Bishop Brothers Construction Company, Inc.

Proposed Minard Mine

Large Noncoal Permit Application No. 08230301

Individual NPDES Permit No. PA0270041

Response to Public Comments

Date: January 8, 2025

Introduction and Timeline:

Bishop Brothers Construction Company, Inc. (Bishop Brothers) applied to the PA Department of Environmental Protection Moshannon District Mining Office (Department) for a large industrial mineral surface mining permit and associated National Pollutant Discharge Elimination System (NPDES) permit for its proposed Minard Mine. The proposed project location is in Athens Township, Bradford County. The site is located along the Chemung River just west of Sayre and Athens, PA. The proposed total project area would be 360.7 acres.

Bishop Brothers submitted a Notice of Intent to Explore on January 15, 2020 to evaluate the presence and quality of the stone in the proposed area of the Minard Mine. The Department approved the exploration on January 29, 2020. The exploration period was valid for one year until January 29, 2021.

Bishop Brothers submitted another Notice of Intent to Explore on February 16, 2021 to conduct additional exploration. The Department approved the exploration on February 24, 2021. The exploration period was valid for one year until February 24, 2022.

A pre-application for the mining and NPDES permits was received on January 10, 2022.

The Department held a pre-application meeting on site with Bishop Brothers on April 26, 2022. The Department provided a letter with technical comments regarding the application to Bishop Brothers on May 6, 2022.

The large industrial mineral surface mining permit and associated NPDES applications were received on May 15, 2023 and accepted for technical review by the Department on May 18, 2023.

During the application review, over 60 people submitted public comments in writing and verbally during a public informational meeting on July 31, 2023 and a public hearing on September 26, 2023. The public comment period ended on September 26, 2023. The list of commenters and the comments are found in table form in the Appendix at the end of this document. The Department sent technical deficiency letters to Bishop Brothers on the following dates:

Technical Deficiency Letter Sent	**Response Received**
December 27, 2023	February 28, 2024
May 30, 2024	July 1, 2024
July 30, 2024	August 12, 2024

Bond was requested on September 17, 2024. Permits were issued on January 8, 2025.

Responses to comments are organized by topic as listed in the Table of Contents below. There were many comments with general concerns regarding certain topics while other comments had specific concerns. Many topics have a general response followed by responses to specific concerns. Note: Comments quoted directly from commenters are shown in quotation marks and with *italics font*.

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Exhibits:

Response Letter to Public Comments from Tract Engineering, PLLC dated August 13, 2024. Includes:

> Texas Commission on Environmental Quality (TCEQ), “Ambient Air Monitoring and Evaluation of Community Health Impacts Near Aggregate Production Operations” Report
>
> Mine Safety and Health Administration (MSHA), Health Sampling Data from Other Bishop Brothers Mining Permits

Response Letter to Public Comments from Tract Engineering, PLLC dated October 31, 2024.

PADEP, “Baseline Crystalline Silica PM4 Monitoring Project Tunkhannock, Wyoming County, PA” Report.

Blasting Complaint Investigation Technical Supplement by PA Department of Environmental Protection.

Minard Mine Community Noise Impact Report by Thornton Acoustics & Vibrations dated September 17, 2024.

Air Quality and Noise

Note: Noises related to blasting are addressed in the blasting section.

General Comment:

There were several comments expressing general concerns about the effects of the proposed mining on air quality of the surrounding area and the effect of noise of the operations on local residents. Residents were particularly concerned with the potential health impacts of silica dust in the air.

Comments:

“Please advise the steps that Athens Township/Commonwealth of Pennsylvania will take to measure air quality before the project and after commencement to ensure air remains free of harmful silica and particulate.”

“Has Athens Township/Commonwealth of Pennsylvania had discussions about compensation to local residents for long term respiratory health issues caused by silica and air borne particulate?”

“Will the dust from either of the 2 types of mining/crushing/screening of rock material contain silica?”

Response:

PA Code Title 25 Chapter § 123.1 prohibits the emission into the outdoor atmosphere of a fugitive air contaminant from sources but provides exemptions for the following activities:

(1) Construction or demolition of buildings or structures.

(2) Grading, paving and maintenance of roads and streets.

(3) Use of roads and streets. Emissions from material in or on trucks, railroad cars and other vehicular equipment are not considered as emissions from use of roads and streets.

(4) Clearing of land.

(5) Stockpiling of materials.

(6) Open burning operations.

(7) Blasting in open pit mines. Emissions from drilling are not considered as emissions from blasting.

The exemptions in bold above are the activities proposed to be conducted by Bishop Brothers on the Minard Mine. The air quality standard that Bishop Brothers must meet is that any emissions of fugitive dust from those activities must not be visible at the point the emissions pass outside the permit boundary (see PA Code Title 25 Chapter § 123.2). The

air pollution control plan requires the use of an onsite water truck to suppress fugitive dust from onsite truck traffic and to ensure dust doesn't blow off any stockpiled material.

The only activities proposed by Bishop Brothers as part of the Minard Mine operations that wouldn't fall under the activities listed above are the crushing and screening of rock. Air quality permits for crushing and screening equipment, as well as the diesel engine that runs the equipment, are required to be obtained from the Department's Air Quality Program.

The crushing and screening equipment is permitted by the General Permit (GP) 3 and the diesel engine equipment is permitted by the GP9. The GP3 and GP9 have specific air emission limits listed in the permits (see the copies of the GP3 and GP9 in Module 17 of the application). Water sprays will be used to suppress the dust and conveyor covers and shrouds to block dust from escaping.

The material proposed to be mined at the Minard Mine is sandstone and sand & gravel, which are composed predominantly of silicate minerals, of which crystalline quartz would be the primary component. The exposure of Bishop Brothers employees to silica when they are working on the site is regulated by the Mine Safety and Heathy Administration (MSHA). MHSA established a threshold limit value (TLV) for the protection of workers. The MSHA TLV assumes that mine workers can be safely exposed, without personal protective equipment, to respirable dust at the level of the TLV for a full 8-hour shift each and every workday of their careers. For a sandstone and sand & gravel surface mine the existing exposure limit for quartz is 100 micrograms per cubic meter of air (µg/m3) for a full-shift exposure, calculated as an 8-hour Time Weighted Average pursuant to the Code of Federal Regulations Title 30 Subchapter K Part 56 Subpart D § 56.5001 and the technical manuals that the regulation references.

The state of Pennsylvania has no specific air quality standard for silica dust in ambient air.

Bishop Brothers provided a 2020 study from the Texas Commission on Environmental Quality (TCEQ) entitled "Ambient Air Monitoring and Evaluation of Community Health Impacts Near Aggregate Production Operations". That study from TCEQ reviewed the ambient air quality of locations throughout the United States and at locations near "Aggregate Producing Facilities" (APOs) such as the proposed Minard Mine. The TCEQ study did not find any evidence of impacts to ambient air quality from APOs. The TCEQ study is linked below and included in the Exhibits of this Comment-Response document along with the response letter to the public comments from Tract Engineering PLLC.

Link to TCEQ Report:
https://www.tceq.texas.gov/downloads/toxicology/publications/community-health-impacts-as-202.pdf

The TCEQ study references another study by the Pennsylvania Department of Environmental Protection Bureau of Air Quality which was focused on a train loading facility in Tunkhannock, Wyoming County, PA that handled sand used in hydraulic fracturing of gas wells ("frac sand"). That report stated that "Historically, air quality

concerns related to this mineral resource, crystalline silica, have been more of an occupational nature rather than of an ambient nature. As such, any airborne silica, which would be captured as a component of the more generalized particulate matter sampling that DEP conducts, had not been identified for specialized sampling." The PADEP study of the facility at Tunkhannock did not find any evidence of ambient air quality impacts from the facility. The report is linked below and included in the Exhibits of this comment response document.

Link to PADEP Tunkhannock Study Report: https://files.dep.state.pa.us/Air/AirQuality/AQPortalFiles/Monitoring%20Topics/Toxic%20Pollutants/Docs/Final_Tunkhannock_Report.pdf.

The studies referenced above are not directly applicable to the Minard Mine since the settings of the studies are very different. There are no studies of air quality and airborne silica that are specific to sand and gravel quarries in Pennsylvania. However, a review of the available research regarding the effects of airborne silica on the ambient air quality surrounding mining, construction, and other industrial sites that disturb the ground and generate dust have not shown any evidence that the activities negatively affect the ambient air quality beyond the sites. It has been the Department's experience with sand & gravel and other types of mine sites that if the best management practices to control dust as described early in this section are utilized and maintained then there will be minimal offsite effects to the local ambient air quality.

The Commonwealth has not had any discussions about compensation to local residents for long term respiratory health issues caused by silica and airborne particulates. DEP is not aware of what if any conversations Athens Township has had.

On November 21, 2024, an Opinion and Order was issued by the Bradford County Court of Common Pleas which denied the appeal of Athens Township's conditional use zoning for the proposed mine. Testimony from the Objectors were heard regarding dust, noise, disruption from the mine and the Court found that the Township considered these impacts but nonetheless determined that non-coal surface mines are assets to the community and its presence was appropriate and justified with in the zoning districts at issue. *See Blackman v. Athens Township*, Docket No. 2023IR0069, Bradford Cnty. Ct. Com. Pl. (Opinion and Order November 21, 2024, pp. 8-9).

Comment:

"How and how often will the air be monitored in Sayre and Athens over the 20 year lifespan of the mine to prove that the thousands of residents are not being exposed to silica dust? Can the PA DEP recommend a firm that could be hired by the community to do independent air quality monitoring? I have talked with people who work in similar mines that say they wear devices twice a year to monitor for silica so I do feel it may be a legitimate concern for this mine."

Response:

The Department does not conduct any air quality monitoring activities right in the towns of Sayre or Athens. The Department cannot recommend or endorse a specific company or firm to do independent air quality monitoring. See the response above regarding silica exposure.

Bishop Brothers does monitor the silica exposure of their employees as required by the Mine Safety and Health Administration (MSHA). Bishop Brothers provided the monitoring data from their other permitted mine sites. The data is publicly available via MSHA's Mine Data Retrieval System (https://www.msha.gov/data-and-reports/mine-data-retrieval-system). The Health Samples report is attached to this Comment-Response document.

The Health Sample reports include measurements of respirable quartz and respirable dust. The concentrations reported are in units of mg/m^3. The Permissible Exposure Limit (PEL) for each sample is calculated based on several variables including the percent of quartz in the sample, the volume of the air sampled, and the exposure time. However, the PEL for each sample is based on the exposure limit of 100 micrograms per cubic meter of air (µg/m3) as described in the response to the general comment above. Out of the samples collected from Bishop Brothers mine sites none of the reported concentrations resulted in a violation and no corrective action was required. The concentrations were measured from employees that are working in close proximity to the sources of the dust on the mine sites. The concentration of silica and dust in the air outside the permit boundary will be much lower than what the employees on the mine site will be exposed to.

Comment:

What is the status of the air quality permits? Are only 3 and 9 required? Is this an entirely separate permit? Who administers it? Can the public comment?

Response:

The air quality permits have not been submitted to the Department for review yet. The crushing and screening operations are proposed to be covered under Air Quality General Permits (GP) 3 and 9. The GP-3 is for the Portable Nonmetallic Mineral Processing Plant where stone is crushed to generate the necessary size of the product material (construction aggregate). The GP-9 is for the Diesel or No.2 Fuel-Fired Internal Combustion Engine which is used to run the crushing and screening equipment. Those

General Permits are separate from the mining and NPDES permits. They are issued by the Department's Air Quality Program based out of the Northcentral Office in Williamsport, PA. If issued, the mining permit will contain a condition requiring air quality permits to be obtained before crushing and screening operations can begin. If approved by the Bureau of Air Quality then the General Permits will be in effect for a five year period, and they could be renewed after the end of each five year period. Coverage under the Air Quality General Permits is not subject to public notice or public review. There would be a notice of the approval of coverage published in the PA Bulletin when the general permits are approved by the Air Quality Program in Northcentral.

Part B Special Condition #19 in the Surface Mining Permit documents that requirement to obtain an air quality permit prior to bringing crushers or processing equipment onsite.

Comment:

Athens Township has not adequately addressed concerns related to wear and tear/overuse of existing roadways and their maintenance and also airborne pollution from the diesel trucks and equipment.

Response:

Emissions from diesel triaxle trucks and mobile equipment such as bulldozers, excavators, etc. are not regulated by the Department on individual sites. The diesel engine used to run a Portable Nonmetallic Mineral Processing Plant is covered by the GP-9 as described above. The GP-9 applies emission limits to the diesel engine used in the processing plant. See the GP-9 document in Module 17 of the permit application for the emission limits.

No mud or dirt must be tracked onto Meadowlark Drive by the trucks exiting the Minard Mine site. That will be controlled by installing a rock construction entrance near the intersection of the haul road with Minard Lane (private road), which is paved. Therefore, no material should be tracked from the haul road on to Meadowlark Drive. If material is tracked out on Meadowlark Drive then that would be a violation and Bishop Brothers will be required to clean the road.

Bishop Brothers is also required to enter into a Road Use Maintenance Agreement with Athens Township as a condition of the February 21, 2021 Board of Supervisors' Decision of the Board. Refer to Section III, 13b, 13c, 13f, 13h, 13i, 13j, 13k, and 13s (Mine Permit application pages 1-17 to 1-23).

Comment:

"Is radon a concern with this type of mining operation?

Response: Surface mining of industrial minerals is not known to cause any increase in radon levels in nearby homes.

General Comment:

There were several comments expressing general concerns about the effect of noise of the operations on local residents.

Response:

To minimize offsite impacts from noise and to reduce visual impacts, the mining plan calls for vegetated, earthen berms to be constructed in key areas along the northern permit boundary to screen operations from view and help contain noise. In addition, the Athens Township Conditional Use requires the planting of two evergreen visual screens between dwellings along Meadowlark Drive and the permit area. Crushing, screening, and processing equipment will be set back on the southern area of the permit over 2,500-feet from the dwellings along Meadowlark Drive to provide additional noise attenuation. In addition, the Athens Township Conditional Use requirements restrict operational hours to Monday through Friday, 7am-5pm and 7am-12pm on Saturdays. No mining product is to be transported off-site any day after 3pm. The mine site will be closed on Sundays and government holidays. Blasting is not permitted on weekends or Federal holidays.

