

Module 9: Operations Map

[§77.454]

Provide a map or plan that includes the permit area and the area within 1,000 feet of the permit area. The map or plan shall be clear, accurate, easily read and on a scale of no smaller than 1 inch = 400 feet. Maps on the scale of 1 inch = 200 feet for permit areas of 100 acres or less and 1 inch = 400 feet for permit areas larger than 100 acres are preferred. Use the same scale as used for Exhibits 6.2 and 18. Identify the map or plan as Exhibit 9 Operations Map. Each map or plan must bear the seal or facsimile imprint of a registered professional engineer; or the seal or facsimile imprint of a registered professional land surveyor. Show all the following information within the permit area and for a distance of 1000 feet from the permit area, unless specified otherwise. Include an appropriate legend on the map. Indicate which items are present by placing a check mark in the box before the item. Please provide the permit number (if it has been assigned) or a space for it in the title block. Please also include the acreage of the total permit area.

- a) topographic contours (contour intervals of 20 feet or less);
- b) proposed surface mine permit area, and initial bond increment;
- c) surface water bodies such as streams, lakes, ponds, springs, wetlands, mine discharges and constructed or natural drains (include restricted or variance areas, and names of streams and lakes/use a unique label for each unnamed tributary);
- d) property lines (key ownership to Module 5);
- e) buildings (include current use and restricted or variance areas);
- f) man-made features such as public highways, railroads, utility lines including right-of-ways or easements, and other man-made features (include the name of the highway, railroad and utility and the restricted or variance areas);
- g) oil and gas wells in and within 125 feet of the permit area (include restricted or variance areas);
- h) public or private cemeteries or Indian burial grounds (include restricted areas);
- i) existing or previously surface-mined areas, preact highwalls, existing structures and existing areas of refuse, spoil, waste, and processing waste disposal;
- j) areal extent of active and abandoned underground mines if mining above or through;
- k) solid waste disposal areas;
- l) final working face limit for mineral to be mined (i.e., maximum lateral extent of mineral extraction prior to final postmining slope development);
- m) phases of mining (indicate initial phase, sequence, and direction of mining);
- n) water treatment facilities;
- o) surface water diversions;
- p) erosion and sedimentation control facilities, including location and size of existing structures, road culverts and drainage ways;
- q) dams and impoundments;
- r) berms and spoil storage areas;
- s) topsoil storage areas;
- t) haul roads (outside of area being mined);
- u) refuse disposal areas (indicate any material in the refuse which may be acid forming);
- v) processing facilities and stockpile areas;
- w) air pollution control facilities;
- x) explosives storage areas;
- y) formation contacts and coal croplines (where applicable);
- z) test hole locations (key to 7.1 b data).
- aa) incidental coal extraction areas

Module 10: Operational Information **[\$\$77.452/77.456/77.563/77.564]**

10.1 Equipment and Operation Plan

For each phase of mining, identify the type and method of mining; engineering techniques; major equipment to be used; starting point; and the anticipated sequence in which the phases are to be mined.

CONSOLIDATED MATERIAL (HARD ROCK):

Mining at the site will be in three (3) phases with multiple bond increments.

Mining will be conducted by modified block cut. The mineral will be extracted in blocks in accordance with highwall heights and bench widths; 50' maximum height and a 25' minimum working bench. Once mining progresses to the mining limits, a 71' minimum final bench with a 50' maximum highwall is required to achieve site reclamation. Bench width can vary based upon final highwall heights provided a reclamation slope of 35 degrees can be achieved. Grading of stockpiled material along the perimeter of the mining areas and the bonded stockpile material will be utilized to help achieve final reclamation slopes. At the completion of this grading, soils will be replaced, followed by seeding and mulching.

Mining will be completed at multiple benches as mining progresses. The benches will be large enough to facilitate the extraction and processing of materials if needed. Multiple benches will provide the operator flexibility should mineral quality vary.

UNCONSOLIDATED MATERIAL (SAND & GRAVEL):

Mining at the site will be completed in multiple phases by general excavation above and below the water table. No dewatering of the mining area is proposed. Mining will be conducted by general area removal. The mineral will be extracted in lifts in accordance with highwall height (25' typ), bench width (25' typ), and slope (1.5:1 typ) recommendations.

The following benching sequences will be used during mining: maximum heights of 25' for highwalls and 25' minimum width for benching will be used. All mining along the mining limits will be conducted in a manner to reduce the need for additional material handling for final reclamation. In areas where final mining slopes are found to exceed 35°, excess material will be utilized to help achieve final reclamation slopes elsewhere in the permit area. At the completion of this grading, soils will be replaced followed by seeding and mulching. A safety bench will be provided at final water surface elevation of the impoundment; refer to detail on Exhibit 10.2. The configuration of the safety bench will account for potential water level fluctuations.

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. The proposed perimeter berms shown on the exhibit maps are utilized for material storage and to restrict access to the site. The perimeter berms are not intended to prevent floodwaters from entering the site. 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. Potential impacts of the flooding will be operation downtime and cleanup of sediment and debris from floodwaters.

If a flood occurs, floodwaters will inundate the site and then recede slowly as the adjacent waterways return to normal flow conditions. Floodwater in the pit will limit mining operations; the operator will proceed with caution as conditions return to normal. Floodwaters in the support area and processing area will recede as the adjacent waterways return to normal flow conditions. Floodwaters in Basin 1 will exit via the emergency spillway and eventually the principal spillway as the adjacent waterways return to normal flow conditions.

BONDING:

The operation will be bonded prior to mining. The topsoil will be stripped ahead of mining and stored along the perimeter of the mining area. These soil storage areas will be in place to ensure that the site can be revegetated for the proposed post mining land uses. The topsoil berms and overburden berms will also act as a containment system to keep any sediment laden runoff from leaving the site. Once vegetation has become established on the soil storage berms, the operation will be virtually self-contained so that under normal climatic conditions all runoff from the site will be directed to sedimentation basins or pit sumps.

The operator may vary the phase sequence and bonded area based upon subsurface conditions encountered during mining and market demand. The characteristics of the mined material will guide development of each phase of mining.

Hard Rock Phase 1 (Initial Bond Increment):

The initial bond increment will develop the mine site infrastructure and Hard Rock Phase 1.

Support Areas:

1. Install support area sumps at the perimeter of the bonded area as indicated on Exhibit 9.
2. Install E&S controls and temporary crossing of Tutelow Creek to begin construction of the Tutelow Creek Bridge. Refer to Module 14 and Exhibit 14 for additional details.
3. Install E&S controls for the UNT 1 Tutelow Creek pipe crossing. Refer to Module 14 and Exhibit 14 for additional details.
4. Install E&S controls downslope of Basin 2.
5. Clear and grub access road between support area and Hard Rock mining area. Trees shall be harvested and stumps and brush shall be chipped or stockpiled in the bonded overburden pile area.
6. Install office and storage trailers. Scales may be installed at any time during this sequence.
7. Strip topsoil and stockpile.
8. Begin construction of Tutelow Creek Bridge. Refer to Module 14 and Exhibit 14 for additional details.
9. Begin construction of Basin 2. Utilize excavated material from Basin 2 area to construct access road base from Hard Rock mining area to the support area. Continue constructing the access road to the north entrance utilizing suitable material excavated from the Hard Rock mining area. Install Basin 2 emergency spillway, riprap protection, outlet pipe and seed and mulch all disturbed areas.
10. Once bridge complete, backfill abutments and finalize access road grade. Install perimeter E&S controls and Haul Road E&S Sediment Trap (see detail on Exhibit 10.1). Remove temporary crossing and revegetate disturbed areas.
11. Continue with the installation of the access road from the bridge north to Meadowlark Drive. Install Haul Road E&S Sediment Traps. At the northern end of the access road at the intersection of the paved driveway, install a rock construction entrance. Refer to detail on Exhibit 10.2.
12. Complete all requirements of the Athens Township approval (subject to change based upon receipt of final Township approval):
 - a. Evergreen screening along homes on Meadowlark Drive
 - b. Place conspicuous signage at regular intervals, and fencing where appropriate along the property line adjacent to Round Top Park, sufficient to ensure that park visitors are aware of the mining activity.
13. Stabilize support area for processing and stockpiling material.

Hard Rock Phase 1 Mining Area:

1. Clear and grub area. Trees shall be harvested and stumps and brush shall be chipped or stockpiled in the bonded overburden pile area.
2. Install perimeter controls (super silt fence) as noted on the Exhibit maps.
3. Strip and stockpile topsoil and overburden. Topsoil shall be utilized for perimeter containment berms around the mining operation. Due to the site topography, berm size will be limited by site conditions. Efforts will be made to construct a berm to prevent unauthorized entry into the mining area. Safety is the primary goal of the perimeter berms; storage of excess material will be provided by the bonded Overburden Storage Pile.
4. Install diversion ditches upslope of the perimeter berms to divert runoff away from the mining area.
5. All berms will be seeded and mulched to develop vegetative cover to stabilize the berm. Overburden will be placed in the Overburden Storage Pile and utilized for construction of the access road to Meadowlark Drive.
6. The initial mineral extract will occur at or near the final pit floor elevation and work into the hillside. Exploration efforts indicate there is approximately 50-75' of material that can be removed by general excavation before consolidated rock is encountered. The initial blast at the site should be far enough away from the surrounding stream barrier areas to prevent blasted material encroaching the barrier areas. Future blasts will be oriented to minimize the potential for blasted material from entering the stream barrier area.
7. Mine Hard Rock Phase 1 to the west and south to Phase 1 mining limits. Phased mining increments are developed to enhance sediment collection and control. Phasing increments are developed by successively stripping sections of ~5-6 acres in size. Containment berms and low walls along the mining phase boundary are utilized to define the current mining area. A pit sump shall be utilized in conjunction with the perimeter controls to collect pit runoff for conveyance to Basin 2. Conveyance can be achieved by Ditch 1 or by pumping.
8. Excess overburden that cannot be placed in perimeter berms shall be placed in the Overburden Storage Pile.
9. Proceed to Hard Rock Phase 2

Hard Rock Phase 2:

A bond increment application will be submitted to DEP for Hard Rock Phase 2 operations. Hard Rock Phase 2 will continue Hard Rock Phase 1 to the west and south.

Hard Rock Phase 2 Operation Sequence

1. Strip and stockpile overburden.
2. Excess overburden that cannot be placed in perimeter berms shall be placed in the Overburden Storage Pile.
3. Maintain runoff controls utilized for Phase 1. Additional pit sumps may be constructed as conditions warrant.

4. Install highwall fall prevention berms and signage.
5. Mining will progress west and south to Phase 2 limits.
6. Proceed to Hard Rock Phase 3.

Hard Rock Phase 3:

A bond increment application will be submitted to DEP for Hard Rock Phase 3 operations. Hard Rock Phase 3 will continue Hard Rock Phase 2 to the west and south.

Hard Rock Phase 3 Operation Sequence

1. Strip and stockpile overburden.
2. Excess overburden that cannot be placed in perimeter berms shall be placed in the Overburden Storage Pile or utilized for concurrent reclamation.
3. Maintain runoff controls utilized for Phase 1. Additional pit sumps may be constructed as conditions warrant.
4. Install highwall fall prevention berms and signage.
5. Mining will progress west and south to Phase 3 (SMP boundary) limits.

