable, is consistent with Municipal Floodplain Management Programs adopted under the National Flood Insurance Program and a FEMA Flood Insurance Study. Provide the necessary calculations and drawings to demonstrate compliance with Chapter 105.161(e). (Chapter 105)

17. Module 14.1(a) on Page 14-7 indicates that a steel or corrugated plastic culvert will be used. If the culvert will be corrugated, the design nomograph used for sizing the proposed culvert should be for a corrugated pipe instead of a smooth pipe. (Chapter 105)

18. Item 7 on Page 14-9 indicates that a minimum of 2 feet of cover should be placed over the culvert, but the design nomograph for the culvert indicates that 3.2 feet of cover should be placed over the culvert. Revise these areas of the Application to be consistent. (Chapter 105)

19. The construction sequence on the drawing for the UNT 1 to Tutelow Creek Crossing appears to be specific to a bridge crossing, while the proposed crossing is a culvert crossing. Revise to be site specific. (Chapter 105)

20. The drawing for the UNT 1 to Tutelow Creek Crossing does not show inlet or outlet protection for the proposed culvert or the safety berms that will need to be installed at the edge of the travel way. (Chapter 105)

EXHIBIT 16 BLASTING

1. Include a draft Module 16, Blast Plan, that explains how blasting will be completed while maintaining the stability of the slope. Discuss how blasted material will be kept from entering the stream barrier and the stream. (Chapter 77.564)

EXHIBIT 18-LAND USE AND RECLAMATION MAP

1. The NPDES outfall markers do not need to be shown on the Exhibit 18 map.

2. Include a note on the map that the stream crossings will be removed as per Module 14. (Chapter 77.652)

3. Include a note that areas within 100 feet of the stream that are affected by mining will be planted with trees. Identify the proposed Stream Encroachment Areas on the map that are proposed to be affected and will need to have trees planted as part of the reclamation of the Riparian Area (see Module 23 comment). (Chapter 77.456(5))

MODULE 23-REVEGETATION

1. Module 23.4: There are forested Riparian Areas proposed to be affected by the mining operations in which trees will be removed. Riparian Areas within the 100 foot Tree Variance Areas that are affected by mining should have tree species planted to reestablish the forested Riparian Buffer Area. Include the tree species to be planted in Module 23.4. (Chapter 77.456(5))

This is the final summary letter following the Field Meeting and is the final summary letter period. Please address the comments in this final summary letter and submit a complete Permit Application within one (1) year of the date of this letter, **May 6, 2023**. If a complete Permit Application is not submitted within one (1) year of the date of this notice, then the Pre-Application review comments may no longer be considered valid due to potential changes to site conditions, regulations, or other factors on which the Pre-Application comments are based. A response letter, with a narrative addressing each correction item, must be included with the Surface Mining Permit Application. Your Application may be returned as incomplete if these items are not addressed.

Sincerely,

John Mital

John Mital, P.G.
Licensed Professional Geologist

Attachment: Meeting Log

cc: Tim Gourley, P.E., Tract Engineering PLLC *(via email)*
Rob Stormer, P.G., EADS Group *(via email)*
Dan Ryan, Pennsylvania Fish and Boat Commission *(via email)*
Jeff Painter, Pennsylvania Game Commission *(via email)*
Terry Eucker, Army Corps of Engineers *(via email)*
Gregory Aaron, P.G., Chief, Permit & Technical Services *(via email)*
John Mital, P.G., Lead Reviewer *(via email)*
Norman Folmar, P.E., Lead Engineer *(via email)*
H. David Goss, Inspector Supervisor *(via email)*
Mike Donahue, Blasting Inspector *(via email)*
Shane Moyer, Inspector *(via email/hard copy)*
eFACTS/ Pre-Application File

JPM/jaj

Moshannon District Office
186 Enterprise Drive
Philipsburg, PA 16866

MEETING LOG

DATE: 4-26-2022

PROGRAM: DMO

MEETING REGARDING: Bishop Brothers, Minard Mine 08220301, Pre application field review meeting

LOCATION: onsite

NAME AND TITLE	ORGANIZATION	PHONE NUMBER
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