Comment:

"Please disclose the anticipated decibel level of the general operations of the mine."

Response:

The decibel level of the noise from the operation would vary based on the distance from the operation. The Department recommended that Bishop Brothers conduct a study of the pre-mining environmental sound level to characterize noise levels prior to mining. Bishop Brothers chose not to conduct the study stating that concerns about noise were addressed as part of Athen's Township's review and approval of the conditional use.

Bishop Brothers does monitor the noise exposure of their employees as required by the Mine Safety and Health Administration (MSHA). Bishop Brothers provided the monitoring data from their other permitted mine sites. The data is publicly available via MSHA's Mine Data Retrieval System (https://www.msha.gov/data-and-reports/mine-data-retrieval-system). The Health Samples report is attached to this Comment-Response document.

MSHA standard 30 CFR Part 62 allows a maximum noise level of 90 A-weighted decibels (dBA) (100% of allowable exposure) for 8 hours. A noise level of 90 dBA would be the equivalent of running power tools, a lawnmower, or motorcycle. MSHA measures personal noise exposure with a noise dosimeter with an attached microphone worn near the worker's ear for a full shift. A noise exposure of 100% corresponds to that of 90 dBA for 8 hours. Readings greater than 100% indicate exposure above the allowable limit. The Health Sample reports include measurements from the noise dosimeters. Out of the noise measurements collected at Bishop Brothers mine sites none of the reported noise levels resulted in a violation and no corrective action was required. The noise measured by the dosimeters would have just been regular site activities such as running equipment. It wouldn't be a measurement of the noise from blasting.

Potential Impacts on Flooding and Stream Channels

General Comment:

There were numerous comments expressing concerns about the proposed activities on Minard Mine site causing or contributing to flooding in the local area. There have also been concerns about the erosion of the banks of the Chemung River adjacent to where the sand & gravel mining is proposed.

Response:

PA Code Title 25 Chapter 105 requires permitting of any encroachment to a watercourse or floodway.

Definitions from Chapter 105:

> **Watercourse**—A channel or conveyance of surface water having defined bed and banks, whether natural or artificial, with perennial or intermittent flow.
>
> > Watercourses within and near the proposed Minard Mine site are the tributaries to Tutelow Creek, Tutelow Creek, and the Chemung River.
>
> **Floodway**—The channel of the watercourse and portions of the adjoining floodplains which are reasonably required to carry and discharge the 100-year frequency flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by the Federal Emergency Management Agency (FEMA). In an area where no FEMA maps or studies have defined the boundary of the 100-year frequency floodway, it is assumed, absent evidence to the contrary, that the floodway extends from the stream to 50 feet from the top of the bank of the stream.
>
> > Note regarding the Minard Mine: Tutelow Creek and Chemung River have floodways defined by FEMA. The floodway between Tutelow Creek and Chemung River covers part of the proposed sand & gravel mining and support area.
>
> **Floodplain**—The lands adjoining a river or stream that have been or may be expected to be inundated by flood waters in a 100-year frequency flood.
>
> > Note regarding the Minard Mine: Much of the proposed sand & gravel mining area is within the floodplain between Tutelow Creek and Chemung River (See Exhibit 6.2, Environmental Resources Map). Work within the floodplain, outside of the floodway, is not regulated by the Department as an encroachment but would be subject to municipal floodplain management rules.

It has been Bishop Brothers stated intention from the start of the permitting process that the proposed mining activities within the watercourses and floodway would not have an effect on the delineation of the FEMA floodway. Module 14 of the permit application contains the details of the stream encroachments and Module 10.1 discusses the

effects of flooding on the site. The proposed activities within the floodway and floodplain are sand & gravel mining and support activities. Bishop Brothers mining plan states in Module 10.1 that “the topography of the site and proposed mining plan will not prevent floodwaters from entering the mining operation”. In other words, the Bishop Brothers is not proposing to alter the floodway by raising the ground surface with fill or building embankments that would affect the delineation of the floodway. In the event of a large flood event the sand & gravel mining area and the support area would be inundated by the floodwaters with water flowing through the site without a significant difference to how it would have before mining. The Department agrees that Bishop Brothers mining plans will not affect the delineated floodway if implemented as intended and no fill material is placed in the floodway.

Bishop Brothers made several revisions to the mining plans in response to comments by the Department (see Module 14 comments in deficiency letters) to address the potential effects on the floodway:

1. The containment berm that was proposed in the floodway area was changed to a containment moat.
2. Proposed locations of material stockpiles were moved out of the floodway area.
3. An opening is proposed in the berm along Meadowlark Drive to allow the passage of any flood waters.

There were also concerns about future changes to the banks of the Chemung River. Riverbanks do change over time as material is eroded and deposited. The Department reviews proposed mining operations based on their proximity to the existing streambank and the existing delineated floodway. A setback barrier with a minimum width of 100 feet will be maintained between the Chemung River and the sand & gravel pits. The Department has reviewed the last 30 years of aerial photography available at the site and the southern stream bank of the Chemung River has been altered over time, but the bank doesn’t appear to be swiftly eroding to the south. Even if there was a future catastrophic flood event that removes the barrier between the sand & gravel pit and the river the event would not result in a sudden release of water because the water level in the sand & gravel pit would be no higher than the level of river (i.e., the barrier of undisturbed material around the pit is not going to be holding back water like a dam). Removing the sand & gravel over 100 feet from the bank should not accelerate any of the erosion processes on the river. Bishop Brothers has not requested a variance to conduct mining activities within 100 feet of the Chemung River. If a variance were to be requested in the future, it would require public notice and there would be an additional public comment period. The Department would not approve the variance if the proposed activities would increase the potential for a stream bank failure.

The stream and floodway variances are documented in Part B Special Conditions 11 through 16 of the surface mining permit.

Comments:

"I am still concerned about flood water drainage in that area. In the event of Tutelow Creek flooding like that in 2011, that area could still see significant flood water. This image is for my property at 972 Meadowlark [see map in question was generated online at https://riskfactor.com/property/972-meadowlark-drive-athens-pa-18840/421204733_fsid/maps/flood (account required to view)]. You can see from the photo of the flood report that water could cover a significant end of the Phase 2 sand and gravel field. This is exactly what happened in 2011. At peak flooding, the water entering the field had a current."

"The plan for Topsoil/Overburden Stock Pile pinches off the exit flow of the flood water and will slow it from returning back to the floodway. This could create issues on the road as well as to the adjacent property at 1072 Meadowlark Drive. I request the DEP address this issue by requesting that the plan be revised to move the setback further than the 300 ft minimum, out of the flood plain, and to reangle the Topsoil/Overburden Stock Pile to allow for a better exit of any future flooding back to the floodway."

"Module 10, page 10-1 states topsoil berms will be constructed to contain runoff and that once vegetation becomes established the operation will be self-contained under "normal climatic conditions." What is considered normal climatic conditions? What is the plan in the advent of abnormal conditions? What is the timeline expected for vegetation to grow and what is the plan for containment before the vegetation? Are these the same berms that are not "intended" to prevent flood water from entering the site? If so, how are these berms expected to allow floodwater to pass while preventing sediment laden water from passing out? Regardless of the intent of these berms, has a backwater analysis been provided in regards to upstream impacts to the floodplain?"

"We are concerned with the placement of the topsoil/overstock design along the 300 foot dwelling barrier area adjacent to our property. The current placement brings the end toward the boundary of the permit line near the FEMA Floodway. In 2011, when Tutelow Creek spilled over it's eastern bank, the flood waters cascaded down Meadowlark Drive on both sides of the road. Water that went down the north side of the road, found it's way back to the creek by running through the area in the dwelling barrier area. Any wall, such as an overstock pile, could impede the drainage of future flooding. That ponding could impact our property. We request you reconsider the mining limit in that section of Phase 2 Sand and Gravel. Moving the line of mineral extraction further east into the field would allow for moving the overstock further off the property line in the flood plain and promote better escape for water."

Response:

A comment was included in the first technical deficiency letter (see Module 14 Comment #1c) regarding the potential for floodwaters to enter the Phase 2 sand & gravel mining area from Meadowlark Drive. Bishop Brothers amended the plan for the topsoil/overburden pile in that area to include a 25 foot opening to allow floodwaters to pass.

Comment:

“A section of the power grid that provides electricity to the upper end of Meadowlark Drive - including my home - runs right along the base of the Phase I plan and opposite the pit floor. Those poles and power lines cross Tutelow Creek just below where the current plan places the hauling road with two structures to cross the creek and wetlands. When Tutelow Creek experiences a flash flood, it carries with it an extraordinary amount of debris - limbs and even entire trees. Altering this area with structures that could break down or poor erosion control will threaten those poles and power lines. Any resulting damage could knock out power for hours and even days. My home sits approximately 40 feet from the banks of Tutelow Creek near Meadowlark Drive.”

Response:

The Department requires that applicants notify and obtain approval from the operators of the utility lines when proposing to conduct mining activities within 25 feet of the utility line. That is based on PA Code Title 25 Chapter § 77.163 regarding the Right of Entry to a proposed mining permit area. The requirement for approval from the operator of the utility line only applies when an applicant is proposing to conduct earth disturbance work (ex. mineral extraction, building ponds/ditches, stockpiling material, etc.) in the right of way, it doesn’t include simply driving vehicles and equipment under the overhead power lines. Penelec (First Energy), the operator of the electric line, provided an agreement with Bishop Brothers dated February 21, 2024 allowing Bishop Brothers to construct the access road under the electric line. There will be two access roads constructed under the electric line: one between Phase 1 and Phase 2 of the sand & gravel mining area and one between the sand & gravel and hard rock mining areas. The permit requires a 25 foot undisturbed buffer to be maintained around all the electric poles. The electric line to the Minard residence is proposed to be removed by mining but an agreement is not yet in place to do that. An agreement with Penelec to remove the line will be required as mining progresses toward the electric line. The Department has no cause to restrict mining activities outside the right-of-way of the electric line due to the potential for floodwaters to carry debris that could damage the lines.

Comment:

“*Has the access drive been located outside the floodplain or constructed in a manner to minimize potential flood impacts? inability to handle 100 year flood events”*

Response:

Most of the access road coming in from Meadowlark Drive is located outside the floodplain but some portions of the access road will be within the floodplain (see the extent of the floodplain on the Exhibit 6.2 Environmental Resources Map and extent of haul road on the Exhibit 9 map). The entrance at Meadowlark Drive is in the floodplain and portion of the road that runs parallel along the electric line to the support area will be within the floodplain. The road will cross a flat field and is not proposed to be raised

above the existing ground surface, therefore it should not have any significant effect on the floodplain.

Comment:

"Section 10.5, page 10-7 states "As the existing streams/rivers in this large valley are subjected to periodic flooding, rarely are the banks themselves altered to change the channel configuration in any significant way." How was this determined? Is there data to support this within the DEP application?"

Response:

Bishop Brothers responded to this question as follows: Historical photographs of the Chemung River in the vicinity of the Minard Mine were reviewed utilizing Google Earth images. The existing stream bank location was digitized from current mapping and imported to Google Earth. The historic aerial photographs from 1995, 2005, 2006, 2008, 2010, 2011, 2013, 2016, 2020, 2021, & 2022 were reviewed. See pages 10-7-1 to 10-7-11 of the permit application. There was a major flooding event in 2011. Examination of the photographs over ~30 years identified no significant change in stream bank locations.

The Department reviewed the aerial photos and condition of the streambank and concurred with the response above.

Comment:

"In module 14, question 4 from the DEP, the response states that "discussions with the landowner and local residents indicated the farm field did not flood in 1972 (Agnes) or 2011." Are these discussions formally documented somewhere?"

Response:

Bishop Brothers responded to this question as follows: Bishop Brother's discussion with the Minard's and local residents during the permit application process indicated the farm fields in the vicinity of the Minard homes did not flood in 2011. The 1972 Agnes flooding was higher and flooded more fields but since the construction of the flood control dams in Tioga County, Pennsylvania (Hammond & Cowanesque) recent flood elevations have not approached the Agnes flood levels.

Comment:

There were a few comments about the effect of the stream encroachments on the flow of the streams:

"What methods were used to determine that the proposed encroachments will not impact stream flow? What will be done in the event that stream flow is impacted?"

“Module 14, DEP question #10: Why is unnamed tributary best crossed by a 48” pipe? Why does the DEP recommend bridged while Tract Engineering believes these will be of greater impact than a culvert? What evidence is used to come to a decision on this and how will a conclusion be drawn?”

“Did the HY-8 culvert analysis report take into consideration that the plan is to partially bury the culvert in the stream bed? (See page 14-196). The culvert appears to be rated for 190 cfs. What is the 100 year storm estimation of required cfs for the culvert crossing? Where did the 497 cfs number come from in DEP comment #14 of module 14?”

Response:

The bridge crossing of Tutelow Creek is designed such that it will convey waters in Tutelow Creek from a 100 year storm event. The bridge will only become inundated with floodwaters in response a 25 year storm event due to the backwaters when the Chemung River floods. In other words when the water level of the Chemung River rises to a certain point then Tutelow Creek will not drain and the bridge will be inundated. The presence of the bridge will not contribute to flooding upstream of the bridge. The bridge over Tutelow Creek, as designed, will not have a significant effect on the flow of Tutelow Creek.

The construction of a bridge over the unnamed tributary would require more space and disturb more of the area as opposed to the placement of a culvert. This increased construction effort could be more damaging to the riparian zone beyond the stream bank because of the larger footprint of a bridge. The Department and PA Fish & Boat Commission often recommend bridge crossings because they allow aquatic species to travel through the culvert but a larger culvert pipe buried in the stream channel should provide a comparable benefit. The use of a culvert for Tutelow Creek is not practical based on the size of the stream and expected flows, therefore a bridge had to be used to cross Tutelow Creek.