Hard Rock Phase 4:

A major permit revision and bond increment application will be submitted to DEP for Hard Rock Phase 4 operations.

Hard Rock Phase 5:

A major permit revision and bond increment application will be submitted to DEP for Hard Rock Phase 5 operations.

Sand & Gravel Phase 1:

When market conditions demand sand and gravel from the operation, Sand & Gravel Phase 1 bond increment application will be submitted to DEP.

Sand & Gravel Phase 1 Operation Sequence:

1. Install erosion and sedimentation controls around mining support and Sediment Basin 1. As directed on Exhibit 9 as required by PHMC (see Module 1), install geofabric on existing ground and place material to construct the mining support area at the south end of the SMP.
2. Install erosion and sedimentation controls: a containment berm shall be installed around the mineral extractoin area.
3. Strip and stockpile overburden.
4. Recover sand & gravel reserves from south to north to the Phase 1 mining limits. Processing area, stockpiles and other support areas shall be relocated as necessary to facilitate mineral extraction. Stormwater runoff will be collected in the pit sump and infiltrate into the subsurface.
5. As each consecutive mine phase is stripped, mining equipment will be used to remove raw materials for processing. Mining equipment will develop working face(s) to an approximate elevation of 755'± (above the projected ground water elevation). Excavation to 720'± will commence when the pit floor area at elevation 755'± is of adequate size for the processing area and mineral extraction area. Recovery of material to 720'± will require mining below the water table; no pumping will be conducted to lower the water level in the pit for mineral removal. Excavators or dredging tools will be positioned on the 755'± pit floor to mine to 720'±. Both mining above and below the water table progress is dependent upon market demand and material quality.
6. Proceed to Sand & Gravel Phase 2.

Sand & Gravel Phase 2:

Sand & Gravel Phase 2 bond increment application will be submitted to DEP.

Sand & Gravel Phase 2 Operation Sequence:

1. Install erosion and sedimentation controls: a containment berm shall be installed around the mineral extractoin area.
2. Strip and stockpile overburden.
3. Recover sand & gravel reserves from south to north to the Phase 2 mining limits. Stormwater runoff will be collected in the pit sump and infiltrate into the subsurface.
4. As each consecutive mine phase is stripped, mining equipment will be used to remove raw materials for processing. Mining equipment will develop working face(s) to an approximate elevation of 755'± (above the projected ground water elevation). Excavation to 720'± will commence when the pit floor area at elevation 755'± is of adequate size for the processing area and mineral extraction area. Recovery of material to 720'± will require mining below the water table; no pumping will be conducted to lower the water level in the pit for mineral removal. Excavators or dredging tools will be positioned on the 755'± pit floor to mine to 720'±. Both mining above and below the water table progress is dependent upon market demand and material quality.

EQUIPMENT:

Equipment to be used during the mining activities include: dozers, rock trucks, excavators, drills, loaders, crushers, screens, conveyors, and other equipment to support the mining operation.

HOURS OF OPERATION:

Athens Township Conditional Use approval dated 02/24/21 (see Module 1) dictates the hours of operation.

Mining Hours of Operation:

Monday – Friday: 7:00 a.m. until 5:00 p.m.

Saturday: 7:00 a.m. until 12:00 p.m.

Scale House Hours of Operation*:

Monday – Friday: 7:00 a.m. until 3:30 p.m.

Saturday: 7:00 a.m. until 12:00 p.m.

Sunday: Closed

Government Holiday: Closed

* No mine product shall be transported off-site any day after 3:30 p.m.

Blasting Hours of Operation:

Monday – Friday: 7:00 a.m. until 5:00 p.m.

Saturday: No blasting permitted.

Sunday: No blasting permitted.

Federal Government Holidays: No blasting permitted on the thirteen Federal holidays.

10.2 Pit Configuration

- a) Identify the maximum depth of mining and the elevation of the pit floor at the maximum depth of mining for each mining phase.

HARD ROCK:

The maximum depth of mining for the operation will be ~680' or to the approximate pit floor elevation 770' MSL. The maximum height of individual cuts will vary due to the variation of the surface elevation. Bonds will be filed with the PADEP that meet the current bonding guidelines for the site.

SAND & GRAVEL:

The maximum depth of mining for the operation above the water table will be ~25' or to the approximate pit floor elevation 755' MSL. The maximum height of individual cuts will vary due to the variation of the surface elevation. The maximum depth of mining below the water table will be ~35 or to the approximate pit floor elevation 720' MSL. Bonds will be filed with the PADEP that meet the current bonding guidelines for the site.

- b) If mining consolidated rock, identify the maximum highwall height and the benching interval to include the distance between the benches measured vertically (i.e. height of the working face of the bench) and the width of the benches.

HARD ROCK:

680' overall height, 50' maximum working height with at least a 25' bench (71' bench at mining limit)

The maximum highwall height may vary with the topography at the top of the cut.

Once mining progresses to the mining limits, a 71' minimum final bench with a 50' maximum highwall. Bench width can vary based upon final highwall heights provided a reclamation slope of 35 degrees can be achieved.

SAND & GRAVEL:

N/A

- c) If mining consolidated rock and the reclamation plan is an alternative to approximate original contour involving restoration of the pit floor and final working face, identify the total acreage of pit floor and final graded slopes

HARD ROCK (Phases 1, 2, & 3):

Total pit floor and graded slope area = 35.6 acres

Pit floor = 9.4 acres

Final graded slopes = 26.2 acres

The final graded slopes of the highwalls will be graded to 35 degrees or less. The pit floor will be graded to provide positive drainage from the mined area to prevent ponding.

SAND & GRAVEL:

N/A

10.3 Existing Structures

Identify and describe the intended use of all existing structures or facilities to be used in connection with or to facilitate mineral removal activities. (Common existing structures include impoundments, stream crossing facilities, water obstructions and processing waste dams.)

N/A

10.4 Overburden Piles

Provide a narrative plan for reclamation of overburden piles specifying the timing and extent of overburden piles returned to the pit and final grading of the overburden pile areas for blending into existing contours.

Overburden will be stockpiled at the perimeter of the mining operation. Overburden will be utilized to construct perimeter berms and to complete reclamation behind the working face of the operation. All overburden remaining on site will be returned to the pit area as part of reclamation of the slopes, pit floor, and water safety bench. When operations allow, overburden will be utilized for reclamation as mining progresses.

Excess overburden from the Hard Rock mining area that cannot be placed in perimeter berms or stockpiles shall be placed in the Sand & Gravel Phase 1 mineral extraction area.

Maximum overburden stockpile height shall be 45'.

10.5 Final Grade and Drainage

Identify the final grading and drainage pattern, including topographic contours on Exhibit 18 and a description of compaction and stabilization techniques. Provide cross-sections or a contour map showing permit line setback(s), final postmining slopes, postmining watertable and safety benches.

HARD ROCK:

A terrace backfill plan is proposed with slope breaks (diversion ditches). Final grading and drainage pattern is detailed on the reclamation plan. Cross sections show the permit line setback, benching and reclamation grading. Basin 2 and the low wall containment berm will remain until reclamation grading is complete. Once grading and the site is stabilized, Basin 2 can be removed and the low wall containment berm reclaimed by blending to the surrounding topography. Disturbed areas will be seeded and mulched.

The topsoil will be replaced once mining has been completed. The berms located along the mining limit will remain in place until the material is needed for reclamation. The berms will minimize erosion and sedimentation during backfilling of the areas upslope by diverting runoff away from sloped areas. Refer to the cross sections for permit line setbacks and final reclamation slopes.

Compaction and stabilization techniques will utilize multiple passes over fill material with heavy tracked equipment. Sloped areas will be tracked perpendicular to the slope (ie equipment will move up and down slopes).

Post mining drainage will be directed to the east.

SAND & GRAVEL:

Maximum slopes will be 1.5:1. Final grading and drainage pattern is detailed on Exhibit 18. The topsoil will be replaced and stabilized with permanent vegetation once mining has been completed. The berms located along the mining limit will be utilized as long as possible to minimize erosion and sedimentation during backfilling of the areas upslope. A safety bench will be constructed at the water surface elevation with the typical dimensions shown in the Detail 7 on Exhibit 10.2. The safety bench shall be large enough to accommodate fluctuations in the water level.

Mining of the sand and gravel across the valley floor will not occur within 100 feet of any stream. The remaining sand and gravel deposit above normal groundwater elevation; a minimum separation of 100 feet of vegetated barrier area; and reclaimed mining area with vegetated slopes; will provide sufficient separation and stability between streams and the pits to ensure that stream migration into a pit would only be possible from a cataclysmic event that would alter the landscape of the entire valley. 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. At this location, the broad and shallow gradient floodplain is fairly linear which would result in relatively consistent flow velocities across the floor during floodstage, as opposed to steep gradient streams with high angle bends that are susceptible to scouring.

Compaction and stabilization techniques will utilize multiple passes over fill material with heavy tracked equipment. Sloped areas will be tracked perpendicular to the slope (ie equipment will move up and down slopes).

Post mining drainage will be to the unmanaged water impoundment.

10.6 Reclamation Timetable

Provide a sequence of operations for the accomplishment of major stages in the reclamation plan demonstrating compliance with the concurrent reclamation requirements in 25 Pa Code 77.595. Include an estimated timetable for reclamation which is tied to the mining phases and the termination of mineral extraction.

Since the operation will be dependent on the orders received for the products, a specific time table of events is not possible, however, areas which have had all mining activities completed and are graded to final grade will be reclaimed within 30 days and planted immediately or during the next planting season if reclamation occurs outside of the growing season.

10.7 Identification of Toxic Materials

When applicable (e.g., noncoal operation in coal measures) provide a detailed description of the methods used in the identification of potentially acid and toxic forming materials (boney, rooster, blossom or other inferior coal and noncoal strata) which will be encountered and separately handled. Correlate and identify these strata in the test hole data.

N/A

10.8 Special Handling of Toxic Material

When applicable (e.g. noncoal operation in coal measures) provide a detailed description of the methods to be used in the separation and handling of acid and toxic forming materials. Include transportation, storage, treatment and return of the material to the backfill. Identify the amount and source of clean fill to be placed above and below the material and the compaction and other methods to preclude combustion of the material and prevent groundwater contamination. Indicate all disposal areas on Exhibits 9 and 18.

N/A

10.9 Oil and Gas Wells

Where mining activities are proposed to be conducted within 125 feet of any oil or gas well, identify the location on Exhibits 6, 9 and 18 and provide a description of the activity. Provide a demonstration that the well has been sealed; or describe the measures to be taken to insure the integrity of the well, access to the well at all times and the well operator's consent to the proposed activity.

N/A

10.10 Wells, Exploration Holes and Bore Holes

Identify the type and location of wells, exploration holes, bore holes and monitoring wells and provide a description of the manner in which each will be cased, sealed or otherwise managed.

N/A

10.11 *Underground Mines*

Where proposed surface mining activities will be conducted within 500 feet of any point of either an active or abandoned underground mine (coal or noncoal), provide a description of the nature, timing, and sequence of the operation. Identify the location of each underground mine opening and the manner in which the opening will be sealed or otherwise managed including appropriate cross sections and design specifications for mine seals. Provide a description of the potential hydrologic impacts of the proposed activities, the effects on the existing groundwater system, and the effect the proposed activities will have upon abatement of pollution or the elimination of hazards to the health and safety of the public.