On page 14-199 of Module 14, an embedded depth of 12.00 inches is used to model the culvert being buried in the stream bed. Also, a Manning’s n value of 0.035 is used to model the roughness of the bottom of the culvert when it is covered in natural stream channel material. The 497 cfs number was what was reported as the maximum carrying capacity of a 48 inch diameter culvert pipe in Module 14 of the pre-application. The differences in the flow rates correspond to different proposed culvert sizes. The original design of the culvert in the pre-application was for a 48 inch diameter pipe that was not proposed to be buried in the channel. The current design is for a 72 inch diameter pipe that will be buried in the channel. The design flows for culverts in rural areas are based on the 25 year frequency flood (see PA Code of Regulations Title 25 Chapter 105.161).

There is no expected loss of water from the streams near the proposed Minard permit because there will be no pumping of groundwater and a barrier area is required to be maintained around the streams such that the stream channels will not be directly impacted by mining operations except to cross the streams by the bridge and culvert were proposed. If the Department does determine that mining has resulted in the loss of

the water from a stream (such as the unnamed tributary to Tutelow Creek), per regulation in PA Code Title 25 Chapter §105 Bishop Brothers would be responsible for restoring or replacing the stream with equivalent functions and values.

Comment:

"The mine project is likely to fail due to the conditions of Tutelow Creek and its resultant impact on the mine access roads. The heavy flow of Tutelow Creek will likely wash out the access roads necessary for the project. "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."

Response:

In the event of flooding on Tutelow Creek and/or Chemung River the road and bridge to the hard rock mining area will not be accessible until floodwaters recede. The road and bridge will need to be repaired as needed when flood events occur.

Comment:

"Why is DEP granting variances allowing operations to take place closer to the river than existing regulations?"

Response:

The PA Code Title 25 Chapter § 77.504(a)(6) allows conducting mining activities within 100 feet of a stream as long as a variance is requested and approved by the Department. Mining activities within the stream bank and/or floodway of a stream also require stream encroachment approval according to PA Code Title 25 Chapter § 105. The details of the variance areas and encroachments are described in Module 14 of the permit application. The Department has reviewed the erosion and sedimentation controls surrounding the proposed mining area, the design of the culvert proposed on the unnamed tributary to Tutelow Creek, and design of the bridge over Tutelow Creek. The Department has found that the designs and plans for those proposed activities will be protective of the streams. The stream variance condition in the mining permit specify what activities are approved to be conducted within the stream variance areas.

Effects on Wildlife

Comment:

There were a number of general comments regarding the potential effects of the mining operations on local wildlife, especially bald eagles.

Response:

The Pennsylvania Natural Diversity Index (PNDI) report and all related correspondence is found in Module 1 of the permit application (see pages 1-44 through 1-106).

There is concern with threatened, endangered or special concern species as listed in the PNDI report for the proposed permit area. Potential Impacts were noted by the PA Department of Conservation and Natural Resources (PADCNR) and the U. S. Fish and Wildlife Service (USFWS).

The PA Game Commission (PAGC) completed a memo dated June 12, 2023 that stated they have “determined that this project should not affect endangered or threatened species of bird or mammal recognized by the Pennsylvania Game Commission (PGC) nor do we anticipate any adverse impacts to any critical or unique habitats.”

As a result of the potential impacts from the PADCNR, Bishop Brothers was required to conduct a botanical survey of the permit area for the following species of concern: Wild Pea, Lupine and Drooping Bluegrass. None of the species of concern were found within or adjacent to any part of the proposed mining area footprint. PADCNR sent a letter dated August 14, 2020 stating that there was “No Impact Anticipated per Survey”.

As a result of the potential impacts from the USFWS, Bishop Brothers were required to conduct a Bald Eagle Nest Survey to see if any nesting sites are located near the proposed permit area. No Bald Eagles or Bald Eagle Nests were observed at historical nesting locations or within the half mile survey area. If an active bald eagle nest was located within a half mile of the proposed mine site, then according to the USFWS published National Bald Eagle Management Guidelines (Guidelines), no blasting and/or other activities that produce loud intermittent noises could be performed within 1/2 mile of an active (in-use) bald eagle nest during the bald eagle breeding season, defined as January 1 - July 31. However, given that no nearby nest was identified, no restriction of the time of year of blasting, or other operations that may disturb a nest, was required. Given the amount of time that has passed since the original eagle survey in 2020, the Department requested that Bishop Brothers consult with the USFWS and PAGC to determine if another Bald Eagle survey is required. Subsequent correspondence with USFWS and PAGC in January and February 2024 confirmed the previous finding that there are no known nest sites in the area near the proposed Minard Mine.

Part B Special Condition #9 of the surface mining permit documents what the permittee must do if nesting bald eagles are observed near the permit area.

A Conservation Measure was recommended by the PA Fish and Boat Commission (PAFBC) regarding maintaining habitats occupied by rare fish and mussels. The

conservation measure involves maintaining and restoring the riparian buffer (i.e., area along the streambank). To meet the requirements of the conservation measure recommended by the PAFBC, Bishop Brothers will be required to install adequate erosion and sedimentation controls around the perimeter of the areas to be disturbed by mining. Bishop Brothers proposes to install a bridge crossing of Tutelow Creek, which will have minimal effect on the natural flow regime of Tutelow Creek. Bishop Brother must also comply with the effluent limits in the individual NPDES permit to ensure there is no degradation of the water quality of Tutelow Creek by the stormwater discharges from the proposed permit.

Comment:

“Why isn’t a new botanic survey being required given that the last study was conducted in June 2020?”

Response:

PADCNR reviewed results of the 2020 botanical survey and found there to be “No Anticipated Impact per Survey”. The flora of the mine site is not expected to change in the span of three years and the latest PNDI report dated April 6, 2023 did not identify any additional species or resources under PADCNR’s jurisdiction that would require further review.

Comment:

“My husband said as a boy he remembers that the American white sucker fish used to swim up the Chemung river around Easter time to go up Tutelow creek spawn. When I looked this fish up, I see it was a primary food source for indigenous Indians. Mine would impact the habitat and spawning grounds of this fish.”

Response:

There is no such fish named "American white sucker fish" that occurs in the Commonwealth. However, white suckers are very abundant in the state and did provide a food source for indigenous as well as European peoples and used to have very large spring spawning runs in various places. However, given the extreme abundance of this fish in the state and the fish's ability to tolerate some anthropogenic activities, the PAFBC does not anticipate any negative conflicts to this fish or spawning activity in Tutelow Creek or elsewhere strictly because of mining activities.

Comment:

"Additionally, this area is known for providing habitat to endangered freshwater mussel species, and it is my understanding no surveys of these animals have been performed. These species were identified by the PNDI tool, as stated by Bishop Brothers, yet there

is still no evidence provided in the application to show that these species will not be harmed. This is especially of concern given the ecological services that freshwater muscles perform as to keeping waters clean. There have been no macroinvertebrate studies either. Overall, the ecological surveys for endangered species have simply ignored the fact that this project looms over the Chemung River. My concern is that when Pennsylvania Fish and Boat and other state agencies signed off on this project, they did not have an understanding of the terrain and the geography of the land and how there is still a very poor understanding on the species that will be threatened in Tutelow Creek and the Chemung River."

Response:

PAFBC reviewed the site during the pre-application meeting. The meeting included reviews of all the streams proposed to be affected including Tutelow Creek, the unnamed tributary to Tutelow Creek, and the Chemung River. The PNDI report only recommended conservation measures for "maintaining habitats occupied by rare fish and mussels". During the pre-application meeting and pre-application review letter the Department and PAFBC identified conservation measures that need to be implemented. Those measures included using enhanced erosion & sedimentation control measures between the hard rock mining area and Tutelow Creek and restoration of the forested riparian area along Tutelow Creek after mining is completed. Bishop Brothers agreed to implement those conservation measures in the application.

Comment:

"Page 14-13 states what macroinvertebrate communities have been observed. How was this determined? Is there a study to support this? Where is it in the DEP application or why was it not included in the permit application?"

Response: The observation of macroinvertebrates in the stream was only based on a visual evaluation of the stream (i.e., picking up rocks in the stream channel and seeing what species are present). There was no formal macroinvertebrate survey of any of the streams near the proposed Minard Mine permit. The Department does not require a macroinvertebrate survey as part of a permit application unless specific circumstances warrant doing so (i.e., checking for species in response to a PNDI report).

Comment:

"Has anyone reported the caves on Roundtop?"

Response:

No caves have been identified in the permit area. The proposed mining area does not have any limestone bedrock where karst cave systems could develop.

Effects on Private Water Supplies & Groundwater

Comment:

There were several comments concerning the potential impacts of the mining of local private water supplies.

"There are 23 residential properties that will be most directly impacted by the sand and gravel project. The vast majority - if not all - depend upon wells for residential water. There is no public water supply that feeds that section of Meadowlark Drive. Well health and integrity - both quality and quantity- are a real concern. The township has a condition of agreement that the applicant conduct water studies on all potentially impacted wells. While this is a start, we need the assurance that well integrity is a bonded condition of DEP approval. If wells are compromised with this project, the cost of restoration must be the responsibility of the applicant, and there needs to be assurance of that to the property owners."

"What is the plan in the event of well water contamination? The report on page 8-6 simply states "sediment will not be introduced to the groundwater system, as it is already present." What evidence is used to support this assertion? Regardless, a plan still should be in place in the event of well water issues. How can residents view this plan and ensure that it is followed in the event of an issue? In the event of bankruptcy of the company holding the mining permit, how will well owners receive compensation/remediation for contaminated well water? (See page 6, Module 8, comment 8 of Tract Engineering's response to DEP technical deficiency included in the application.) increased runoff, increased percent of solids."

Response:

There is concern with the potential for surface and groundwater pollution, specifically increases in turbidity in drilled water wells and discharging of turbid water to Tutelow Creek, the Chemung River, the Susquehanna River or the Chesapeake Bay. Bishop Brothers was required to obtain background sampling data from surface and groundwater (drilled wells) sources from within and surrounding the proposed permit boundary. The background sampling data would be used to determine if mining impacted a sampling point. Mining into the water table has the potential to create turbid (muddy) water. The operator will be responsible for the costs of replacing or restoring any drilled well water supply that may be impacted by mining activities. The most probable impact to a drilled well water supply would be an increase in turbidity in the well water. If a homeowner notices an increase in turbidity in a water supply, they should notify the Department for investigation of the cause. If the Department determines the cause is mining related, Bishop Brothers would be responsible for treating the impacted water supply per regulation PA Code Title 25 Chapter § 77.533. The most common solution to turbid well water is installing and maintaining an inline water filter on the drilled well supply for treatment. This treatment would be provided if

the mining is continuing to impact the drilled well water supply. Bishop Brothers would be responsible for the cost of maintaining the treatment on the drilled well water supply. Bishop Brothers is also responsible for obtaining and maintaining water loss insurance throughout the life of the mine site per regulation PA Code Title 25 Chapter § 77.231. This insurance would provide funding to address any impacts to water supplies.

Comment:

"In response to questions regarding the requirement of well studies, Mr. Gourley stated that residents in the 1000 foot perimeter area were 'nonresponsive' to requests and that he was able to collect samples from only a 'few wells'. I received one mailed communication from Mr. Gourley since the applicant received conditional approval in February 2021. He and I exchanged several emails and were trying to schedule a date and time for his visit to collect the samples. It never happened. Communication from him stopped. Following last night's meeting, he shared with me that the only samples he had were from the two Minard properties and the ones now owned by Bishop Brothers. I strongly encourage you to impress on the applicant the need to resend those letters with information about the free well studies. It has been over two years since any communication has come out of his office. It should not be the responsibility of property owners to pursue him. This was a stated condition of approval."

Response:

During the public information meeting on July 31, 2023, the public was encouraged to reach out and request sampling of their water if they had a private water supply near the quarry. Letters to property owners within 1,000 feet of the proposed permit boundary were sent by Tract Engineering, PLLC (Bishop Brother's consultant) on August 23, 2021 requesting to schedule a time for collecting water samples from wells. Since that letter was sent over two years ago, the Department recommended in its first technical review letter that new letters be sent to any property owners that did not respond to the last letter. New letters were sent to these property owners by Tract Engineering in January 2024. The permit application now includes background details for all the water supplies of local residents that requested it and have allowed Tract Engineering to collect samples from the water supplies.

Comment:

"It was noted that the pond(s) will fill to the water table level. It would seem to me that they will fill to the river level being that they are not that far from the river. What level is the water table there relative to the river?"

"Will there be protective barriers installed around the ponds to prevent any incidents, especially with children or trespassers?"

"Have background groundwater levels been obtained? How long is the measurement period for these given that a year is recommended?"

Response:

The water table in the sand and gravel mining area will fluctuate based on the elevation of the Chemung River, which is about 750 to 755 feet above mean sea level. Water level measurements from nearby private water supply wells that are immediately adjacent to the proposed sand and gravel mining area were collected in 2020. Those wells have groundwater elevations that confirm the groundwater elevation in the area. For example, the well at the Minard residence within the permit area had groundwater elevations reported from 752.6 to 753.5 feet above mean sea level. Another well upgradient of the Phase 2 sand & gravel mining area had groundwater elevations report from 756.1 to 762 feet above mean level. This shows that the gradient of groundwater moving through the permit area is aligned with the flow of the Chemung River.

The banks of the sand & gravel water impoundments above the elevation of the water table are required to achieve a 35 degree slope after mining per regulation PA Code Title 25 Chapter § 77.594. A 25 foot wide safety bench is required at the elevation of the water level in the impoundment per regulation PA Code Title 25 Chapter § 77.594. As per page 10-7 of the permit application, the safety bench shall be large enough to accommodate fluctuations in the water level. A typical drawing for the safety bench is provided in Detail 7 on Exhibit 10.2 of the permit application. The sides of the impoundment are also required to be sloped below the water surface at 35 degrees per regulation PA Code Title 25 Chapter § 77.594. Therefore, anyone that enters the impoundment will not be falling directly into deep water where they would be unable to get out. Berms around the mine site and a gate at the site entrance will also be in place to limit access from trespassers.

Prior Compliance Issues with Bishop Brothers:

Comment:

“Further concerning is the applicant's historical record with DEP compliance and cited violations. Between September of 2020 and April 2023, this client was cited for fourteen violations for Environmental Health and Safety issues. Of those violations, four were noted for 'failure to properly design, construct or maintain erosion and sediment controls'. Tutelow Creek will challenge this applicant's abilities to meet permit requirements for the hard rock mining. Four other violations included failures around impoundments, management of topsoil, and failures to operate in accordance with permits.”

“Capacity of Bishop Brothers to follow plans and regulations. Of the 8 DEP permitted mining sites operated by Bishop Brothers, all 8 have had violations in the last 5 years. These included 3 sites where Bishop Brothers failed to have proper erosion and sediment controls. There were 3 sites which failed to meet air contamination controls. There was 1 site with failure to maintain a haul road. 3 sites had failure to operate within the conditions of their permit. Many of these violations are not only DEP enforced regulations, but Athens Township requirements as well. What tools does the township have to ensure these regulations are met? What is the current DEP staffing level to handle the potential incoming violation complaints? Given this track record can residents reasonably expect that the laws will be followed in this operation?”

“My concern is who will monitor the activity at the mine? Will the DEP be doing it? I heard in the township meeting Bishop will. That is not acceptable.”

Response:

The Department has mine inspectors that are required to conduct inspections of all large industrial mineral surface mines, such as the Minard Mine, at least four (4) times per year. Additionally, there is a blasting inspector that reviews the use of explosives on the permit.

When a permittee is not in compliance with the permit requirements and/or the regulations the Department can take compliance action in the form of a Notice of Violation (NOV) or a Compliance Order (CO). A Notice of Violation is for minor compliance issues while a compliance order is for more serious violations (ex. causing environmental harm, danger to health and safety, etc.). A compliance order can also be written if a Notice of Violation for a more minor issue isn’t addressed in a timely manner.

The table below contains a summary of the most recent compliance actions that the Department has taken against Bishop Brothers.

Mining Violations (written by a Mining Inspector)				
Violation No.	**Permit No., Name**	**Date of Violation**	**Date Corrected**	**Violation Details**
CO# 244071	08110301, Always Ready Quarry	6/17/2024	8/9/2024	Reclamation needs to commence on a site where mining was completed
NOV	08210301, Byers Quarry	7/26/2024	7/26/2024	Exceedance of Total Suspended Solids effluent limit in NPDES permit
CO# 244028	08910302, Carl Hill Quarry	2/22/2024	4/9/2024	Unauthorized discharge, water was being pumped and discharged when no discharge of water was approved from the permit
CO# 244005	08120305, Wysox Sand & Gravel	12/12/2023	2/21/2024	Unauthorized fill material brought on site as part of the reclamation of the area that was mined
CO# 234046	08210301, Byers Quarry	8/11/2023	11/8/2023	Sediment ponds needed to be constructed or improved so that they function as designed in the permit application
CO# 234048	08210301, Byers Quarry	8/11/2023	9/20/2023	Drainage from the haul road needed to be controlled with sediment traps, proper dust suppression needed to be implemented on processing equipment and haul roads, and working practices that were unsafe or Bishop Brothers' employees
NOV	08970302, Scrivens Pit	3/31/2023	4/28/2023	Sediment traps needed constructed and maintained
NOV	08110307, Luthers Mills Quarry	8/16/2022	9/13/2022	A collection ditch to a sediment pond needed to be cleaned of sediment
NOV	08120305, Wysox Sand & Gravel	3/31/2022	6/24/2022	Bishop Brothers placed a pile of material outside the bonded area of the permit, the pile was removed
NOV	08122502, Byers 105 Quarry	10/06/2021	11/4/2021	Topsoil was being placed into the pit instead of segregated for use in reclamation.
NOV	08910302, Carl Hill Pit	9/14/2021	10/15/2021	A pile of Reclaimed Asphalt Pavement (RAP) that was milled from a road was placed on the permit without approval and needed to be removed
NOV	08120302, Sheshequin Sand & Gravel Pit	9/14/2021	10/15/2021	The maximum approved depth of the pit floor needed to be marked as required by the permit
NOV	08110301, Always Ready Quarry	12/29/2020	2/10/2021	Water handling controls needed to be established while the permit is being reclaimed.
CO # 204065	08110307, Luthers Mills Quarry	10/15/2020	12/14/2020	Mining activities occurred outside of the permitted area, the affected area was added to the permit through a major revision
CO # 204056	08110307, Luthers Mills Quarry	8/27/2020	10/28/2020	Sediment ponds and treatment facilities needed to be constructed as designed in the permit.
Air Quality Violations (written by a Bureau of Air Quality Inspector)				
NOV	08120305, Wysox Sand & Gravel	8/5/2021	8/12/2021	Failure to submit Annual Operating Permit Maintenance Fee
NOV	08970302, Scrivens Pit	8/5/2021	8/12/2021	Failure to submit Annual Operating Permit Maintenance Fee

Many of the violations were written because Bishop Brothers needed to conduct maintenance on or construct water handling controls in accordance with the designs in the permit. The violations that were observed were not contributing to significant degradation to the environment beyond the permit area but the violations needed to be addressed to avert future environmental harm. For example, failure to maintain ditches or sediment trap/ponds will eventually result in discharge of sediment into local waterways. Other violations such as placing Reclaimed Asphalt Pavement on permit, not marking pit depths, or not properly handling topsoil are violations of the regulations and/or permit requirements but they were not causing or contributing to any environmental harm beyond the permit area and they could be resolved quickly by Bishop Brothers. That was why the violations were mostly written as Notices of Violation and not as Compliance Orders. There were Compliance Orders written for the Byers Quarry and Luthers Mills Quarry permits as described below.

Luthers Mills had sediment discharging out of the permit area due to failure to install erosion & sedimentation controls. Bishop Brothers also conducted mining activities outside the Luthers Mills Quarry permit area, but they were operating within the same property for which they had a lease agreement. Bishop Brothers added the affected area to the permit in response to the Department's order.

The Byers Quarry had two compliance orders written in 2023 for a number of issues including conducting mining activities in an area without a sediment pond to collect the drainage from the working area and without installing water handling controls on the haul road. Violations were also written for unsafe working practices such as having a single employee running crushing and screening equipment alone and not having adequate dust suppression installed on the crushing and screening equipment. Also, there was no dust suppression for the haul road (ex. a water truck to keep the road watered), which was a safety issue for the nearby employee. There was no dust observed leaving the permit area.

All mining violations are required to be adequately addressed within 90 days of the violation being written by the Department. Bishop Brothers has corrected all violations that have been identified by the Department. None of the violations that have been identified by the Department resulted in any serious harm to the environment or the public. Bishop Brothers has no outstanding violations as of the date of this Comment-Response document. The violations that were written by the Bureau of Air Quality were related to failure to pay annual maintenance fees for the air quality permits.

Note regarding Township Requirements: Section 16 of the Noncoal Surface Mining Act provides that the local ordinances and enactments purporting to regulate surface mining are hereby superseded. An ordinance or zoning provision can govern where a facility may be located, however, an ordinance or operational regulation dictating how the facility will technically be designed and operated is preempted by the Noncoal Act. The township does not have the authority to enforce provisions regarding violations of the mining permit, the Noncoal Act and the regulations promulgated under that Act. Only the Department can enforce these types of violations.

NPDES and Effects on Stream Water

Comment:

"Concerns over the Chemung River and other water: Currently, this area of the Susquehanna watershed is not considered threatened or impaired and meets water quality standards. This is of importance not only to preservation of the natural habitat, but also to local businesses who rely on discharging water into the watershed. This project will threaten the Chemung by increasing suspended solids and has the potential to cause the entire area to be subject to total maximum daily loads (TMDL). The lack of testing on the Chemung, given that sedimentation will occur directly into the river from blasting, is a major point of concern in these plans."

Response: Erosion & Sedimentation Controls are required to be installed around all disturbed areas to prevent sediment-laden water from entering the stream. All water discharging from the proposed permit area into Tutelow Creek is required to meet the suspended solids or settleable solids limits assigned in the NPDES permit. There are other sand & gravel operations in the Chemung River and Susquehanna River watersheds as well as elsewhere in Pennsylvania and there has not been any evidence that the operations cause increased sedimentation to local streams and rivers as long as the mining and NPDES permit requirements are followed. The same is expected to be true of the Minard Mine.

Discharges from this proposed permit will be authorized under NPDES permit PA0270041. The permit only authorizes discharges to Tutelow Creek. There are no proposed discharges directly to the Chemung River. All discharges to Tutelow Creek are required to meet the limits in the NPDES permit. So long as the limits are met, there will be no impacts to Tutelow Creek, the Chemung River, the Susquehanna River or the Chesapeake Bay.

Comment:

"*It was stated very firmly that no mine water would be discharged into the Chemung River. However, the water will be discharged to Tutelow Creek only a few hundred feet away. Isn't that basically the same thing?"*

Response:

As far as an NPDES permit is concerned, the receiving stream is based on the first stream that receives the water being discharged from an outfall (ex. a pipe from a pond). In the case of the proposed Minard Mine, the outfalls of the stormwater ponds are proposed to discharge directly into Tutelow Creek upstream of its confluence with Chemung River. Tutelow Creek is a smaller stream compared to Chemung River so any discharges from the proposed Minard Mine must meet effluent limits that will protect the water quality of Tutelow Creek and therefore, also protect the Chemung River

downstream of the confluence. The effluent limits applied to the outfalls would be the same even if they were proposed to discharge directly to the Chemung River.

Comment:

"What resources are available to the local community to independently verify and ensure that outflow to Tutelow creek is being properly sampled?"

Response:

All NPDES permittees are required to submit sample data from outfalls electronically to the Department. The permittee or a contractor collects the samples from the outfalls and submits them to a lab accredited by the Department for analysis then the sample data is sent to the Department. That sample data is then shared with the federal Environmental Protection Agency (EPA) and can be searched by the public on the EPA's Enforcement and Compliance History Online (ECHO) website: https://echo.epa.gov/. Search for the Minard Mine using the NPDES permit number (PA0270041) as the facility number. The facility won't appear in the ECHO system until a permit is issued and data starts to be submitted.

Comment:

"Section 8.3, page 8-6 was the response to the DEP request for surface water characterization of the Chemung and Tutelow creek (See page 6, Module 8, comment 7 of Tract Engineering's response to DEP technical deficiency included in the application.). Has this characterization been made? Has it been made on both the Chemung and Tutelow creek? What sort of background measurements of these waters will be taken before mining begins? Have these measurements been taken? If so, what is the pH, turbidity and alkalinity of the Chemung River and Tutelow Creek at the proposed mining site? What are any other measurements that will or have been taken? How much background characterization overall is required? Over how long of a time period are these samples taken?"

Response:

Water sampling at upstream and downstream points on Tutelow Creek and Chemung River have been completed.

Sample Point	Description
S1A	Tutelow Creek Downstream
S1B	Tutelow Creek Midstream (at existing crossing)
S1C	Tutelow Creek Upstream
S2A	Unnamed tributary to Tutelow Creek
S5A	Chemung River Downstream
S5B	Chemung River Upstream

Each monitoring point was analyzed for pH, specific conductivity, temperature, and concentrations of suspended solids, alkalinity/acidity, iron, manganese, aluminum, sulfate, and total dissolved solids. The samples were collected from February 2020 to October 2020. The data is available in the Module 8.1(A) pages of the application (see pages 8-70 through 8-77). Module 8 application instructions requests six samples to be collected at monthly intervals and include the months of August, September, and October to reflect low flow conditions. Of the five sampling points listed above six samples were collected except from the points that had no flow at all during the dry weather period. Additional samples from the water monitoring points were collected in 2024. The Department has adequate data from the streams and other sampling points to evaluate their background conditions.

Comment:

"Per the Mining Operations Details highlighted in section 10.1 "Equipment and Operation Plan" it is stated that "A majority of the sand and gravel mineral extraction area is within the 100 year flood plain of the Chemung River and Tutelow Creek. The topography of the site and proposed mining plan will not prevent floodwaters from entering the mining operation. "In the event of a weather forecast for significant precipitation or flood warnings, the operator will relocate equipment to high ground to minimize floodwater impacts to the site." Often times, flash flooding occurs with very little to no notice (within 1 hour or less of NWS flash flood warnings) and can occur at all hours of the day and during the overnight hours when the mining site is closed. How does the location of the proposed Sand and Gravel mining site along with the location of the Processing Area not pose an environmental risk should any equipment and subsequent mining material wash away into the Chemung River? And how does Bishops plan to maintain 24/7 monitoring of weather conditions at their site to ensure minimal loss of material during flash flooding events?"

Response:

The erosion & sedimentation controls are designed to handle the amount of rainfall from a 25 year/24 hour storm event, which is the maximum 24-hour precipitation event with a probable recurrence of once in 25 years. That is based on PA Code Title 25 Chapter § 77.531 and the Natural Resources Conservation Service (NRCS) standards for pond design (see Engineering Standard document # 350[1]). Therefore, they are designed to handle normal flash flooding events with any sediment being collected and drained into the basins where it settles out and the discharge to the stream needs to meet NPDES effluent limits.

[1] NRCS Sediment Basin Practice Standard (Document No. 350)
https://efotg.sc.egov.usda.gov/#/state/PA/documents/section=4&folder=-205

Blasting

Comment:

“What is a blast, one boom two booms? I would like an answer.”

Response:

What is a blast, one boom two booms? Blasting is defined as the detonation of explosives. Blasting on industrial mineral surface mining operations are regulated as per PA Code Title 25 Chapters § 77.561-565 and § 211. Blasting on the Minard Mine will involve two different types of blasting operations: the production of aggregate stone, and the cutting of dimensional stone blocks. Each process is done differently and has differing sound pressure level and ground vibration characteristics.

Blasting for the production of aggregate stone involves drilling holes into the rock in the hillside of the hard rock mining area. Multiple holes are drilled in a pattern in the rock to be blasted. Explosives are then loaded into the holes to a certain depth from the surface. The remainder of the hole is then filled with inert material, such as gravel, to contain the explosive energy so it can do the work of fracturing the rock, rather than simply being vented to the atmosphere as noise. Finally, the charges in each hole are connected so that they fire in a sequential order (they do not all detonate at once), the area is cleared of personnel, and the shot is fired. Those unfamiliar with mining processes often picture these blasts as wild, violent, open-air, Hollywood-style explosions. However, the contrary is true. Aggregate production blasts are usually well confined and well controlled.