N/A

10.12 *Public Highways*

Where opening or expansion of pits are proposed within 100 feet of the outside right-of-way of a public highway, or a relocation of a public highway is proposed, identify the name and section of the public highway involved, a description of the activities to be conducted and detailed plans and cross-sections of the proposed activities. Include the written approval of the government agency having jurisdiction over the highway.

(Note: If the initial public notice advertisement does not contain a notice of the variance request, attach the proof of publication for advertisement of the variance.)

N/A

10.13 *Public Parks and Historic Places*

Where the proposed mining activities may affect any public park or historic place, provide a demonstration of the measures which will be taken to minimize or prevent adverse impacts.

Mining activities will not affect any public park. The operation is not within 300' of a public park as required by PA DEP Chapter 77 regulations.

Mining activities will not affect any historic place. Refer to PHMC information provided in Module 1.

10.14 *Utilities*

Where the proposed mining activities may adversely affect services provided by oil, gas, and water wells; oil and gas pipelines; railroads; utility lines; and water and sewage lines, provide a demonstration of the measures which will be taken to minimize or prevent these impacts.

No utility services will be adversely affected by the operation. Haul roads will pass under the utility lines.

When the sand and gravel mining operation approaches the electric line, the operator will coordinate with the utility to re-routing the electric service around the mining area.

10.15 *Bonding Calculations*

Attach a completed Bond Calculation Summary-Noncoal for consolidated (5600-FM-BMP0474) or unconsolidated (5600-FM-BMP0473) material (sand, gravel, shale, soil). Complete a Bonding Increment Application and Authorization To Conduct Noncoal Mining Activities (5600-FM-BMP0304).



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING PROGRAMS

**BONDING INCREMENT APPLICATION AND
AUTHORIZATION TO CONDUCT
NONCOAL MINING ACTIVITIES**

DEP Use Only	
No.	_____
Bond No.	_____
Filing Fee	
Amount	_____
Date Received	_____

Instructions

No portion of the permit area shall be affected by noncoal mining activities unless the operator has provided a bond to the Department and the Department has approved the bond and issued a written authorization to affect such area.

Submit the original of this application and two copies. The affidavit (Part F) must be properly signed and executed.

Include proper bond endorsement documents for the type of bond being used.

Part A GENERAL

Applicant	<u>Bishop Bros Constr Co Inc</u>	Mine Drainage Permit No or	_____
Address	<u>1376 Leisure Drive</u>	Surface Mining Permit No.	_____
	<u>Towanda, PA 18848</u>	Operation Name	<u>Minard Mine</u>
Telephone	<u>570-265-3500</u>	Municipality	<u>Athens Twp</u>
		County	<u>Bradford</u>

Name of Landowner	Municipality	County	Acres to be Affected
<u>Jeanette H Minard</u>	<u>Athens Twp</u>	<u>Bradford</u>	<u>19.9</u>
_____	_____	_____	_____
_____	_____	_____	_____

Part B Consent of Landowner Form (check applicable)

- The Consent of Landowner Form is attached and it has been recorded with the Recorder of Deeds.
- The Consent of Landowner Form was filed with Bonding Increment and Mining Authorization No. _____ and it has been recorded with the Recorder of Deeds.
- Not filing Consent of Landowner Form because lease was in existence prior to January 1, 1972. Operator must provide 1) a true and correct copy of the lease; 2) execute a Consent of Landowner Form as Lessee; and 3) provide a Chain of Title for the Lease. The lease, Consent of Landowner Form, and Chain of Title have been recorded with the Recorder of Deeds.

Part C Map

Attach a copy of Exhibit 9. Operations Map indicating each area where mining authorization has been granted, and the area where this bonding increment approval and mining authorization is being requested.

Part D Additional Information

- Are you revising your erosion and sediment control plan? Yes No
If yes, briefly describe the revisions and complete the appropriate modules and submit with this application
- Briefly describe any proposed revisions to the surface mining permit. Include application modules and plans for the revision and professional certification where appropriate. If the revisions are subject to public notice or a stream or road variance is being requested, the proof of publication must be submitted to the Department prior to any mining authorization being granted.
- Are you modifying your approved blasting plan for this bonding increment? Yes No
If yes, submit blasting plan with this request (use Module 16: Blasting Plan).

Part E Bonding

Type of Bond Surety Collateral PILB Other (Specify) _____

Bond Amount

1. Bonding Calculations – Consolidated Noncoal

Is the Bond Calculation Summary (5600-FM-MR0474) for consolidated Noncoal mining operations attached?

Yes No

2. Bonding Calculations – Unconsolidated Noncoal (sand & gravel, unconsolidated shale, clay, etc.)

Is the Bond Calculation Summary (5600-FM-MR0473) for unconsolidated noncoal mining operations attached?

Yes No

3. Bond calculation is not applicable with this submittal. Date of current bond calculation _____.

Part F Application Fee

There is a fee required under 25 PA Code Chapter 77.106 for each bonding increment application. The fee is \$450. Is the fee being submitted with the application? Yes No

Part G Affidavit

Commonwealth of Pennsylvania, County of Bradford

I, Andrew L Bishop being duly sworn, according to law, depose and say that I ~~(am the applicant)~~ (am an officer or official of the applicant) ~~(have the authority to make this application)~~ and that the plans, reports and documents submitted as part of the application are true and correct to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (cross out inapplicable portions in parenthesis)

Sworn and Subscribed to Before Me This

28th Day of April 2023
(month) (year)

[Signature]
Signature of Applicant or Responsible Official

Andrew L Bishop

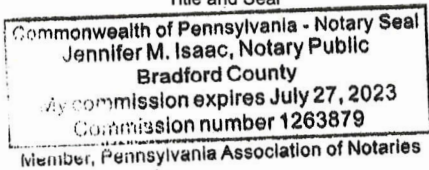
Name (Typed)

1376 Leisure Drive, Towanda, PA 18848

Address

Title and Seal

Address



BOND CALCULATION SUMMARY-NONCOAL CONSOLIDATED

Permittee: Bishop Brothers Construction Co., Inc.		Date: 05/05/23
Permit #:	Mine Name: Minard Mine	
Municipality: Athens Twp		County: Bradford

Operation (see attached calculations)	Quantity	Units	Rate \$/Unit	Bond Amount
Mining Area (i.e. minor grading/vegetation)	4.7	Acres	3500	16450.00
Support Area (revegetation)	15.2	Acres	1830	27816.00
Spoil Storage/Earthmoving	70000	Cubic yards	1.05	73500.00
Highwall Blasting				
Up to 20 ft Height		Linear foot	10	
>20 up to 30 Height		Linear foot	20	
>30 up to 40 Height		Linear foot	40	
>40 up to 50 Height	1440	Linear foot	55	79200.00
>50 Height		Linear foot		
Mine Sealing		Calculation		
Ponds	1	No of Ponds	3800	3800
Demolition of Structures	Lump Sum	Calculation		
Large Tires		Each		
Other Costs				
Mobilization/Demobilization	Lump Sum	Calculation	4%	8030.64
Total Reclamation Cost				208796.64
CONSOLIDATED SUBTOTAL				208796.64

March 11, 2023 Bond Rates

BOND CALCULATION SUMMARY-NONCOAL UNCONSOLIDATED

Permittee: Bishop Brothers Construction Co. Inc.		Date: 05/05/23
Permit #:	Mine Name: Minard Mine	
Municipality: Athens Township		County: Bradford

Operation (see attached calculations)	Quantity	Units	Rate \$/Unit	Bond Amount
Mining Area (i.e. minor grading/vegetation)	0	Acres	3500	0
Support Area (revegetation)	0	Acres	1830	0
Spoil Storage/Earthmoving		Cubic yards		
Highwall Height				
Up to 35 ft	0	Acres	1700	0
>35 ft up to 65 ft		Acres		
>65 ft		Acres		
Water Impoundment Safety Bench		Acres		
Ponds		No of Ponds		
Demolition of Structures	Lump Sum	Calculation		
Large Tires		Each		
Other Costs				
Mobilization/Demobilization	Lump Sum	Calculation	4%	
Total Reclamation Cost				0
CONSOLIDATED SUBTOTAL				208796.64
SITE TOTAL				208796.64

March 11, 2023 Bond Rates

Bond Calculations

Minard Mine

05/05/23

General Description: 15.2 acres of support area
4.7 acres of pit area to ~770' in Phase 1

Refer to: Exhibit 9 Operations Map dated 05/05/23

Table 1: Highwall Height Variation Summary

Point	Elevation feet	Highwall Height feet	Height feet	Length feet	Highwall Face Area SF	Cost / LF of Highwall * \$/ LF	TOTAL \$
Highwall = 820							
A - A1	820		50	550	27500	55	30,250.00
Highwall = 870							
B - B1	870		50	520	26000	55	28,600.00
Highwall = 920							
C - C1	920		50	370	18500	55	20,350.00
				1,440	72,000	TOTAL	79,200.00

Table 2: Highwall Summary

Table 3: OB Storage Pile

Highwall Height feet	Cost / LF of Highwall * \$/ LF	Length feet	Volume CY
0-20'	10	0	0
21-30'	20	0	0
31-40'	40	0	0
41-50'	55	1440	79,200
50'+	75	0	0
		79,200	79,200

OB Storage

70000

70,000

Table 4: Noncoal Consolidated Summary

Item	Rate*	Unit	Quantity	Total
Pit Floor	\$3,500.00 \$/ac	acres	4.7	16,450.00
Support	\$1,830.00 \$/ac	acres	15.2	27,816.00
Earthmoving	\$1.05 \$/CY	CY	70,000	73,500.00
Highwall	varies	LF	1,440	79,200.00
Sed Pond	\$3,800.00 \$/EACH	EACH	1	3,800.00
Site Mobilization (min of 4% total cost or \$40,000)				\$8,030.64

* Rates from PA Bulletin Volume 53 Issue 10 dated 03/11/23

Total \$208,796.64

Module 12: Erosion and Sedimentation Controls **[§§ 77.458/77.461/77.466/77.525/77.527/77.531/Chapter 102]**

12.1 Diversion Controls

Provide a plan for the collection and conveyance to a natural drainageway of the runoff from upslope undisturbed areas. Provide a separate general design for a temporary highwall diversion which limits the amount of runoff which can enter the pit (where applicable). Include design criteria, capacity calculations, profile of proposed channel slopes, typical cross-sections, required channel linings and applicable details on 12.1 Data Sheet.

HARD ROCK:

Upslope highwall diversions will direct runoff away from the mining areas to limit the amount of runoff which can enter the pit.

Berms will be utilized to divert runoff away from the mining areas. Placement of overburden and/or topsoil berms upslope of the mining areas will prevent runoff from entering the mining area. Berms will be constructed to minimize upslope ponding by diverting runoff away from the active mining areas.

SAND & GRAVEL:

Due to the topography of the site, there is limited upslope drainage to the site. Drainage will be controlled within the permit boundary.

12.2 Erosion and Sediment Control

Provide a plan for the control of erosion and sedimentation for lands within the permit area to be disturbed by mining activities. Include a narrative describing the implementation of the plan, and detailed design and construction plans and specifications for structures or facilities used in the plan. The plan must include each phase or phases of mining. Include design criteria, capacity calculations, profile of proposed channel slopes, typical cross-sections, required channel linings and applicable details on 12.1 Diversion/Collection Ditch Data Sheet for collection and interceptor ditches. Provide documentation of the capacity of the existing drainage system and the effect proposed mining activities will have on the drainage. Show discharge points to natural drainageways and culverts that intercept upslope drainage or carry drainage away from the site. Show facilities to scale on Modules 9 and 16 as appropriate.

The proposed mining operation will not negatively impact the surrounding areas or degrade the pre mining environmental balance by the management of the stormwater runoff and/or snowmelt. This management plan is based upon the implementation of the erosion and sedimentation controls as described herein and Module 10. Erosion and sedimentation controls will be installed prior to the commencement of earthmoving activities. The area of concern will be cleared of all vegetation prior to any earthmoving activities. Topsoils and overburden will be removed and stored at the perimeter of mining operations. The stockpile berms will serve two purposes: 1) The storage of topsoils for redistribution after mining has been completed, and 2) the retention of stormwater runoff within the area to be mined. Once vegetation has become established on berms, the operation will be virtually self-contained during normal climatic conditions. The typical stockpile berm configuration will be constructed along the perimeter of operation. There is sufficient material at the site to construct the berms to this configuration and complete concurrent reclamation. Stockpile berms (topsoil and/or overburden) will be constructed with available material in conjunction with reclamation activities. Berms will be seeded and mulched immediately after construction with a permanent grass seed mixture.

EXISTING E&S CONTROLS:

N/A

PROPOSED E&S CONTROLS:

Berms, diversions, drainageways, sediment traps, sediment basins, and treatment basins will utilized by the proposed operation. Erosion and sedimentation controls will be installed as detailed in the construction sequence in Module 10.

Perimeter berms will serve multiple functions: 1) diversion of upslope runoff away from the mining area, 2) containment of onsite runoff, 3) the storage of topsoil and overburden for redistribution after mining has been completed, and 4) serve as a protective barrier (safety, sight and sound) to the general public in the area.

CONSTRUCTION SEQUENCE:

The operation will be bonded prior to mining. The topsoil will be stripped ahead of mining and stored along the perimeter of the mining area. These soil storage areas will be in place to ensure that the site can be revegetated for the proposed post mining land uses. The topsoil berms and overburden berms will also act as a containment system to keep any sediment laden runoff from leaving the site. Once vegetation has become established on the soil storage berms, the operation will be virtually self-contained so that under normal climatic conditions all runoff from the site will be directed to sediment basin. All berms will be seeded and mulched immediately after construction with the permanent grass seed mixture found in Module 23.

Refer to Module 10 for detailed construction sequence.

The mine operator will install stream crossings in accordance with recommended conservation measures. Removal of existing riparian vegetation will be limited to only areas necessary for installation of the stream crossing and E&S controls. E&S controls identified in Module 10, 12, and 14 and Exhibit 14 will be utilized to minimize impacts of construction and mining activities to the waterway.

PA FISH & BOAT COMMISSION PNDI CONSERVATION MEASURES:

PNDI 701203 (see Module 1) recommends PFBC conservation measures to maintain a natural flow regime, high water quality, and quantity. Maintenance or restoration of the riparian corridor will aid in connecting habitats and improving water quality and quantity for fish and mussels. PFBC recommends retaining (or restoring, if not already present) a riparian buffer (100 to 300 feet, if possible) on each side of the waterway (river, stream, creek). This buffer should be vegetated with native plant species. When adequately vegetated, this upland buffer will act to stabilize the streambanks (preventing or minimizing erosion), and filter pollutants (e.g., sediment, fertilizers, pesticides, road salt, oil). Where streambanks have become badly eroded (e.g., due to previous removal of native riparian vegetation), streambank fencing and/or bioengineering restoration techniques are recommended (geotextile, root wads, vegetative stabilization), rather than riprapping the streambanks; removing gravel bars; or attempting to dredge, ditch, channelize, or widen the stream. Use stringent erosion and sedimentation controls before, during, and after project implementation to ensure that sediment and contaminants do not enter any waterway(s) (rivers, creeks, streams, tributaries) or waterbodies (lakes, ponds).

DCNR RECOMMENDED BEST MANAGEMENT PRACTICES:

Refer to DCNR response to PNDI 701203 (see Module 1).

1. Use a conservative approach to project design that minimizes permanent and temporary disturbances to soil and native vegetation. This will conserve habitat and limit opportunities for invasive plants.
2. Clean boot treads, tools, construction equipment, and vehicles thoroughly (especially the undercarriage and wheels) before they are brought on site. This will remove invasive plant seeds and invasive earthworms/cocoons that may have been picked up at other worksites.
3. Use clean project materials (e.g., weed-free straw) or materials native to the worksite to avoid introducing invasive species from contaminated sources.
4. Revegetate or cover disturbed soil and stockpiles quickly to discourage the germination of invasive plants. Implement proper erosion control practices to stabilize soil and reduce runoff.
5. Do not use seed mixes that include invasive species. More information about invasive plants in Pennsylvania can be found at the following link: <http://www.dcnr.pa.gov/Conservation/WildPlants/InvasivePlants/Pages/default.aspx>
6. Use habitat appropriate seed mixes. For example, use a riparian seed mix when reseeding along a waterway.
7. Monitor for invasive plants before, during, and after project activities and promptly control any identified infestations. Frequent monitoring allows for early detection and rapid response.

DETAILED DESIGN REPORT

Surface Hydrology Diversion/Interceptor Ditches, Culverts, and Other Channels:

Unless otherwise noted, all structures were designed to accommodate a 24 hour/10 year storm event of P10=4.2" for Bradford County. Precipitation values were obtained from Table 2-1 DEP Engineering Manual for Mining Operations. Peak flows were determined by using methods as found in the Soil Conservation Service Field Manual, Chapter 2; or calculated by DEP criteria of 2.75 cfs/acre of drainage area for the 10 year event for a permanent ditch; or by computer generated hydrograph. The hydrographs, pond routing and other hydrologic data were generated by using TR-55 methodology performed by HydroCAD 10.00 (software program). Where hydrographs were used, printouts of the data are included for the specific structure. Input data for either method includes an assumed CN of 89 for disturbed areas, and a weighted CN or field verified CN for undisturbed areas, typically CN=71.

Hydraulics:

Flows were determined using Manning's formula for both triangular and trapezoidal channels where:

$$Q=VA \text{ and } V=1.49/n(R^{2/3})(S^{1/2})$$

Values for "n" were based on newly built conditions for bare earth, vegetated channels, or rock lined (riprap) channels. Velocities therefore reflect newly built conditions. Vegetated channel capacity is evaluated with a retardance C, "Veg C", condition value (e.g. unmowed channels). Refer to Table 6.3 "Manning's "n" for Trapezoidal Channels with Vegetative Stabilization (Retardance C)" page 131 of the PADEP Erosion and Sediment Pollution Control Program Manual, Final, Technical Guidance Number 363-2134-008, March 2012. Linings were designed to protect this situation. Depths of flow and total design depths shown are to be calculated from the top of the material used for lining.

Channel Protection:

Protection specifications for channels are based on S.C.S. recommendations and DEP standards. The following is a summary of linings to be used for various velocities on a "rule of thumb" basis; however, the operator may choose to use a higher grade of protection in the channel as field operations warrant.

GRASS	0 to 4.5 fps
JUTE MATTING OR REGULAR CURLEX BLANKET	4.5 to 5.4 fps
HIGH VELOCITY CURLEX BLANKET AND GRASS OR	5.5 to 9.0 fps
RIP RAP (d50=6") RIPRAP AS SHOWN ON MODULE 12.1 DITCH DETAIL	9.0+ fps

Riprap is an erosion resistant ground cover of large, loose and angular stone to protect the soil surface from erosive forces, slow velocities and to stabilize slopes with seepage problems. The following table was used to determine the size of rip-rap needed based on the velocities calculated for the various structures.

Riprap Class	Graded Rock Size (in inches)			Permissive Velocities (fps)
	Max	d50	Min	
R-1	1.5	.75	#8	2.5
R-2	3.0	1.5	1.0	4.5
R-3	6.0	3.0	1.0	6.5
R-4	12.0	6.0	3.0	9.0
R-5	18.0	9.0	5.0	11.5
R-6	24.0	12.0	7.0	13.0
R-7	30.0	15.0	12.0	14.5
R-8	48.0	24.0	15.0	15.0 +

Permissible velocities are based on rock at 165 lb/ft³.

Installation instructions for rip-rap and geotextile materials are obtained from the manufacturer. Dependent on the availability of material and the supplier, there may be minor adjustments required based on individual instructions included with the material to be used.

It should be noted that the attached specifications are to be followed as closely as possible during installation. However, due to the nature of the equipment used to install these structures, design standards and capacities may be exceeded from those approved. In some cases, a higher form of protection may be used in channels.

MAINTENANCE:

A good maintenance program will result in an improved service life of the erosion and sedimentation control structures. Inspection on a regular basis (approximately 2-3 weeks and/or following a storm event) will ensure all devices are within proper tolerances of the design criteria. All corrections necessary will be done immediately. Should any material need to be removed during the maintenance procedures, and they are non toxic in nature, they will be stored and redistributed with topsoils at the time of planting.

GENERAL NOTES:

1. The attached exhibits and typical drawings are to be used as a general guideline; however, changes or modifications should be made to fit field conditions.
2. Computer programs were used to:
 - a. Determine channel dimensions, depths of flow and velocities.
 - b. Calculated the velocities and channel capacities (Q) for existing channels and streams based on topographic configurations found in the field.
3. A design error of 10% is assumed to be inherent in all design charts
4. The use of Jute Matting or Regular Curlex blanket (manufactured by Amxco) or its equivalent is recommended over seeded areas in lieu of only jute matting for velocity of 4.5 to 5.4 fps and replacing riprap for velocities of 5.4 to 7.0 fps with the High Velocity Curlex Blanket. Just as effective as jute, recent literature shows the blanket to be a more economical means of bank protection, plus allowing for the added protection of grass cover. It also makes reclamation of the structure more efficient.
5. See attached typicals for all design specifications.

REFERENCE-APPENDIX

Bigatel, Alan J. et al, "Engineering Manual for Mining Operations." Commonwealth of Pennsylvania. 1999

Chow, Ven Te, Ph.D. "Open Channel Hydraulics" New York: McGraw-Hill Book Company, 1988 (reprint)

"Design Manual Part 2 Highway Design: Publication 13M, July 2002 Edition." Commonwealth of Pennsylvania, Pennsylvania Department of Transportation, Bureau of Design.

"Erosion and Sediment Pollution Control Program Manual." Commonwealth of Pennsylvania Department of Environmental Protection Office of Water Management. March 2012

"FlowMaster", Haestad Methods, Waterbury Conn (computer program)

"HydroCAD 10.00", HydroCAD Software Solutions, LLC (computer program)

"Specifications: Publication 408/2000." Commonwealth of Pennsylvania, Pennsylvania Department of Transportation, Bureau of Design.