Blasting for the cutting of dimension stone blocks utilizes smaller diameter holes than are used for aggregate production blasting. These holes are typically drilled close together and loaded with a length of rope-like explosive called detonating cord. The holes are then often filled with water, which assists in noise reduction to some extent, but primarily assists in transferring the shock energy to the rock being broken. When left uncovered, these kinds of blasts can be very loud, however, as required in Pennsylvania regulations and as described in the proposed blasting plan, the lines detonating cord on the surface will be covered with sand in order to reduce the sound produced. The U.S. Bureau of Mines study called Measurement and Reduction of Noise From Detonating Cord Used in Quarry Blasting (RI 7678) indicated that six inches of unconsolidated material covering detonating cord considerably reduced the decibel level by 19 to 26 decibels. Pennsylvania requires in § 211.161(b) that at least twelve inches of covering be placed over detonating cord, unless otherwise authorized, which is twice the amount used in the RI 7678 study. There has been no request to be allowed to reduce the amount of covering for the proposed mining activity.

Blasts are designed to detonate a series of explosive charges sequentially. The first hole that is detonated in the sequence is known as the point of initiation. How a blast will “feel” to an observer depends on the distance to the structure being affected. Blasts produce both ground vibration and airblast (air overpressure) waves. Airblast waves

move more slowly than ground vibration so structures at long distances sometimes experience two vibrations from surface blasts, with one vibration event immediately following the other (i.e., within seconds). For those feeling vibration nearer to the blasting area, each blast will likely be felt by an observer as single event. Bishop Brothers have stated that there will not be more than one blast in a single day. The duration of blasting vibration can range from less than one second to a few seconds.

Comment: *"Who will be at the mine from DEP?"*

Response: The Department has a regional blasting inspector who will conduct routine random inspections during which records from each blast will be reviewed. The blasting inspector is not required to be on site for every blast but the contracted licensed blaster that carries out the blast is required to maintain a record of the details of every blast, which must be made available to the Department to review on request.

Comment:

"What impact will the blasting have on any "standard" or fracked gas wells in operation in the vicinity or in the future?"

Response:

There are no gas wells of any kind near the Minard Mine that could be affected by blasting. The nearest gas well is over one mile away from the Minard Mine. There is no potential for a gas well to be damaged at that distance.

Comments:

There were several comments with concerns about how blasting could cause damage to property.

"Bishop's say that they will blast about four times a year. That does not sound true since they need to get into the ground to build the quarry, don't forget, there is a lot land to destroy. There is no way they can guarantee that there will not be damage to the surrounding area. Just because blasting will be underground does not mean that there will be no damage or poor air quality. Not to mention around homes, and so close to Round Top Park."

"This area is very close to our homes. We fear what the blasting will do to our air quality and the noise level. Do you realize the Athens School District is very close to the blasting site and the children play outside? Outside sporting event at the Athens Schools are also held close to the proposed mining site"

"Blasting will be done close to the highway and school buildings"

"What impact will the blasting have on any water wells in the vicinity? This is a different question than water table issues. Blast waves can travel long distances very quickly in solid ground and/or water tables. Could cased wells be cracked? How far do blast waves travel?"

Response:

Ground vibration is energy transmitted through the ground as a result of a blast and could cause damage to structures like houses or wells: Permanent movement or permanent displacement of the ground only occurs in the immediate area of the blast, about 15 feet or so from where the explosives are placed in a typical blast. Ground particles also experience elastic movement as a vibration wave passes. In this case the particles essentially vibrate on the order of thousands of an inch and return to their resting position. This is how a medium transmits the vibration and absorbs some of the energy causing it to die off with increasing distance. Ground vibration is limited to a safe level established through scientific research by the former U.S. Bureau of Mines to reduce annoyance and prevent property damage. The criteria for damage prevention is very conservative and begins at less than a 5% likelihood that an existing crack in plaster or wallboard could begin to extend.

Vibration can travel a very long way: Vibration can travel a considerable distance, however the intensity of the vibration attenuates or dies off with increasing distance. At long distances the vibration levels are so low they may not even be perceptible. Such vibration could still make a structure shake slightly, perhaps even enough to be heard or felt by occupants, but not enough to cause damage.

Impact on water wells in the vicinity: The nearest structures and water supply wells are over 1,000 feet from where blasting is proposed in the hard rock mining area. As such it is expected that these wells will be well protected from the effects of blasting. Objects such as wells and foundations are well protected from vibrations unless the vibration is at extremely high levels or the object is within the area immediately surrounding the blast where the ground is displaced by the blast. The reason objects in or on the ground are so well protected is, in part, due to the fact that they are encased in the ground carrying the vibration and are not free to move dynamically in response to the wave. They essentially act as part of the medium carrying the vibration wave.

> <u>Excerpt from "Blast Damage Investigation Report Technical Supplement"[1] regarding damage to wells:</u> According to Vibrations From Blasting, claims have been made of damage to residential water wells at levels below the thresholds for cosmetic plaster damage (RI 8507 safe blasting criteria). There is no scientific basis for these claims. According to Vibrations from Blasting, outside the immediate blast zone, a few dozen blast hole diameters away the ground is not differentially displaced by the blasting. Despite the highly unlikely probability of ground vibration from blasting damaging a well (based on theoretical considerations), field studies have been done to address damage to wells from blasting. U.S. Bureau of Mines Information Circular 9135: Survey of Blasting Effects on Ground Water Supplies in Appalachia, Robertson et al., 1980 and Blast Vibration Effects Upon a Deep

Injection Well and Reduction of Ground Vibration Over Depth, Straw et al., found no damage to wells as a result of ground vibrations. Vibrations exceeded 2.0 in/sec at 4 of the 5 wells examined in the Roberts et al. study. Additionally, in USBM studies conducted on blasting near pipelines, Surface Mine Blasting Near Pressurized Transmission Pipelines, Siskind et al., 1994a a nearby well was examined extensively. No damage was found in the well which was subjected to ground vibration levels of up to 4.7 in/sec. According to Vibrations From Blasting, based on USBM studies and studies conducted by Lewis Oriard it is difficult to conceive of a situation where 2.0 in/sec would not be a conservative safe level criteria for water wells, utilities and similar structures.

[1] Blasting Complaint Investigation Technical Supplement by PA Department of Environmental Protection.

Original Source: Siskind, D.E. (2000, 2005, 2018). Vibrations from Blasting. International Society of Explosives Engineers. Cleveland, OH.

Homes, highway, and school being 'very close': The approximate distance from the blast area to the highway is 2,500 feet and the Athens Area High School is 5,800 feet. The proposed blasting plan indicates the nearest dwelling or other structure not owned by the permittee will be 1,150 feet away (minimum). Blasting at many sites in Pennsylvania are routinely and safely conducted at much closer distances. Just to point out a few, a mine in York County conducts blasting less than 900 feet from US 30, a very busy highway; a mine in Lebanon County blasts less than 500 feet from US 422; a mine in Berks County blasts less than 800 feet from SR 61. Many other examples exist across the Commonwealth. The same may be said of blasting within the vicinity of schools, churches, homes, and businesses. Blasting is routinely conducted safely at distances that are much closer than those indicated in the proposed blasting activity.

Ground vibration is characterized by its intensity, particle velocity (often symbolized as PV and measured in inches per second), and its frequency. The U.S. Bureau of Mines developed an approximation method, known as scaled distance, to estimate the amount (weight) of explosive that would produce a certain peak (maximum) particle velocity (PPV) at a specified distance (ex. the closest structure). This method has been adopted by the Department and requires that ground vibration be limited based on either a scaled distance value designed to ensure vibration will remain below potentially damaging levels, or the measured particle velocities of the vibration waves. Blasters use the scaled distance to calculate the approximate amount (weight) of explosive that can be fired without exceeding a certain maximum particle velocity. In addition, the Department utilizes a graph called the Z-curve, which defines the amount of vibration allowed across a spectrum of frequencies. A blasting seismograph measures the vibration levels and displays the data on the graph indicating whether the vibrations fall above or below potentially damaging levels with respect to frequency.

The draft blast plan in Module 16 of the permit application states that the blasts will be designed to meet a scaled distance of 70. The blasting regulations in the PA Code Title

25 Chapter § 211.151 states: “Blasts shall be designed and conducted in a manner that achieves either a scaled distance of 90 at the closest building or other structure designated by the Department or meets the allowable particle velocity as indicated by Figure 1 at any building or other structure designated by the Department.”

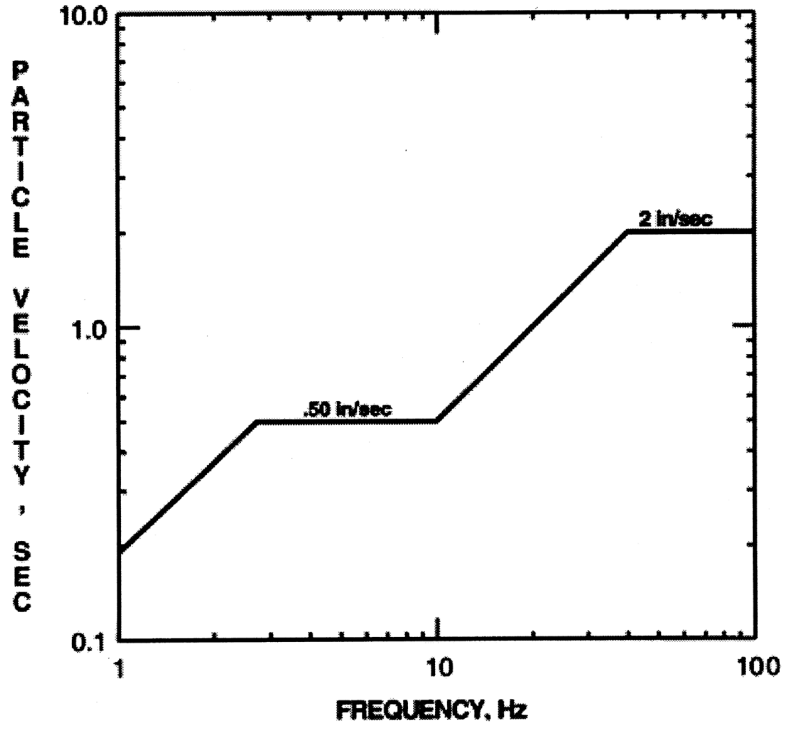

Figure 1 from Title 25 Chapter 211.151

With a scaled distance of 70, the worst case prediction for ground vibration from quarry blasting is about 0.39 in/s, which is below the lower limit for cosmetic damage to structures with finished walls (ex. cracks in plaster or drywall) at 0.5 in/sec. Given that blasting will be conducted at a higher elevation than the community to the east of the proposed mine, the vibrations in that direction would be expected to have even lower values since the reduction in elevation creates a less continuous pathway for the vibration to travel.

The contracted licensed blaster must operate a seismograph at the nearest building or structure not owned by Bishop Brothers to stay in compliance or must design blasts to an appropriate scaled distance. If compliance levels are exceeded the contracted licensed blaster has to redesign future blasts to stay in regulatory compliance.

Bishop Brothers responded to the question about the blasting frequency as follows: The number of blasts during a year will be a function of market demand. Bishop Brothers anticipates a minimum of four (4) blasts per year. There will not be more than one blast during a single day.

Comment:

"How was it determined that "the initial blast at the site should be far enough away from the surrounding stream barrier areas to prevent blasted material encroaching?" (Note that quote is from Module 10 Page 10-2 of the permit application)

What objective measurements will be used before blasting to make sure this is the case? How will those measurements be enforced?"

"Will blasting make the whole mountain fall if blasted?"

"There is no mitigation possible for blasting in such close proximity to the Chemung River.."

Response:

It is easy to imagine blasting scattering rocks far and wide, but in reality, blasting is usually quite controlled and often, even somewhat boring to watch. A well-controlled blast is desirable and the goal of the blaster, not just because it's safer, but also because it most effectively uses the explosive energy to do the work of breaking the rock to the appropriate size – small enough to be handled by mining equipment and subsequently crushed by machinery, but not so large as to be unmanageable.

It will be determined by the permittee where they need to start the blast area within their approved mining area then it's up to the contracted licensed blaster to design a well-controlled blast which resulting muckpile (the pile of blasted rock) does not encroach the stream area. In any case, the licensed blaster must design a blast that complies with the blast plan and regulatory requirements. Compliance with the requirements of the blast plan and mining plan are accomplished by routine inspections by the Blasting Inspector and the Mine Conservation Inspector.

Rock in the hillside above Tutelow Creek lies in layers of sandstone and siltstone that will be mined. The different layers of rocks are separated by bedding planes. The evaluation of the structure of the rock in the hard rock mining area on the hillside found the rock dips to south, away from Tutelow Creek. Therefore, a blast should not result a material sliding to the north towards Tutelow Creek because the bedding planes are oriented in the opposite direction. The mining engineer takes that in account along with other slope stability factors when designing the mining plan for the site. If a blast is designed to stay in compliance with the blast plan, then it would be highly unlikely to cause the entire hillside to collapse.

The draft blast plan in Module 16 of the permit application contains the following details:

All blasts shall be design to keep blasted material out of the stream (see page 16-2). This will be accomplished by:

1) orienting the blastface to the greatest extent possible away from the stream,

2) use of explosive delays,

3) minimizing the number of holes per blast,

4) evaluation of front row burden, stemming heights, stemming material, and inter-row timing,

5) combination of all methods. Each blast will present unique characteristics that must be evaluated for each shot to keep material out of the stream.

If blasting were to cause material to enter Tutelow Creek then compliance action would be taken the Department. If any material were to enter the stream or if any damage were done to the stream, Bishop Brothers would need to obtain an emergency permit from the Department's Bureau of Waterways and Wetlands to repair and restore the stream.