12.3 Haul Roads

Provide the following information for each haul road to be constructed, reconstructed or used in the operation:

Note: Activities proposed to be conducted under General permit for Temporary Road Crossings (BMR-GP-101) and General Permit for Access Road Crossings (BMR-GP-102) must include a completed Notification Form, with attachments, for the respective General Permit (i.e., Form 5600-FM-MR0054 for BMR-GP-101 and Form 5600-FM-MR0059 for BMR-GP-102). BMR-GP-102 may not be used for haul roads.

- a) Location; show on Exhibit 9 (and Exhibit 18 if road will remain as part of postmining land use);
As detailed below, temporary cartways within the mining area will be constructed according to the requirements of PA Chapter 77.631. There will be one (1) access point to the operation from T-303.

All haul roads in the permit area shall remain post mining at the direction of the landowner.

- b) Description and typical cross-sections showing the construction of the haul road including existing ground, grades, slopes, culvert locations, outlet protection and other drainage control;
Temporary roads which are constructed for accessing the pit area will be constructed to maintain safe grades. Due to the configuration of the site, any runoff from temporary roadways will be directed to the pit area or support area with controls as described in part (c) of this section.
- c) Measures to control and prevent erosion and sedimentation; include proposed spacing of sediment traps, turnouts, culverts, check dams, etc.;
All roadways within the permit area will be designed, constructed and maintained to prevent erosion to the maximum extent possible and to prevent contributions of sediment to streams or runoff outside the affected area, and air and water pollution.

Once the haul road enters the pit area, temporary controls will be instituted. These controls will primarily consist of the way in which the roadway is constructed and maintained. Because of the temporary nature of these cartways, any areas of disturbance have been included in the calculations for interceptor ditches/sediment ponds.

As the mining progresses and areas are backfilled and stabilized, erosion and sedimentation controls will be installed along the length of the cartways. These controls may consist of culverts, level spreaders, roadside ditches and water-bars. The spacing of these controls will follow the Chapter 102 regulations as found in the Erosion and Sediment Control Manual of March 2012.

Care will be taken to construct the roads with positive drainage being maintained. The cartways will be sloped and outlopes mulched. Temporary roads will not be constructed in areas which are unstable or which are subject to wet soils. Should it become necessary for fill material to be added to the road, it will be non-toxic in nature.

- d) Plan for reclamation after mining is completed;
Upon completion of mining operations or utilization for maintenance, haul roads that are to be reclaimed shall be re-graded to blend with surrounding contours and conform to the proposed drainage pattern. All topsoils will be replaced and the areas reseeded and mulched as outlined in Module 23.
- e) If the haul road involves the crossing of any intermittent or perennial stream or wetland include Module 14 Streams/Wetlands;
Crossings will be utilized for Tutelow Creek and UNT 1 to Tutelow Creek; see Module 14.
- f) Will a PennDOT highway occupancy permit be needed? Yes No

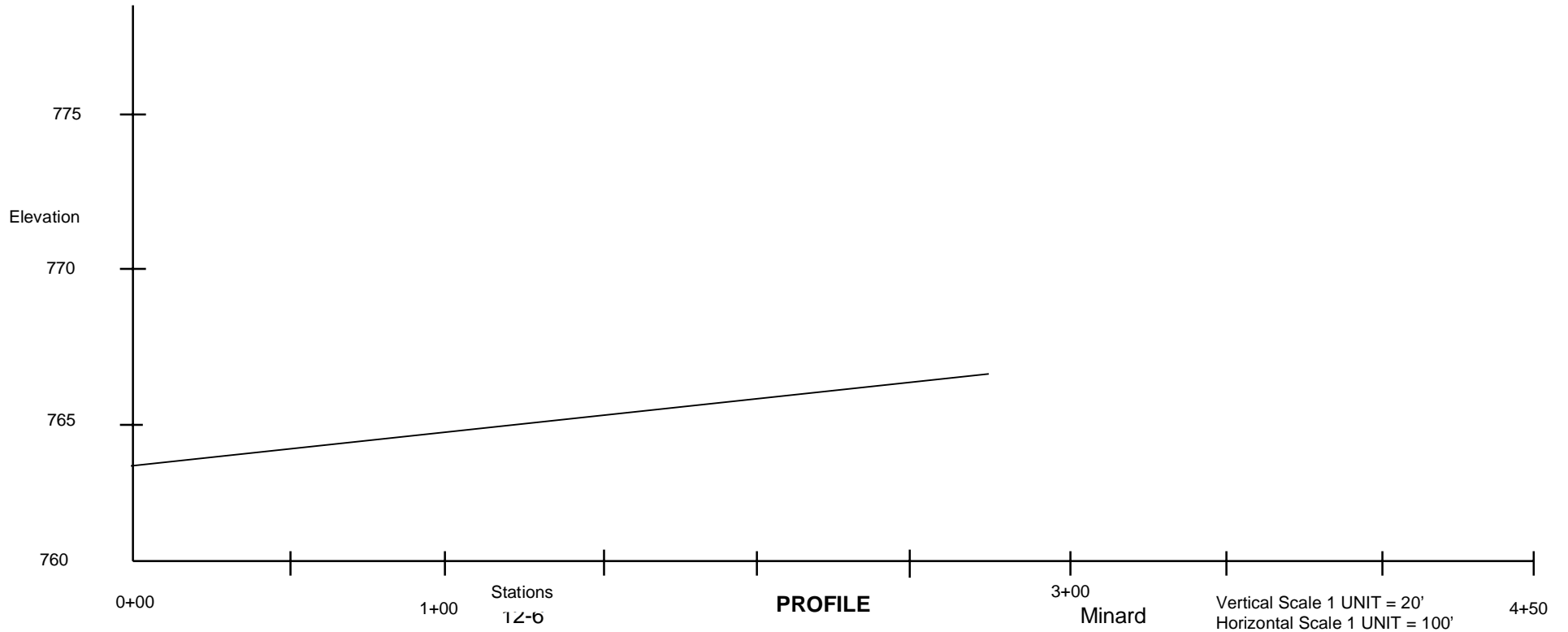
If yes, PennDOT Occupancy Permit number must be submitted prior to permit activation.

12.1 Diversion/Collection Ditch Data Sheet

Title: Ditch 1	Site: Minard Mine	Company: Bishop Brothers Constr. Co. Inc.	Permit Number:
Prepared by: Tract Engineering, PLLC	Telephone Number: 814-272-0301	Date: 05/05/23	Sheet 1___ of 1___

Design Calculations:

Station		Drainage Area acres	Design Storm (yrs.)	Average Watershed Slope (%)	Curve Number	Peak Discharge Q cfs	Channel Bed Slope (%)	Freeboard (ft.)	Channel Lining	Manning's Coefficient (n)	Channel Bottom Width (ft)	Channel Side Slopes	Flow Area (sq.ft.)	Flow Depth (ft.)	Top Flow Width (ft.)	Flow Velocity (ft/sec)	Q Available cfs	With Freeboard		
Start	End																	Channel Depth (ft.)	Top Channel Width (ft.)	Q Available cfs
0+00	763	40	25	2	98	190	1	1	native stone	0.04	4	1	32	4	12	6.1	195	5	14	306
2+90	766																			

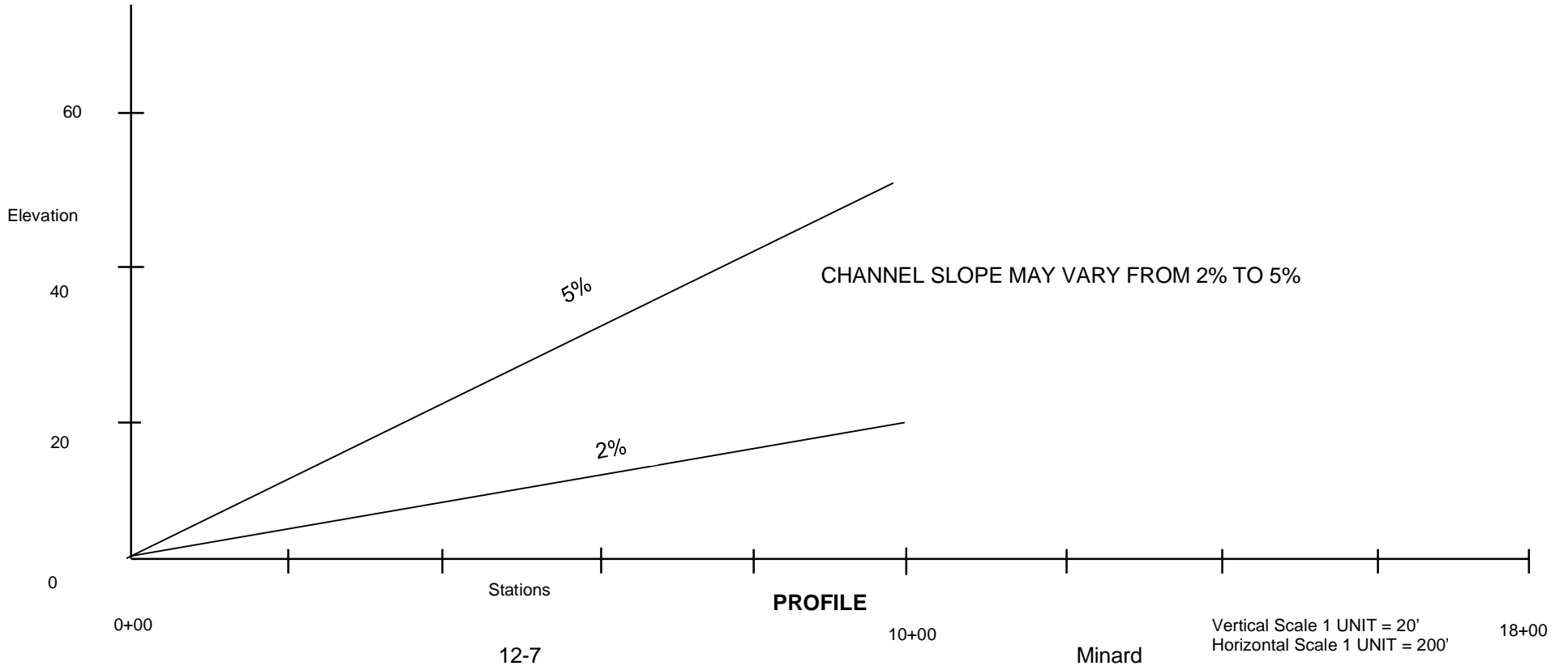


12.1 Diversion/Collection Ditch Data Sheet

Title: West Slope Diversions	Site: Minard Mine	Company: Bishop Brothers Constr. Co. Inc.	Permit Number:
Prepared by: Tract Engineering, PLLC	Telephone Number: 814-272-0301	Date: 05/05/23	Sheet <u>1</u> of <u>1</u>

Design Calculations:

Station		Drainage Area acres	Design Storm (yrs.)	Average Watershed Slope (%)	Curve Number	Peak Discharge Q cfs	Channel Bed Slope (%)	Freeboard (ft.)	Channel Lining	Manning's Coefficient (n)	Channel Bottom Width (ft)	Channel Side Slopes	Flow Area (sq.ft.)	Flow Depth (ft.)	Top Flow Width (ft.)	Flow Velocity (ft/sec)	Q Available cfs	With Freeboard		
Start	End																	Channel Depth (ft.)	Top Channel Width (ft.)	Q Available cfs
0+00	0	1.5	10	70	90	4.1	2	1	ROCK	0.035	1	2	1.87	0.75	4	3.4	6.4	2	9	60
10+00	20																			
0+00	0	1.5	10	70	90	4.1	2	1	ROCK	0.035	1	2	1.87	0.75	4	3.4	6.4	2	9	95
10+00	50																			

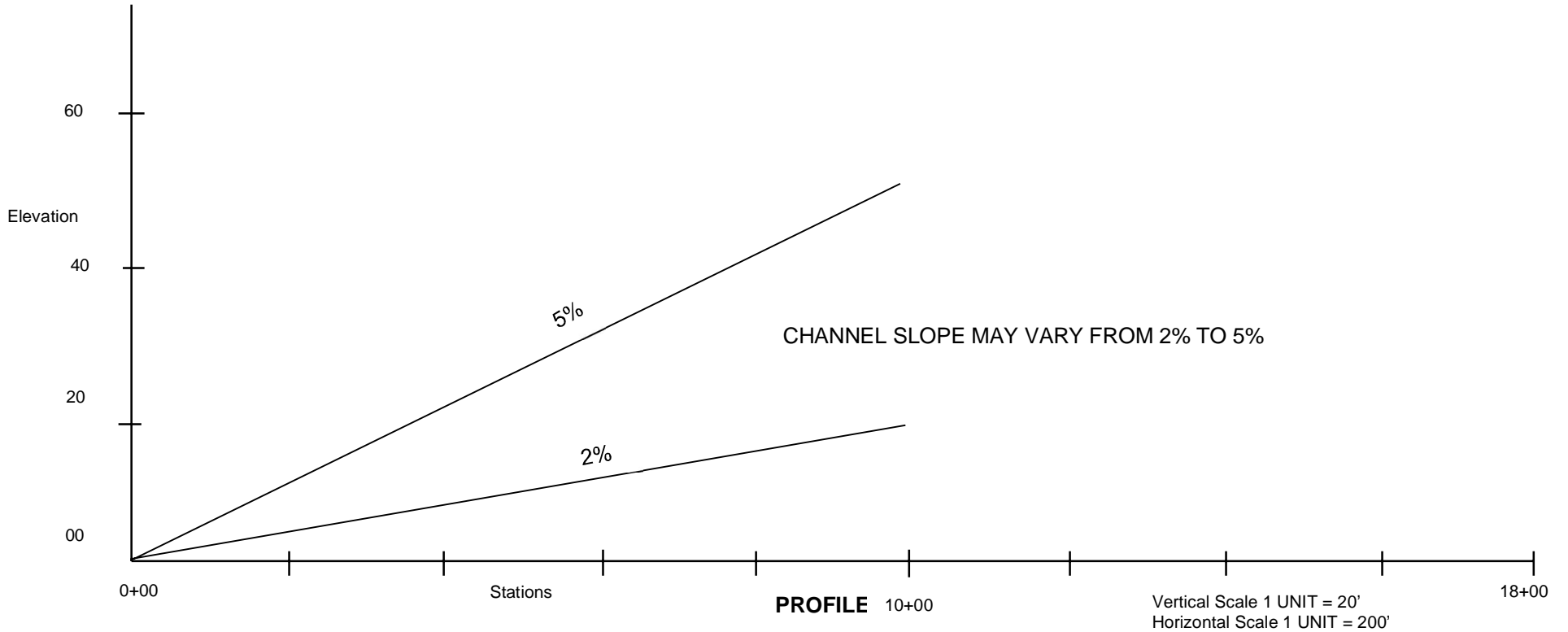


12.1 Diversion/Collection Ditch Data Sheet

Title: East Slope Diversions	Site: Minard Mine	Company: Bishop Brothers Constr Co Inc.	Permit Number:
Prepared by: Tract Engineering, PLLC	Telephone Number: 814-272-0301	Date: 05/05/23	Sheet <u>1</u> of <u>1</u>

Design Calculations:

Station		Drainage Area acres	Design Storm (yrs.)	Average Watershed Slope (%)	Curve Number	Peak Discharge Q cfs	Channel Bed Slope (%)	Freeboard (ft.)	Channel Lining	Manning's Coefficient (n)	Channel Bottom Width (ft)	Channel Side Slopes	Flow Area (sq.ft.)	Flow Depth (ft.)	Top Flow Width (ft.)	Flow Velocity (ft/sec)	Q Available cfs	With Freeboard			
Start	End																	Channel Depth (ft.)	Top Channel Width (ft.)	Q Available cfs	
0+00	0	3.2	10	70	90	8.8	2	1	ROCK	0.035	1	2	3	1	5	4.0	12	2	9	60	
10+00	20																				
0+00	0	3.2	10	70	90	8.8	5	1	ROCK	0.035	1	2	1.87	0.75	4	5.4	10.1	2	9	95	
10+00	50																				



Module 13: Impoundments/Treatment Facilities

[§§77.457/77.461/77.526/77.531/Chapter 105]

13.1 Treatment

Provide a plan for the treatment of surface and groundwater drainage from the areas disturbed by the mining activities. Include a construction and treatment narrative, flow diagram, design criteria, and design calculations (which include the proposed capacity) of the treatment facilities. Identify treatment chemicals to be used. Do not include any facilities included in Module 12.

Basin 2 (Treatment Facility)

Surface water accumulating in the pit, as well as any ground water encountered during mining will be conveyed to the sump prior to conveyance to Basin 2. Basin 2 will discharge runoff from the site. The primary focus of treatment will be settling of solids in the runoff. When the sediment holding capacity of the basin has been reached, the basin will be cleaned. This refuse will be incorporated into the site reclamation. The basins should be cleaned when fines reach designed cleanout depth (1/3 of basin depth, max.).

The treatment basin volume was determined by the volume of water conveyed to the treatment facility.

Final discharge of Basin 2 will be via closed conduit to Tutelow Creek to Outfall 002.

The basin design and construction is detailed in Module 13.3(c)

In the event suspended solids do not settle in a timely manner in the basins, a flocculant will be utilized to promote settling of suspended solids. MasterCat 4239, a liquid cagulant, supplied by Process Masters or equivalent may be utilized to treat water to effluent limits. Field testing shall be performed to determine the proper dosage. The flocculant will be dosed near the end of Ditch 1. Turbulent flow in the ditch and into the basin will promote mixing of the flocculant and stormwater. Basin 2 is divided into two (2) cells by a rock filter berm. The multi-cell basin configuration will promote settling of solids in the first cell and polishing in the second cell. In addition, the outlet pipe is valved to stop the discharge should water quality effluent limits not be met.

Settled solids will collect in the basins. Basins will be inspected quarterly to evaluate the volume of solids collected. The volume of collected solids collected in the basin will determine when sediment will need to be removed from the basins.

Product data sheet for MasterCat 4239 attached (pg 13-13) and a SDS (pg 13-14).

13.2 Quarry/Pit Sump

Provide a description of the sump including size, location, depth, method of pumping, etc. (Key location to Exhibits 6.2 and 9).

Support Area for Hard Rock Mining (located in the Sand & Gravel Phase 1 mineral extraction area):

Support Area Sumps (infiltration ditches) will be located at the edges of the proposed support area for the initial bond increment for the hard rock mining area. The sumps will be excavated into the unconsolidated gravel and infiltrate runoff into the substrate. Refer to Exhibit 9 for locations of Support Area Sumps.

Water will be conveyed by overland flow to the Support Area Sumps. Sumps will be inspected monthly and cleaned by operator on an as-needed basis to ensure infiltration capacity.

Hard Rock Mining, Phase 1, 2, & 3:

The proposed pit will be utilized as a sump to collect pit water. A 50'x50'x10' (or as conditions warrant) sump will collect rainfall/snowmelt events. The sump elevation and location will change as mining progresses.

Water will be conveyed from the sump as condition warrant. The operator will a diesel powered trash pump or gravity channel to convey water from the sump to a treatment basin.

Quarry sump volume design considerations:

1. Maximum drainage area of the phase of mining.
2. During a major rainfall/snowmelt event, the pit floor will be used for stormwater storage. A conservative estimate of available area for runoff storage is approximately 15% of the pit floor area.

Using the equation $V = 1.33 (ARC)$ from section 6.4 of the DEP Mining Manual where:

- A = maximum drainage area in square feet
- R = 4.2 inches in 24 hours = 0.35 ft /24 hrs
- C = 0.5
- V = volume in cubic feet

TABLE 13-1: PIT STORAGE CAPACITY DURING MINING

	<i>Calculated Drainage Area</i>	<i>Design Drainage Area</i>	<i>Design Criteria</i>	<i>Required Volume</i>	<i>Pit Floor Storage Area ~15% of DA</i>	<i>Calculated Approximate Water Depth</i>
	ACRES	ACRES		CF	AC	FT
Phase 1 Pit Floor	3.6	5	V = 1.33 ARC	51,000	0.75	1.6
Phase 1+2 Pit Floor	7.4	10	V = 1.33 ARC	102,000	1.5	1.6
Phase 1+2+3 Pit Floor	37.1	40	V = 1.33 ARC	406,000	6	1.6

The calculated water depth is less than the pit depth and/or perimeter berm depth.

The pit sump must be constructed away from the working face. All traffic (equipment and trucks) shall be routed around the pit sump area. Traffic shall not run through pit water. See "Pit Sump Location" detail on Exhibit 10.2.

In the event the pit does not dewater in a timely manner, the operator will move to other benches above the water level.

13.3 Dams and Impoundments (General) Do not include any facilities included in Module 12

a) Proposed use.

Basin 1 (Sediment Basin)

Runoff from the Support Area will be collected in Basin 1 by containment berms constructed along the perimeter of the Storage Area. The primary focus of treatment will be settling of solids in the runoff. When the sediment holding capacity of the basin has been reached, the basin will be cleaned. This refuse will be incorporated into the site reclamation. The basin should be cleaned when fines reach the designed cleanout depth. The basin volume was determined by the basin's drainage area and 7000 CF/acre storage defined in the DEP Engineering Manual. Of the 7000 CF, 2000 CF/acre is for sediment storage.

When Phase 1 Sand & Gravel mining commences, runoff from the Support Area will be directed to the pit sump. Areas of the Support Area that cannot drain to the Phase 1 Sand & Gravel pit sump will continue to drain to Basin 1.

Basin 1 discharge will be via closed conduit to Outfall 001 to Tutelow Creek.

Basin discharge rates and stormwater volumes were established using the TR-55 methodology and/or $V = CIA$. Where:

TR-55:

24 hour storm event rainfall: *Engineering Manual Table 2-1*

- 2 yr = 2.8 inches
- 10 yr = 4.2 inches
- 25 yr = 4.9 inches
- 50 yr = 5.4 inches
- 100 yr = 5.8 inches

CN = 89 for mined areas & 71 for unmanaged habitat (Hydrologic Soil Group D)

Tc = calculated for each drainage area

$$V = CIA$$

V = Volume in cubic feet

A = Area of open pit, areas between highwall and diversion ditch, and area that drains into the pit

I = Rainfall (in feet)/24 hours x detention time of 6 hours.