Comment:

"How far will the sound travel in the valley? What assurances can be made or modifications of plans can be made if the sound carries further than expected"

Response:

How far will the sound travel in the valley: The first item to address here is the concept of 'sound.' In typical blasting for aggregate production, a blast occurs and is contained within the ground where the rock absorbs most of the energy from the explosion. Some of the blast energy is translated into the air from the rock mass being blasted as a pressure wave. The motion of the rock itself is a contributor to the pressure wave (a piston effect). Given that the detonation is by design fully contained in the rock being blasted, the detonation will not be 'loud' like a firework shell, which explodes in the open air for the purpose of creating a loud noise. Rather, the airblast is transmitted as wave of higher-pressure air followed by a lower pressure zone, called compression and rarefaction. The alternating zones cause structures to vibrate as they pass by.

It is common for airblast from mine blasting to be below the audible range for humans. The range of adult human hearing begins at around 20 Hz. Below 20 Hz, pressure waves moving through the air are not audible, but they can still affect a structure by causing it to shake. Some have reported the effect as the sound of a thud upon their roof. It is important to understand that we are not just concerned with the 'sound' of a blast, but also the intensity of air pressure waves you cannot hear, all of which must remain below safe levels. When a blast is audible to the human ear, it does not necessarily indicate that a blast caused damaging airblast levels. It only indicates that the frequency of the waves of air pressure were within the audible range.

The Bishop Brothers mine in question will reportedly conduct two types of blasting – production of aggregate stone and cutting of large blocks of dimension stone. In the former case the primary effect that we would expect would be in the form of airblast that is not necessarily 'loud' as one would hear it with their ears, but that can make a structure rumble similarly to the way a house will shake from thunder during a summer storm. In the latter case, cutting of large stone blocks can sometimes cause a sound some have described as a loud shotgun or single firework shell. This is because when

using detonating cord for dimension stone blasting, if the cord has not been adequately covered, it releases more of its energy to the open air. That said, in Pennsylvania the blaster is required to cover lines of detonating cord in order to minimize this kind of auditory effect.

The second item to address is the question of *how far the sound will travel in the valley:* The exact distance airblast from a blast will travel is difficult to predict because air pressure waves will travel differently depending on various conditions. Such common factors as wind speed and direction and humidity can reduce or somewhat intensify airblast. Elevation also plays a role, as does the temperature of the air in the atmosphere above the blasting area. All of this makes it difficult to say for certain beyond generalizations. However, regardless of how local conditions may increase or decrease the effect of airblast, a few things remain constant.

First, airblast is restricted to a level that is rarely exceeded. In fact, most commercial blasting results in airblasts that are well below the 133 decibel (linear) limit in the vicinity of protected structures. This means that even when atmospheric conditions would tend to intensify the effects of the blast, the levels would not be expected to exceed the protective limits given in regulations.

Secondly, it is well established that airblast attenuates, or dies off, with increasing distance in a way that is somewhat predictable. For this reason we can say that in most circumstances, homes and business that are further from blasting will experience the effects of blasting to a lesser degree.

Thirdly, airblast tends to refract upward into the atmosphere, unless a temperature inversion or winds cause it to do otherwise. In most cases, blasts that are conducted on a hillside above a village would likely have a lesser effect on the homes and business below than would blasting on the same level. It appears that most blasting at the Bishop Brothers location will occur at a higher elevation that many of the structures of concern. This is not to say they will not feel any effects of blasting, only that the effects may be expected to be slightly less than otherwise.

Comment*:*

“If 133 decibels is the maximum level, what will be the average”

“Please disclose the anticipated decibel level of the blasting operations.”

Response: As noted above, it is impossible to state what the exact decibel levels will be. It must also be cautioned here that one must understand exactly what we are talking about when we discuss decibels in blasting and what the numbers actually mean.

As we already established, airblast from blasting is really a measure of brief transient air over pressurization, not audible sound. Applying such standards as ANSI 12.2, 12.9, or 12.20 or ISO 9613 is inadequate and inappropriate when discussing the effects of mine blasting because these standards typically address either continuous sound pressure using a weighted scale that attempts to approximate human perception using filtering, or

the detonation of weaponry. The effects of airblast are better characterized and understood using references that are based on the uses of explosives for mining purposes, as opposed to categorizing blasting together with the detonation of military devices, open-air charges, and the like, as do the aforementioned standards. The internationally accepted standards for monitoring airblast and vibrations from blasting and the instrumentation for conducting such measurements are published by the International Society of Explosives Engineers, not ANSI, whose standards committees do not indicate having included any researchers whose work is dedicated to the effects of blasting in mines.

So, when we measure airblast, we are really measuring small changes in air pressure resulting from the blast, above the normal air pressure at that location. Decibels is an easier scale to discuss and understand than talking about air pressure changes which are often on the order of hundredths or thousandths of a pound-per-square-inch. It is the same reason people measure their pool water or drinking water pH on a scale of 0-14 rather than discussing the molar concentration of the hydronium ion in the water. pH is easier for most people to use and understand when working with water, just the decibel scale is easier to use and understand when discussing airblast.

The decibel scale is logarithmic which means the amount of air over pressurization increases exponentially as the decibels increase. A change from 105 to 110 decibels represents a much smaller overall change in air pressure than a change from 140 to 145 decibels. Air pressure, as measured by a blasting seismograph and discussed in terms of the effects of air blast, is a direct recording of the actual air pressure, not a measure of sound. There is a distinction between measurement of airblast and decibels used to measure nuisance sounds and worker exposure to industrial machinery noise. When sounds like this are recorded, they are done so using filters that attempt to approximate how those sounds are heard by the ear. Such measures of decibels are wholly inappropriate for use in discussing the effects blasting may or may not have on people or structures.

The Minard Mine Community Noise Impact report produced by Thornton Acoustics & Vibrations correctly points out that the metric used to measure acoustic disturbances must be carefully chosen or the results of such measurements will lead to erroneous conclusions. However, the same may be said of the interpretation of the measurements. One cannot simply recognize that there is a difference between weighted sound pressure levels and linear (unweighted) and then treat them as if they carry the same level of significance, implying that “noise” from blasting at a certain decibel level would be equivalent to audible disturbances generated by equipment.

The Commonwealth’s blasting regulations are not based on an annoyance factor or human perception and response. No two people are equally annoyed or sensitive. Such responses are subjective and particular to the individual. The studies that underlie blasting regulations recognized that fact. Annoyance and human response and sensitivity are real factors that any good neighbor should weigh in their approach, but such intangible and inconsistent human reactions cannot be an adequate basis for regulatory standards, any more than the environmental standard determining whether a

road should be built should be based upon the possibility that the occasional loud motorcycle will pass by or truck will experience a ‘loud’ tire blowout, disturbing the residents.

The Commonwealth’s blasting regulations regarding airblast and ground vibration, like most other regulatory standards for blasting across the county, are based on structural response and the possibility of the formation of even the most minor cosmetic damage. Structures are not subjective beings with good days and bad days that influence how they feel about things. Structures are intangible, may be observed for condition, and may be measured to see how much they shake when a ground vibration or airblast wave passes by. These energies, which do cause some measure of shaking, may also be directly measured by blasters in the field using seismographs. The correlation between incoming energy and structural response can, in most cases, be adequately estimated. When estimations are not adequate structural response can be measured and compared to what was expected. The estimated levels given in both the Thornton report and the Vibra-Tech report indicate that there is no cause for alarm with regard to the protentional for damage to occur to nearby structures. Those structures may still vibrate and may even rumble when vibration and airblast encounter them, but that a structure may be heard shaking slightly, while perhaps startling, is not indicative of damage having occurred.

Page 10 of the Vibra-Tech report correctly points out, at least for most modern windows, that windowpanes are deigned to safely withstand changes of 170 dB when properly installed. Windows can indeed be broken by excessive air overpressure. Whether or not a window is susceptible to breakage is a function both of air overpressure as well as surface area of the window (how big it is). The Department has observed window damage to very large single pane unreinforced glass at levels as low as 142 dB(L). This level is still far above the air pressures expected from mine blasting at the Bishop Bros Minard Mine and well above regulatory limits. However, a common misconception often implied in reports on expected airblast levels is that the limit of 133 dB(L) is concerned only with protecting windows. It is not. The limit is intended to prevent damage to structures as a result of shaking in response to the passing airblast wave. A typical structure, such as a home, would be expected to shake to an equivalent degree from a 133 dB(L) airblast, as it would in response to an incoming ground vibration of 0.5 in/sec., which is the lower limit of ground vibration allowed within the frequency range at which most common structures respond. As with ground vibration, the limit is intended to prevent the formation of cosmetic damage to or extension of existing cracks in plaster or wallboard surfaces in typically constructed homes. Setting aside concerns about window damage, since it is highly unlikely, and looking solely at the expected shaking response by a typical home at the values projected in both reports, we would expect most typically constructed structures to shake at a velocities within the range of 0.04 in/s to 0.14 in/sec. Both of these are well below the potential damage criteria.

In terms of human response to shaking, studies have attempted to determine ranges of vibration at which people are most like to respond negatively versus not be bothered by the event. It would be hard to say that any of these attempts have been truly successful

since human response is so variable and subjective, but a few indicators have been pointed out. The US Bureau of Mines RI8507 study indicates that 0.04 and 0.14 in/s are in between levels described as “barely perceptible” and “distinctly perceptible.” The US Army Corps of Engineers calls vibrations above 0.02 in/s “noticeable,” and above 0.2 in/s “troublesome.” It must be borne in mind evaluating human responses levels is complicated by the sounds made by the structure they are in, how startled they were by the event, the individual’s frame of mind at the time, the general attitude toward the operations, the duration of the event, and other issues which may increase one’s sensitiveness to vibrations. Wiss and Parmelee reported in their study in which they exposed people to vibrations of 5 seconds in duration (longer than most blasts), that the most sensitive people described vibrations near 0.01 in/s as “barely perceptible”, vibrations near 0.1 in/s as “distinctly perceptible”, vibrations near 0.4 in/s as “strongly perceptible”, and over 1.0 in/s as “severe.” The Vibra-tech’s report indicates that predicted vibration levels from the Minard Mine will range between 0.016 and 0.27 in/s.

There are many vibrations and sensations above the levels generated by blasting which are experienced by structures and people every day which do not annoy or cause alarm. That is because they are familiar events that do not startle someone or seem out of the ordinary. In situations where there is a nearby sensitive structure (such as a surgical center or convalescent home) or a sensitive people group, it is possible for a permittee and their neighbors to work together to try to remove or reduce the ‘startle factor.’ Sometimes this is accomplished using a consistent blasting schedule or a preblast call list to notify nearby residents prior to a blast. When this kind of approach has not been considered, all possible avenues of addressing community concerns have not been exhausted.

Per PA Code Title 25 Chapter § 211.151, in most cases the permittee or its customer must operate a seismograph at least at the nearest non owned building or structure to monitor the blasts for airblast and ground vibration and stay in compliance. If compliance is exceeded, the permittee must redesign future blasts to stay in regulatory compliance.

Historic Resources

Comment:

"What "training" and what responsibility does the operator have regarding historic site and artifact discoveries? This area is ripe with Indian cultural history, especially in the plains close to the river. Haven't burial ground stopped these projects in their tracks before? I believe this issue was glossed over during the meeting. Have any Indian leaders/advisers been contacted?"

Response:

The Pennsylvania State Historic Preservation Office (SHPO) conducted a Phase IA archaeological investigation of the site in February 2020. A previously recorded site was identified at the southern end of the proposed permit boundary. The proposed permit area was walked after plowing of the land and no artifacts or evidence of the recorded site were found. Auger tests and visual examination of the riverbanks indicated large packages of recent flood deposits over 2-meters deep associated with the Agnes flooding and 1964 flooding. If the site survived the floods it is deeply buried. The SHPO recommended no ground disturbance in the southern end of the proposed permit area. Bishop Brothers developed an avoidance plan that included the buffering of the southern area with a geotextile fabric and no mineral removal in this area. The correspondence with SHPO from 2020 is in Module 1 of the permit application (see pages 1-107 through 1-124).

On October 16, 2023 SHPO sent another comment letter (available for public review on the PADEP Minard Mine webpage) after it received additional comments from the public regarding potential archaeological resources. The letter stated that "These sites could be adversely affected by project activities. It is our opinion that a Phase I archaeological survey with deep testing should be conducted to locate potentially significant resources within the Limits of Disturbance". Also, the U.S. Army Corps of Engineers (USACE) required coordination with SHPO before they would provide approval for the proposed stream crossings under the PASPGP-6 permit. Bishop Brothers hired Brian Fitz of Quemahoning, LLC to complete a Phase 1 Archaeological Survey in the area of the proposed stream crossings. A Phase 1 report dated April 2024 was submitted to SHPO. SHPO sent a letter dated April 24, 2024 in response to the survey that found that it was acceptable and USACE subsequently provided their approval for stream crossings under the PASPGP-6 permit. See pages Module 1-125 through 1-172 with the 2024 survey and SHPO correspondence.

The Phase I survey was limited to the area of the stream crossings. In the April 24, 2024 letter SHPO recommended a Phase IA archaeological survey of the remaining proposed permit area. Neither SHPO or the Department can require the Phase 1A investigation since there are no documented historical features, only a high probability that they might be present, as determined by SHPO. Bishop Brothers submitted a "Plan for the Discovery of Archaeological Resources" (see pages 1-173 through 1-174 of Module 1).

The plan requires that surface disturbance be ceased in an area with an 85 foot radius if an archaeological resource is discovered on the site. SHPO and the Department will be notified of the discovery. The requirement for cessation of activities if an archaeological resource is discovered and the notification requirements are documented in Special Condition #10 in the surface mining permit.

Comment:

"Is there any historic value to the Canal that will be disrupted by this activity?"

Response:

The canal was not identified by Pennsylvania State Historic Preservation Office (SHPO) as a historical feature that should be protected.

Comment:

"Will [US Army Corps of Engineers] USACE involvement with the Tutelow creek tributary crossing change the requirements for an archeological survey? Will USACE permits PASPGP-6 and PASPGP-4 require any sort of archeological studies? (See page 3, Module 4 of Tract Engineering's response to DEP technical deficiency included in the application.)"