C = % of rainfall not absorbed by soils.

1. Open pit = 0.50
2. Area above backfill = 0.30
3. Backfilled area = 0.25

All basin construction will be conducted as detailed in Module 13.3(c) along with proposed capacity calculations.

Basin 2 (Treatment Facility):

The series of multiple treatment cells in Basin 2 is designed to treat water conveyed from the pit sump. Water collected in the pit will be conveyed to the first treatment cell. Once the water has entered the basin, it will flow through the various cells permitting the sediments to settle prior to discharge. A flocculant may be utilized should effluent limits required treatment of suspended solids.

The basin has been designed with sufficient storage capacities and residency to allow for efficient material processing. See Module 13.3(c)

Basin 2 discharge will be via closed conduit to Outfall 002 to Tutelow Creek.

- b) Map and location (key to maps).

Refer to Exhibit 9

- c) Provide a design report and construction plans and specifications to include detailed cross-sections and plan view scale drawings of the proposed structure which show: principal spillway, dewatering devices, embankment details (including maximum height, top width, and cutoff trench), crest of emergency spillway and existing ground.

Refer to Exhibit 7/10 (cross sections), Exhibit 9, and Exhibit 10.15, and exhibits included with this module for impoundment details.

BASIN 1 (Sediment Basin) - Surface Hydrology:

Peak flows were determined by either utilizing the SCS Engineering Field Manual Charts or by creating a hydrograph for the upslope watershed for the design storm (10, 25 or 50 year event) utilizing HydroCAD 10.00. Time of concentration was determined using the TR-55 calculations for sheet flow (not to exceed 50'), shallow concentrated flow, and channel flow. CN values were input based on the number of disturbed areas or current field conditions for those areas not to be disturbed. These were then "weighted" within the program. The hydrographs were then used to determine the maximum water surface elevation in the basins along with the requirement to discharge within 2-7 days. Results of the analysis are included herein.

BASIN 1 - Geometrics:

Sedimentation basins are designed to provide at a minimum of a total of 7,000 cu. ft. of storage per disturbed acre contributory to the basin (5,000 cu. ft. for undisturbed areas) at the basin crest. Sediment storage was calculated at 2,000 cu. ft. per disturbed acre. Upslope areas which will not be impacted by the mining activities were included in the basin design at 5,000 cu ft.

Volumes were computed using prismatic, trapezoidal or triangular volumetric formulas applied to achieve the design volumes required.

Emergency spillways are designed to have sufficient capacity so that the combination of temporary storage capacity above the principal spillway and the discharge from the principal spillway will safely convey the runoff from a 24 hour storm. Ponds with 20 acres of drainage or less will be designed to handle the 25 year storm event, and basins with 20-100 acres will be designed to convey the 50 year event. Ponds which are to remain permanently will have an emergency spillway capable of handling a routed 100 year storm.

Basin 1 will be located at the south end of the storage area. The basin will function as a sediment basin during mining and the emergency spillway is designed to convey the 25 year storm event. The principal spillway is a 10" hooded drain pipe and the dewatering pipe is a valved standpipe. The basin will discharge from the permit at Outfall 001. Table 13-2 summarizes the elevations and storage capacities.

Rock filter volume is deducted from the gross volume of the basin. Each filter is 8' top width, 18' bottom width, 5' tall, & 35' wide. The volume of one (1) rock filter is 2,275 CF = $[5 \times 8 + (2)(5 \times 5/2)] \times 35$. Assume 40% voids, rock volume is 1,365 CF.

The volume of one (1) rock filter at the sediment storage elevation is 736 CF = $[2 \times 14 + (2)(2 \times 2/2)] \times 23$. Assume 40% voids, rock volume is 442 CF.

TABLE 13-2: BASIN 1 STORAGE CAPACITY - DRAINAGE AREA = 3 ACRES

	<i>Elevation</i>	<i>Length</i>	<i>Width</i>	<i>Gross Volume (ft³)</i>	<i>Net Volume (ft³)</i>
Top	762	202	47	46820	45455
Emergency Spillway	759	190	35	22670	21305
Principal Spillway	758	186	31	16470	15105
Sediment Storage	756	178	23	6630	6188
Bottom	754	170	15	0	0

To prevent short circuiting of the basin, all runoff will enter the north end of the basin and discharge from the south end. If the detention time in the basin is inadequate to settle solids, a rock filter berm may be added to promote settling.

Accumulated sediment will be removed from the basin and included in the reclamation as mining progresses.

For the 25 year storm event:

Basin 1 inflow is 24 cfs. The emergency spillway is designed to convey the influent flow. Calculations are provided on pages 13-21 and 13-22.

Basin 2 (Treatment Facility)

Geometrics:

The multi-cell treatment basin was designed to provide a total of twelve (12) hours of detention time based upon the dewatering rate of pit pump. The operator will use a 200 gpm trash pump to dewater the pit.

$$12 \text{ hrs} \times 200 \text{ gpm} = 19,500 \text{ ft}^3$$

$$\text{Treatment System} = 19,500 + 33\% \text{ additional storage} = 26,000 \text{ ft}^3$$

Volumes were computed using prismatic, trapezoidal or triangular volumetric formulas applied to achieve the design volumes required.

Basin 2 rock filter volume is deducted from the gross volume of the basin. Each filter is 8' top width (max), 20' bottom width (max), 6' tall, & 44' wide. The volume of one (1) rock filter is 3696 CF = $[6 \times 8 + (2)(6 \times 6/2)] \times 44$. Assume 40% voids, rock volume is 2,218 CF. Deduct this rock volume from the gross basin volume at the principal spillway elevation.

TABLE 13-3: BASIN 2 STORAGE CAPACITY DURING MINING

	<i>Elevation</i>	<i>Length</i>	<i>Width</i>	<i>Gross Volume (ft³)</i>	<i>Net Volume (ft³)</i>
Top	772.25 (+10.25')	241	61	92980	90762
Spillway	768 (+6')	224	44	41000	38782
Bottom	762 (+0')	200	20	0	0

38,782 CF > 26,000 CF of required storage.

Accumulated sediment will be removed from the basin and included in the reclamation as mining progresses when sediment reaches 1/3 depth of basin.

For the 25 year storm event:

Basin 2 potential inflow is 180 cfs. The emergency spillway is designed to convey the influent flow. Calculations are provided on pages 13-21 and 13-22.

Refer to Exhibit 10.2 for basin details.

Basin Construction Specifications (Basins 1 & 2):

1. Prior to the beginning of excavations, the topsoil from the impoundment construction area will be removed and stockpiled per Module 21.
2. The embankment will be constructed with slopes as noted on the construction details or flatter. As a rule of thumb, the total ratio of the slopes will be 5:1 assuming a 10' top width embankment. Incised slopes will be steeper (vertical to 1:1).
3. There will be a "key-way" cutoff incorporated into the embankment to aid in the stability of the structure, and to prevent seepage.
4. The embankment will be constructed in lifts of 8" (eight inch) maximum thickness and compacted by a minimum of four (4) passes of the loader or dozer over each lift.
5. No cobbles, boulders, or rock fragments having a maximum dimension of more than 5" (five inches) shall be incorporated into the embankment.
6. No brush, sod, roots, or other perishable or unsuitable materials shall be placed in the embankment.
7. The embankment shall have a minimum crest width of 10.0' (ten feet).
8. Seeding and mulching of the embankment shall be at the rates and by the methods contained in Module 23. In the event of winter construction, disturbed areas will be seeded and mulched as soon as practicable. Embankment out slopes will be mulched.
9. Select material will be placed adjacent to the discharge pipe in 6" (six inch) lifts and compacted to prevent seepage and scouring. Anti-seep collars will be incorporated into the embankment as an additional safety measure for smooth pipe over 6" (six inches) in diameter or corrugated pipe over 12" (twelve inches).
10. The emergency spillways will be a trapezoidal type with 3:1 sideslopes; and constructed on undisturbed ground. Where topographic conditions do not allow for the emergency spillway to be constructed on original ground, added measures will be taken to assure the stability of the spillway. These would include the placement of a geotextile foundation from the crest to original ground with the addition of riprap over the fabric.
11. If design specifications require additional protection, a rock lining will be placed at the point of discharge in the emergency spillway. This rock will be D50=6" at 165 lb/cu. ft. or equivalent or as specified in the individual pond design sheets. The spillway slopes are to be rip-rapped. Placement of the rock will be over a filter bed 6" (six inches) in depth, 2" (two inch) coarse aggregate or a geotextile base can be used.
12. Riprap shall be placed to grade in a manner to ensure that the large rock fragments are uniformly distributed with smaller fragments placed to fill the residual spaces and create a densely placed, uniform, well keyed layer of riprap of the specified thickness.
13. It should be noted that the designs submitted are to be followed as closely as possible.

- d) Complete a Certification Form for each structure as appropriate:
Sediment Pond Certification form 5600-PM-BMP0408
Treatment Pond Certification form 5600-PM-BMP0455

**Refer to page 13-9 for Basin 1 Sediment Pond Certification.
Refer to page 13-11 for Basin 2 Treatment Pond Certification.**

- e) If the impoundment is located outside of the area covered by the geology and hydrology description contained in Modules 7 and 8, include a preliminary geology and hydrology report.

N/A

- f) Describe the potential effect on the structure from subsidence from underground mining when applicable.

N/A

- g) If the detailed design plans are not included with the initial submittal of this application, identify when the detailed design plans will be submitted. (**Note:** The detailed design plans must be approved by the Department before construction of the structure begins.)

N/A

13.4 Class C Dams

N/A

13.5 Operation and Maintenance Requirements

Describe the operation and maintenance requirements for the structure, including dewatering of the impoundments following storm events.

BASIN 1 (Sediment Basin)

Basin 1 will operate as a sediment basin. The basin is designed to provide 7000 ft³/acre of storage for disturbed areas. The lowest level of dewatering will provide 2000 ft³/acre of sediment storage. Dewatering of the basins will be achieved via a valved perforated stand pipe. The outlet will be as close to original ground and protected by riprap. The basin will require periodic sediment removal as to provide storage capacity. The dimensions and placement have been designed with anticipated maintenance in mind. In the unlikely event that the basins reach their maximum storage capacity, the emergency spillway will be activated.

OPERATION:

1. Basin 1 will operate as a sediment basin on an as needed basis. Runoff from the Support Area will be conveyed to Basin 1.
2. The operator will evaluate the conditions of the Basin 1 water quality. If the suspended solids concentration is high (turbid water), the water shall be permitted to settle the suspended solids prior to discharge by closing the discharge valve of the dewatering pipe. Once water quality meets effluent standards, water can be discharged to Outfall 001.
3. Discharge water will be conveyed via a pipe to Outfall 001.
4. The operator shall collect a water sample when Basin 1 is discharging at Outfall 001. The NPDES permit dictates the frequency of monitoring.

BASIN 2 (Treatment Facility):

Basin 2 will operate as a treatment basin on an as needed basis. Pit sump water will be conveyed to Basin 2 by gravity flow or pumped when needed. There is no pumped discharge from Basin 2; discharge will be by gravity.