Response:

The review of the site by State Historic Preservation Office (SHPO) covered the entire proposed permit area including the areas of the proposed stream crossings. Copies of the correspondence from SHPO were provided to USACE by the Department as part of the documents submitted when requesting coverage for the stream encroachments under the PASPGP-6 permit. The U.S. Army Corps of Engineers (USACE) required coordination with SHPO before they would provide approval for the proposed stream crossings under the PASPGP-6 permit. Bishop Brothers hired Brian Fitz of Quemahoning, LLC to complete a Phase 1 Archaeological Survey in the area of the proposed stream crossings. A Phase 1 report dated April 2024 was submitted to SHPO. SHPO sent a letter dated April 24, 2024 in response to the survey that found that it was acceptable and USACE subsequently provided their approval for stream crossings under the PASPGP-6 permit.

Land Use and Reclamation

Comment:

There were a few comments with concerns about leaving an “unmanaged water impoundment” in the sand & gravel mining area as part of the post-mining land use. Specifically, there were concerns about mosquitos breeding in the water impoundments.

“We have concerns about the reclamation plan for the sand and gravel application. The mined area is not being returned to cropland. The application states the postmining plan for the sand and gravel project is an ‘unmanaged water impoundment’ reclamation. Unmanaged means no one is responsible for these stagnant bodies of water – left to rise and fall with the water table. Collections of such water become a breeding ground for mosquitos. There will be two of these large bodies of water along Meadowlark Drive – one in very close proximity to our property. An increase in the mosquito population could pose a serious health threat to us and other residents. There needs to be an alternative plan, or someone needs to carry the responsibility for annual mosquito control.”

Response:

“Unmanaged Water Impoundment” is an approved land use defined in the industrial minerals mining regulations (PA Code Title Chapter § 77.1). The property owner has approved the change in land use to leave a large post-mining water impoundment where sand & gravel is proposed to be mined. The post-mining water impoundment would be no different than any other small pond or lake in the nearby area, in terms of risk from mosquitos on local residents. The Department does not have any regulations that would require mosquito control measures to be implemented on water impoundments used during mining. Once the mine site is reclaimed and the permit is released then any maintenance of the property will be the responsibility of the property owner. Many former sand & gravel pits form ponds and lakes after mining is complete. The ponds and lakes formed by mining are not just stagnant water bodies, they are often well aerated with good water quality, which supports other wildlife like fish, birds, etc.

Comment:

“Why was the decision made to only make the riparian buffer 100 ft when 100 to 300 ft is recommended?”

Response:

The Department’s stream variance area only extends 100 feet from the stream bank. The Pennsylvania Fish and Boat Commission (PAFBC) recommends a riparian buffer of 100 to 300 feet in their conservation measure to maintain habitats occupied by rare fish and mussels, as described in the Pennsylvania Natural Diversity Index (PNDI) report.

The PAFBC has indicated that only restoring 100 foot riparian buffer is adequate for this site given the size of Tutelow Creek and the local topography.

Comment:

“Where are the module 10.5 evaluation of setbacks between the post-mining pit and Chemung river located in the application? How was it determined that this barrier will be adequate to prevent erosion?”

Response:

The required minimum setbacks are prescribed by the PA Code Title 25 Chapter § 77.572. The setback between the Chemung River and the post-mining water impoundment will be greater than 100 feet because no mining is approved within the 100 foot stream variance area of the Chemung River. The setback in unconsolidated material, at a minimum, must be equal to the total highwall height for the setback area. The setback would also apply to barrier areas (property lines, streams, dwellings, utilities, roads, geofabric) within the permit boundary, for example the 100-foot stream barrier along the Chemung River and Tutelow Creek. The intent of the setback is to prevent slumping of the highwall into areas where mining is prohibited.

Comment:

“Has a plan been provided for replacing an impacted wetland?”

Response:

No wetlands will be directly affected by the mining operation but monitoring of wetlands near the Phase 2 sand & gravel mining area (Wetlands I, II, and J) is proposed in case the mining operations lead to a loss of water in the wetlands. Bishop Brothers agreed to begin monitoring those wetlands before sand & gravel mining operations would commence near the wetlands. There are a total of six piezometers proposed that will be installed around the wetlands before mining moves to the north towards the wetlands. The piezometers will monitor the local groundwater levels and determine if the mining is lowering the water level. If the wetlands are impacted indirectly by the nearby mining and lose water then mitigation will be required by constructing wetlands on site of equal or greater value than those that were impacted.

Comment:

“We oppose this proposal because 2.) You can't keep allowing precious farmland to continually be developed; this needs to be protected. Perhaps the owner might consider selling it to the Amish Community, who would put this land to better use.”

“I am opposed to the proposed Minard sand and gravel Mine in Athens Township. Land set aside for conservation should not be compromised for profit. I hope and pray Bishops will withdraw their plans so that life here in the Valley will not be jeopardized. The DEP has a responsibility to protect this land and it’s residents.”

“I also wondered - I heard they're going to reseed. And when I hear reseed, I think grass. And it's going to bother me if that's what they do. Because if they're going to cut down all these trees, why not replant trees?”

“The proposed project is inconsistent with the Township’s Comprehensive Plan; the Township’s largest park will be directly impacted by mining activity taking place and is not consistent with the Woodland Conservation District.”

Response:

On November 21, 2024, Bradford County Court of Common Pleas issued an opinion and order denying the appeal of the conditional use granted by Athens Township to Bishop Brothers in the woodland conservation and agricultural zoning districts. The opinion stated that Objectors did not meet their burden in proving that the proposed mining project poses a substantial threat to the public health, safety, and welfare of the community that exceeds the impact that would normally be expected with such conditional use. *See Blackman v. Athens Township*, Docket No. 2023IR0069, Bradford Cnty. Ct. Com. Pl. (Opinion and Order November 21, 2024).

The proposed post-mining land uses of “unmanaged natural habitat” and “unmanaged water impoundment” are approved land uses in the industrial minerals mining regulations (PA Code Title 25 Chapter § 77.1). The landowner has approved of the change in the post-mining land use and Athens Township has granted the Conditional Use Approval for the mining operation on the property that was previous zoned for agricultural use.

The property owner provided a signed/notarized document requesting to change in land use from “forestland” to “unmanaged natural habitat”. Only grasses are required to be planted when unmanaged natural habitat is the proposed land use. The Department required that trees be planted in the riparian areas that are proposed to be affected on the permit (i.e., areas adjacent to the streambank).

No mining activities will occur within 300 feet of the Round Top Park property pursuant to the regulations in PA Code Title 25 § 77.504(a)(4). Fencing and signage will be installed between the park property and mine site to ensure that no one unknowingly enters the mine site from the park property.

Visual Impacts and Effects on Property Values

Comment:

There were several general comments expressing concerns about the effect of the mining on the aesthetic feature of the hillside and how it would look when viewed from the community.

There were also several comments expressing concerns about the proposed mining operation's effect on local property values.

Response:

Evergreen trees are proposed to be planted along the northern permit boundary, which will screen the sand and gravel and support operation from view and aid in dampening noise from the site. Earthen berms are also proposed as a barrier in areas that are not within the floodway (see the Potential Impacts on Flooding and Stream Channels section of this document). Unfortunately, the hard rock mining area on the hillside will be visible from many areas. The Department has no regulatory authority to require visual barriers for the hard rock mining area on the hillside.

Bishop Brothers responded to the question about the effect on property values as follows: The location of the proposed mining operation is in compliance with the Athens Township Zoning requirements. The zoning requirements consider the potential impacts of the operation on surrounding properties. Chapter 77 does not require an analysis of a mine on local property values.

The Bradford County Court of Common Pleas issued an order an opinion on November 21, 2024, upholding the allowance for mining as a conditional use. The Court noted that in evaluating the conditional use application, the Township determined that Bishop Brothers had presented sufficient evidence to grant with conditions the application after considering the compatibility of the mine in the community, whether the location of the mine was appropriate, whether the mine would adversely affect the neighborhood or create undue nuisance (including noise), and whether satisfactory provisions and arrangements have been made concerning screening and buffering. See *Blackman v. Athens Township*, Docket No. 2023IR0069, Bradford Cnty. Ct. Com. Pl. (Opinion and Order November 21, 2024, pp. 6-7).

Other Comments

Comment:

"I continue to have concerns regarding the integrity of the power grid lines that lie at the base of the hard rock project. I brought the concern to the DEP board at the 7/31/2023. The project engineer referred to the design to show that the power lines were not in the creek and not in harms way of the project. Below are side by side comparisons of the engineer's reference in the land development plan and a screenshot from Google Earth: The engineer's drawing does not represent the actual location of the electric lines (orange broken line with an E). The Google Earth photo clearly shows the power lines spanning the bend in the creek. Further upstream, this plan calls for the construction of two crossings in the floodway, of substance and size to move loads of stone to the processing area. This part of the grid carries electricity to Meadowlark Drive from the lower bend near the proposed entrance to the site and west, on up the hill. A severe storm on Saturday, August 12, caused major damage to this grid near Meadowlark Drive that required a pole replacement. Power was out to Penelec customers for 36 hours, even though that pole was easily accessible for repair. These poles are not. Damage repair could be complicated by erosion and changes in the floodway. I understand that this part has been submitted to the Army Corp of Engineers for approval. However, I request the DEP to make suggestions for protecting the power grid in this area in any way possible."

Response:

If there is no established right-of-way for the electric line then the Department assumes a total right-of-way of 50 feet with a 25 foot barrier on either side of the utility line. The operator must contact the electric utility company and obtain a waiver to conduct mining activities within 25 feet of the electric utility line. The only activity that wouldn't require approval is when vehicles would just be passing under the electric line on an existing road. Penelec (First Energy), the operator of the electric line, provided an agreement with Bishop Brothers dated February 21, 2024 allowing Bishop Brothers to construct access roads under the electric line. There will be two roads constructed under the electric line: one between Phase 1 and Phase 2 of the sand & gravel mining area and one between the sand & gravel and hard rock mining areas. The permit requires a 25 foot undisturbed buffer to be maintained around all the electric poles. The electric line to the Minard residence is proposed to be removed by mining but an agreement is not yet in place to do that. An agreement with Penelec to remove the line will be required as mining progresses toward the electric line.

Comment:

"Another statement was made about not interrupting school bus traffic. Then, it was presented that hauling operations would be limited to 7:00 am to 3:30 pm. I'm pretty sure buses deliver children to school up until almost 8:00 am and pick them up just after 3:00 pm Athens Area School District (AASD)."

Response:

The restriction on the time of day of the proposed mining activities was determined by Athens Township in the conditional use approval. The conditional use approval from Athens Township contains the following condition: "Applicant will limit the hours of the mining operation to Monday through Friday from 7:00 a.m. until 5:00 p.m., and on Saturdays from 7:00 a.m. until 12:00 p.m. Per the statements of the Applicant, no mine product shall be transported off-site, any day after 3:30 p.m., on any Sunday, or on any government holiday".

Comment:

"A question came up around the estimation of truck traffic that this project would bring to Meadowlark Drive. The number '30 trucks a day' was referenced, and possibly cited from my communication earlier in the week regarding my concern for increased traffic. I did not pull that number 'out of the air'. Those were the words of Dustin Bishop from the February 2021, Supervisors' hearing for the conditional usage application. Someone asked for an estimate of how many trucks a day they anticipated serving. Dustin replied that their production goal would be 30 daily. I added that statement to my personal notes from that meeting. Since that meeting was a hearing, his response to that question would be in the transcript."

Response:

Bishop Brothers responded to the question about the number of trucks entering and leaving the mine site as follows: The number of trucks per day will be a function of market demand. Truck traffic is required to comply with the February 21, 2021 Board of Supervisors' Decision of the Board. Refer to Section III, 13b, 13c, 13f, 13h, 13i, 13j, 13k, and 13s (Mine Permit application pages 1-17 to 1-23).

Comment:

"Topsoil berms are still outlined in section 10-1 despite DEP commentary that installation of berms in the hard rock area is not feasible due to the topography. Can clarification be made as to why module 10-1 doesn't mention low walls and continues to plan for berms?"

Response:

The Department's comment regarding needing a low wall instead of containment berm was in reference to the pit sump area at the base of the hard rock mining area. Topsoil berms will be utilized around the perimeter of the mining pit primarily as a safety measure to prevent any unauthorized access or people accidently falling over the high wall. Those berms will be located between the diversion ditches and the highwall in the hard rock mining area. A low wall or containment berm needs to be established below the hard rock mining area to collect the water from the pit so it can be directed through a treatment pond prior to release into Tutelow Creek. The operations plans in Module 10.1 describes the use of the low wall and containment berm.

Comment: *"10.1 page 10-2, berm size will be limited by site conditions. How will it be determined to balance berm size, safety and impacts to Tutelow creek?"*

Response: Berm size would be limited due to the amount of topsoil available on the hillside of the hard rock mining area. The topsoil and other unconsolidated material is pushed off the bedrock to form the perimeter berms around a mining pit. Bishop Brothers will be required to maintain an adequately sized pit sump to control the runoff from the mining pit area (see Module 13 page 13-2). That can also be achieved by establishing a low wall between Tutelow Creek and the mining pit as noted in the comment above. As far as safety is concerned there will also be fencing and signage established on the hillside above the mining area to prevent people from accidently entering the mining area (see note on Exhibit 9 Operations Map and Module 10 page 10-2 in the operations plan). Additionally, trees and brush will be pushed to edge of mining areas which inhibits access to the pit area.

Comment:

"Please describe the research that Athens Township/ Commonwealth of Pennsylvania have undertaken to gage the environmental impact of surface mining so close to a residential neighborhood and a community school complex. Have you researched the impact at other similar mining operations?"

"Athens Township has not conducted research on medium and long term consequences relating to wildlife, waterways, soil erosion."

Response:

The Department is required by law to review permit applications such as the Bishop Brothers' in accordance with established laws and regulations and the Pennsylvania Constitution. The Department takes seriously its obligations to do this.

More specifically, the purpose of the Noncoal Act is to have industry proceed in a manner that "improve[s] the use and enjoyment of the lands," "enhance[s] land use management and planning," "enhance[s] the value of the land for taxation," while protecting "birds and wildlife," "aid[ing] in the prevention of pollution of rivers and streams," "protect[ing] water supply," and "eliminate[ing] hazards to health and safety." 52 P.S. § 3302.

The Department has carefully reviewed Bishop Brother's submissions and technical data which also include correspondence from the township and has asked for more information and verification through a technical deficiency letter where appropriate.

There are also many hard rock and sand & gravel mining operations in Bradford County and throughout Pennsylvania that Department staff has extensive experience permitting and regulating.

Moshannon District Mining Office has also coordinated its review and shared the information it was provided with various other Department programs internally to evaluate hydrologic and stormwater management matters unique to this site, air quality concerns, general nuisance questions, surrounding natural resources and recreation concerns as well as the potential impact on the proposed activities on the local community. The Department also discussed the application and shared the material with other state and federal agencies as appropriate. The Department has carefully reviewed and considered public comments and reports submitted with the comments during its review of this application.

The permit application process itself regulatorily required Bishop Brothers to provide extensive detailed information related to the environmental effects of the proposed quarry including general environmental resource information, a description of the hydrogeology and geology, groundwater and surface water information, vegetation, alternative water supply information, and land use considerations. PA Code Title 25 Chapters §§ 77.401-77.410. The review of this material is discussed throughout this comment response document.

Comment:

"Please describe the steps that Athens Township will take to ensure that speed limits on Meadowlark Drive are enforced."

"Athens Township has not satisfactorily addressed issues relating to traffic congestion management at 220 interchange and meadowlark drive."

Response:

Enforcement of speed limits and traffic on the public roads is beyond the jurisdiction of DEP's regulatory authority. The speed limits must be enforced by the local and/or state police. Per the statements of the Applicant, no mine product shall be transported off-site, any day after 3:30 p.m., on any Sunday, or on any government holiday".

Comment:

"Who are the local stakeholders that Bishop Brothers/ Athens Township/DEP met with as strongly encouraged by Economic Justice Areas?"

"The has been a total lack of transparency. Until Jordi Comas became involved the project was purposely hidden from public view and/or comment. There is significant community backlash as this project appears to have already been rubber stamped. DEP has failed to appropriately consider the impact on Athens Borough an Environmental Justice Zone. Athens Borough residents were only informed after preliminary approval has been granted by DEP. It does not seem as DEP has met its burden of engaging an economically deprived area until it was too late. The residents of Athens Borough lack the resources to meaningfully contest this project."

"Let's go back to the Environmental Justice Area….. due to a higher poverty rate this area was selected. Does this proclamation give Bishop's the ability to even request this permit? Is this an economic thing to somehow help with the "poverty"? Can anyone tell me what advantages this project has for the people of this area besides the obvious advantages to the Bishops?"

Response: The Department has an Environmental Justice policy[1] that was just updated in September 2023. Bishop Brothers began the process of applying for the necessary approvals for the mining operation by applying for a Conditional Use approval from Athens Township in 2021. The conditional use application involved a public hearing held by Athens Township. There were news articles published in the local Athens area media about the proposed mining permit as early as September 2021. There was a lot of public involvement and awareness of the project due to the zoning discussions with the Township before the Department was aware of the project. The earliest involvement with the Department regarding the proposed Minard permit was when Bishop Brothers submitted an Intent to Explore the Minard property to determine the quality of the stone and if it was worth pursuing a mining permit. The Intent to Explore application was submitted on January 15, 2020. No public notice is required for notices of intent to explore. A pre-application was submitted from Bishop Brothers to the Department for

review on January 10, 2022. The Department doesn't check for environmental justice areas until the pre-application review begins. There is no public review component to the pre-application review. The pre-application review is only for the Department to identify technical issues with the application. The Department issued a pre-application review letter to Bishop Brothers on May 6, 2022 identifying the issues that would need to be addressed as part of a permit application submission. The pre-application review is designed to conserve taxpayer dollars by indicating to applicants what steps they must take to seek permission for a project. The pre-application review does not confer any favor or status as to the final permitting decisions. The Department identified the proposed permit area as being in an environmental justice area to Bishop Brothers in February 2022 and told them there would be enhanced public outreach as part of the application review process. Following the submission of the permit application on May 15, 2023, Department staff started discussing the application with members of the community and held the public informational meeting on July 31, 2023 followed by a public hearing on September 26, 2023. The Department has been communicating with local officials and members of the public throughout the application process and has followed all the requirements for public notice and participation required by the regulations.

The Environmental Justice efforts by the Department are done to increase communities' environmental awareness and involvement in the DEP permitting process. The location of a proposed mining or other regulated facility within an environmental justice area does not prohibit any activities. The only implication of an environmental justice area is that the Department must conduct more public outreach than is typically done for a typical permit application outside of an environmental justice area. For example, the additional public outreach conducted by the Department for the Minard Mine application included sending letters to local residents near the proposed permit notifying them of the application, holding the informational meeting on July 31, 2023, and keeping a webpage updated on the Department's website with all the application details. Those are not measures that are typically undertaken for a typical large industrial minerals permit.

The enhanced public outreach efforts undertaken by the Department since the application was submitted in May 2023 have been consistent with the Environmental Justice policy.

The location of the proposed mine is on the edge of an "environmental justice" community as defined under the existing policy from 2015-2023 and was in force when the permit application was submitted. The mining staff of DEP alerted the Office of Environmental Justice of this fact and requested OEJ's involvement. The EJ policy in force for this project is primarily about guaranteeing enhanced public participation. This means that DEP seeks to make public engagement more accessible. There is no higher or more rigorous regulatory threshold for issuing a permit.

While DEP understands the perception of time lags in these stages, enhanced public participation for a permit can only begin ***once the permit application*** is received. In

this case, it was received May 15 and within 14 days, OEJ staff were visiting the area and planning for enhanced public participation. Further questions or concerns can be directed to the Office of Environmental Justice at RA-EPOEJ@pa.gov (484) 250-5820 or NCRO regional coordinator Jordi Comas at jcomas@pa.gov 570 327 3656.

Bishop Brothers also says that they began reaching out to surrounding property owners to collect water samples starting in August 2021.

[1] PADEP Environmental Justice Policy (Document No. 015-0501-002) https://files.dep.state.pa.us/PublicParticipation/Office%20of%20Environmental%20Advocacy/EnvAdvocacyPortalFiles/2023/015-0501-002-InterimFinal.pdf

Comment:

"Please disclose whether any party to the decisions on whether to proceed with the project have financial/business/personal relationships with any party involved in the project? Please disclose if any party to the decisions on whether to proceed have a real or apparent Conflict of Interest. What is the nature of the Conflict of Interest and how is it mitigated."

Response:

Department employees involved with the application review do not have any financial, business, or personal relationships with Bishop Brothers. All Department employees are required to complete annual financial disclosure forms on which employees have to identify all the financial interests that they have.

Comment:

"This property is on a well water spring, and I fear what could happen if this mining contaminates my water, I do not know what chemicals are used for this type of mining, or what the use of explosives will affect, I can tell you that I did work for NO MAC during their drilling for NG, and I remember the contaminated water wells that started to show up, Chesapeake did a survey on my well system back then and I believe I still have the results paperwork that was provided to me, again, I am concerned on the affects this project could do to my property, water contamination, soil contamination…"

"Also, in the flood plain certain chemicals cannot be used. Has anyone asked the Bishops what chemicals they use and if they are allowed to use them according to the FEMA regulations?"

Response:

All chemicals to be utilized on the mine site are to be listed in the PPC Plan included in the NPDES permit application. The only chemicals proposed to be used and stored on site are those used in the equipment (diesel fuel, lubricants, hydraulic oil, motor oil, and antifreeze). They are only proposed to be stored in relatively small quantities (<100

gallon containers). Those are the only chemicals to be stored in the support area within the floodplain and there are no FEMA restrictions on storing those types of materials in the floodplain. No chemicals are used in the mining of either hard rock or sand & gravel except Ammonium Nitrate-Fuel Oil (ANFO) that is used as the explosive for blasting in the hard rock mining area. ANFO should be consumed during the blast and should not cause any contamination of the groundwater. ANFO will not be stored on the site but only brought in when needed for blasting. Flocculant may be added to the pit water being drained from the hard rock mining pit if needed to assist in the settling of suspended sediment in the water and to meet the NPDES effluent limits. The flocculant product proposed to be used is MasterCat 4329 and a safety data sheet for it is included in Module 13 of the permit application. It contains Dialuminum Chloride Pentahydroxide, which is the component that facilities the coagulation and settling of suspended solids in the water. It will dissolve in water resulting in some aluminum being added to the water, which can be toxic to aquatic life, however the aluminum will precipitate and settle in the treatment facility before the water is discharged to Tutelow Creek. The flocculant has no potential to cause contamination of drinking water supplies.

Comment:

“Is DEP accepting the zoning approval even though the Conditional Use decision does not address the Conservation and Parks District? Does retroactively changing the decision comply with all of the public notice requirements for zoning approval? Will DEP's attorney being reviewing this matter for legality?”

Response:

The zoning of the property proposed to be mined is a matter to be addressed by Athens Township. Athens Township issued a letter on August 15, 2023 clarifying that the conditional use approval encompassed the entire Minard property. That decision was subsequently appealed by a couple different plaintiffs to the Pennsylvania Court of Common Pleas in Bradford County. The Department is not a party to that appeal and the Department’s legal counsel won’t be involved in the civil court proceedings. DEP Counsel have been advising Moshannon District Mining staff regarding how to address the zoning issues during the permit application review.

On November 21, 2024, Bradford County Court of Common Pleas issued an opinion and order denying the appeal of the conditional use granted by Athens Township to Bishop Brothers in the woodland conservation and agricultural zoning districts. The opinion stated that Objectors did not meet their burden in proving that the proposed mining project poses a substantial threat to the public health, safety, and welfare of the community that exceeds the impact that would normally be expected with such conditional use. *See Blackman v. Athens Township*, Docket No. 2023IR0069, Bradford Cnty. Ct. Com. Pl. (Opinion and Order November 21, 2024).

Comment:

“I would like to see Bishops put a certain amount of money into an escrow in the event that there is an environmental accident or perhaps disaster. I would think that - it seems the only reason to do something like this is, they're going to make money. So if they say that they care about the community, let's let them put that money where their mouth is. Put it in escrow, just in case.”

Response:

Pursuant to PA Code Title 25 Chapter § 77 Subchapter D, the Department requires a Reclamation Bond which is a financial guarantee, given to provide assurance that the operator will fulfill an obligation it has undertaken to perform reclamation of the mining site. If the operator does not perform the contractual reclamation obligation, the bond may be collected and the work completed by the State. All applicable statutes and regulations must be followed. The bond is money that is held by the Department often in the form of cash, collateral, or surety. That bond is maintained until the permit is reclaimed. If Bishop Brothers abandons the site or would become insolvent while there is still reclamation liability then the Department will collect the bond money and use it to hire a contractor to reclaim all areas disturbed by mining. The bond calculated in the application is $242,493 as described in the calculations included in Module 10 of the permit application. The bond covers regrading/backfilling the mining pit, planting vegetation, and any other miscellaneous costs.

In addition to bond, Bishop Brothers is also required to maintain an insurance policy as part of their license to mine in the State of Pennsylvania. Liability insurance is required to conduct mining activities in Pennsylvania. In addition to the liability insurance requirements for bodily injury and property damage, a surface mine operator is also required to provide insurance to cover damage caused by the use of explosives and coverage for damage to public and private water supplies. A surface mine operator may use insurance coverage to provide financial assurance that water supplies affected by surface mining activities can be replaced. The minimum dollar amount of coverage for bodily injury is $300,000 for each occurrence and $500,000 for the aggregate. The minimum dollar amount of coverage for property damage is $300,000 for each occurrence and $500,000 for the aggregate. If the coverage for bodily injury and property damage is combined, the minimum dollar amount is $600,000 per occurrence and $1,000,000 for the aggregate. Bishop Brothers has a $2,000,000 combined bodily injury and property damage policy that includes blasting and water loss coverage.

Comment:

"As a first responder in Athens Township, PA I also know there is not adequate measures that have been discussed with us involving emergency action plans, fire response plans etc."

Response:

Bishop Brothers responded to the question about coordination with local emergency authorities as follows: Once all authorizations are secured for the Minard Mine, Bishop Brothers will reach out to local emergency responders to review the site and address any concerns.

Comment:

"I am writing with regard to the Minard Mine that has been proposed in Athens, PA. I will begin by saying that I believe placing a mine in this valley in such close proximity to schools, medical centers, shops/stores, and thousands of residences is entirely inappropriate. The Chemung River is approximately 46 miles long, so the notion that this is the only or best location for a mine is absurd. I am significantly concerned about the health and environmental impacts that this mine proposes to the entire region and population of not just Athens, PA but also Sayre, PA and Waverly, NY."

Response:

Bishop Brothers responded to the question about how the site was selected as follows: Bishop Brothers has secured a lease agreement with the landowner to recover mineral reserves on their property. The Minard Mine meets all applicable PA Code Title 25 Chapter § 77 and local zoning setback requirements.

On November 21, 2024, Bradford County Court of Common Pleas issued an opinion and order denying the appeal of the conditional use granted by Athens Township to Bishop Brothers in the woodland conservation and agricultural zoning districts. The opinion stated that Objectors did not meet their burden in proving that the proposed mining project poses a substantial threat to the public health, safety, and welfare of the community that exceeds the impact that would normally be expected with such conditional use. Objectors presented testimony at the hearing concerning the proximity to the schools and the VA clinic, however, the Court ruled that Objectors failed to meet their evidentiary burden to show that students, VA patients or the rest of the community will have detrimental health, safety, and welfare because of the mining operation. *Blackman v. Athens Township*, Docket No. 2023IR0069, Bradford Cnty. Ct. Com. Pl. (Opinion and Order November 21, 2024 p. 5). In its opinion, the Court noted that this is a rural community where children often go hunting or at least are familiar with the sound of distant shotgun or rifle blasts which are analogous to the sound of blasting at the proposed mine. (*Id.* p. 8).