OPERATION:

1. Basin 2 will operate as a treatment basin on an as needed basis. Pit water will be conveyed to Basin 2.
2. The operator will evaluate the conditions of the Basin 2 water quality. If the suspended solids concentration is high (turbid water), the water shall be permitted to settle the suspended solids prior to discharge. Once water quality meets effluent standards, water can be discharged to Outfall 002. In the event suspended solids do not settle in a reasonable time period, the operator may utilize a flocculent to accelerate settling of the solids. Dispense flocculent in accordance with the manufacturer's recommendations.
3. Discharge water will be conveyed via a pipe to Outfall 002.
4. The operator shall collect a water sample when Basin 2 is discharging at Outfall 002. The NPDES permit dictates the frequency of monitoring.

MAINTENANCE:

Inspection will be made after each storm event and on a monthly basis. The operator or assigned person will inspect the basin and its associated structures to include: condition of the outlet structure, deficiencies in the collection ditches, an evidence of instability of the embankment, the presence of vegetative cover, and any accelerated erosion occurring at the discharge points or by rill and gully erosion of the embankments themselves.

Corrective measures will include the reseeding of any areas which may require additional cover. If the season is not favorable to the germination of seeds, a mulch cover of straw or hay will be substituted. Discharge structures (the principal discharge point or the emergency spillway) will be inspected to assure performance standards. Should additional rock be needed or the size increased due to abnormally high flows, it will be done on an "as needed" basis.

Structural failures or instabilities will be referred to the engineer for further investigation and corrective measures. Until such time as the repairs can be made, the operator will inspect the structure in question daily, and have available on site a pump capable of dewatering the basin in a timely manner should it become necessary.

Sediment shall be removed from the basin when the storage capacity has reached one third (1/3) of the depth of the basin. Removal will be accomplished by either pumping or mechanical dredging. Sediments will then be transported to be stored or spread over backfilled areas and used as a topsoil layer.

Exhibit 9, typical drawings and details on Exhibit 10.1 and Exhibit 10.2, and information presented in this Module are to be used as a general guideline; however, changes or modifications should be made to fit field conditions.

13.6 Removal

Describe the timetable and plans for removal of the impoundment and reclamation of the area.

Basin 1 and 2 will be removed at the completion reclamation of the contributing drainage area to the basin.

SEDIMENT POND CERTIFICATION

Permittee: Bishop Bros Constr Co Inc Site Name: Minard Mine SMP No.: _____
 Engineer/Land Surveyor: Tim Gourley, PE Structure ID #: Basin 1 NPDES Outfall ID #: 001
 Location (point of discharge): Latitude (DMS): 41 58 01.6 Longitude (DMS): 76 32 42.6
 Drainage Area: 3 acres Design Storm: 25 year / 24 hour Rainfall Amount: 4.2 inches
 Average Watershed Slope: 2 Land Use: SUPPORT Soil Type: N/A Curve Number: 89
 Peak Discharge: 23 cubic feet/second NPDES Average Flow: 0.03 mgd NPDES Design Flow: 0.4 mgd

	<i>Permit Application</i>	<i>As Constructed</i>	
Embankment	Top Width (Minimum)	<u>10'</u>	_____
	Outside Slope (Maximum) (H:V)	---	_____
	Inside Slope (Maximum) (H:V)	---	_____
	Top Elevation	<u>762</u>	_____
	Bottom Elevation	<u>754</u>	_____
	Upstream Toe Elevation	n/a	_____
	Downstream Toe Elevation	n/a	_____
	Type of Cover	<u>vegetation</u>	_____
	Incised Slope (if any)	<u>YES</u>	_____
	Inside Slope (Maximum) (H:V)	<u>2:1</u>	_____
Top Elevation	<u>762</u>	_____	
Bottom Elevation	<u>754</u>	_____	
Principal Spillway	Type	<u>10" hooded pipe</u>	_____
	Conduit Diameter (if barrel/riser give both)	<u>10" PVC</u>	_____
	Inlet Elevation	<u>758</u>	_____
	Outlet Protection	<u>R3</u>	_____
	Spillway Capacity (cubic feet/second)	_____	_____
Dewatering Device	Type/Size	<u>standpipe</u>	_____
	Inlet Elevation	<u>756</u>	_____
	Discharge Regulation (self-draining or valved)	<u>valved</u>	_____
	Discharge Capacity (cubic feet/second)	_____	_____
	Time to Dewater Full Pond	_____	_____
Emergency Spillway	Type	<u>broadcrested weir</u>	_____
	Width	<u>25'</u>	_____
	Depth (with 2 feet of freeboard)	<u>3'</u>	_____
	Length	<u>24'</u>	_____
	Sideslopes (H:V)	<u>3:1</u>	_____
	Crest Elevation	<u>759</u>	_____
	Slope	<u>2%</u>	_____
	Type of Lining/Protection	<u>R3</u>	_____
	Spillway Capacity (provide design calculations)	<u>24 cfs</u>	_____
	Storage Capacity	Length @ Bottom	<u>170</u>
Width @ Bottom		<u>15</u>	_____
Length @ Dewatering Device		<u>178</u>	_____
Width @ Dewatering Device		<u>23</u>	_____
Volume @ Dewatering Device		<u>6630-442(FILTER)=6188</u>	_____
Length @ Principal Spillway		<u>186</u>	_____
Width @ Principal Spillway		<u>31</u>	_____
Volume @ Principal Spillway		<u>16470-1365(FILTER)=15105</u>	_____
Length @ Crest of Emergency Spillway		<u>190</u>	_____
Width @ Crest of Emergency Spillway		<u>35</u>	_____
Volume @ Crest of Emergency Spillway	<u>22670-1365(FILTER)=21305</u>	_____	

Will the sediment pond be constructed in previously disturbed, fractured, or unconsolidated material? Yes No
 If yes, specify the type of liner that will be used: NONE

SEDIMENT POND CONSTRUCTION CERTIFICATION

Permittee: Bishop Bros Constr Co Inc Site Name: Minard Mine SMP No.: _____

Engineer/Land Surveyor: _____ Structure ID #: Basin 1 NPDES Outfall ID #: 001

- | | | | |
|--|------------------------------|-----------------------------|-----------------------------|
| 1. Has the facility been constructed at the location shown in the approved permit? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 2. Is the emergency spillway constructed at the location shown in the approved plan? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 3. Is the principal spillway constructed at the location shown in the approved plan? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> NA |
| 4. Is the dewatering device constructed at the location shown in the approved plan? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 5. Are the collection channel inlets constructed at the location shown in the approved plan? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 6. Do the collection channel inlets have adequate inlet protection? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 7. Has the liner been installed in accordance with the approved plan? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> NA |
| 8. Has the non-discharge alternative been constructed in accordance with the approved plan? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> NA |
| 9. Was coal encountered during construction of the pond? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 10. If yes, was a liner used? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 11. Identify any conditions or deficiencies in the facility that need to be corrected. | | | <input type="checkbox"/> NA |

Stage of Construction

(specify stage e.g. layout, impoundment/embankment construction, spillway/piping installation, non-discharge alternative construction)

Date of Inspection

Inspected By

Supervising Professional Engineer/Registered Professional Land Surveyor _____

Address and phone _____

I certify in accordance with 25 Pa Code Section 77.531, 87.112, 89.101, or 90.112 that the above-mentioned structure is complete and has been constructed.

 Signature of Registered Professional Engineer/Registered Professional Land Surveyor Date

 Registration Number and Expiration Date

SEAL

 Signature of Permittee or Responsible Official Date

 Title

TREATMENT POND CERTIFICATION

Permittee: Bishop Bros Constr Co Inc Site Name: Minard Mine SMP No.: _____
 Engineer/Land Surveyor: Tim Gourley, PE Structure ID #: Basin 2 NPDES Outfall ID #: 002
 Location (point of discharge): Latitude (DMS): 41 58 04.1 Longitude (DMS): 76 32 51.1
 Treatment Basin Sizing Calculation: $V = 1.33 (A R C) + (\text{Expected Groundwater Inflow Rate to Pit} \times \text{Design Detention Time})$
 Drainage Area to System: 5 acres Design Storm: 25 year / 24-hour Rainfall Amount: 4.2 inches
 Detention Time: 12 hours Expected Groundwater Inflow Rate to Pit: 0 gpm
 Required Basin Volume: 26000 cubic feet NPDES Average Flow: 0.04 mgd NPDES Design Flow: 0.3 mgd

		<i>Permit Application</i>	<i>As Constructed</i>
Basin #: <u>2</u> Embankment	Top Width (Minimum)	10	
	Outside Slope (Maximum) (H:V)	3	
	Inside Slope (Maximum) (H:V)	2	
	Top Elevation (with 2 feet of freeboard)	772.25	
	Bottom Elevation	762	
	Upstream Toe Elevation	---	
	Downstream Toe Elevation	---	
	Type of Cover	vegetation	
	Incised Slope (if any)	YES	
	Inside Slope (Maximum) (H:V)	1:1	
	Top Elevation	772.25	
Bottom Elevation	762		
Basin #: <u>2</u> Spillway	Size/Type	8" PVC	
	Inlet Elevation	768	
	Outlet Protection	R3	
	Spillway Capacity (cubic feet/second)	0.5	
Basin #: <u>2</u> Storage Capacity	Length @ Bottom	200	
	Width @ Bottom	20	
	Length @ Spillway	224	
	Width @ Spillway	44	
	Volume @ Spillway	41000-2218 (FILTER)=38782	
	Sludge Cleanout Elevation	764	
Emergency Spillway	Type	broadcrested weir	
	Width (ft)	45'	
	Depth with 2' of freeboard (ft)	3.58	
	Length (ft)	18	
	Sideslopes (H:V)	3:1	
	Crest Elevation	768.67	
	Slope	2%	
	Type of Lining/Protection	R4	
	Spillway Capacity (cfs)	207 (190 required)	

Will the treatment pond be constructed in previously disturbed, fractured, or unconsolidated material? Yes No

If yes, specify the type of liner that will be used: _____

Note: If additional basins are necessary, please complete and attach an additional form.

TREATMENT POND CONSTRUCTION CERTIFICATION

Permittee: Bishop Bros Constr Co Inc Site Name: Minard Mine SMP No.: _____
 Engineer/Land Surveyor: _____ Structure ID #: Basin 2 NPDES Outfall ID #: 002

- 1. Has the facility been constructed at the location shown in the approved permit? Yes No
- 2. Is the spillway constructed at the location shown in the approved plan? Yes No
- 3. Has the liner been installed in accordance with the approved plan? Yes No NA
- 4. Has the non-discharge alternative been constructed in accordance with the approved plan? Yes No NA
- 5. Was coal encountered during construction of the pond? Yes No
- 6. If yes, was a liner used? Yes No
- 7. Identify any conditions or deficiencies in the facility that need to be corrected. NA

Stage of Construction

(specify stage e.g. layout, impoundment/embankment construction, spillway/piping installation, non-discharge alternative construction)

	Date of Inspection	Inspected By
_____	_____	_____
_____	_____	_____
_____	_____	_____

Supervising Professional Engineer/Registered Professional Land Surveyor _____
 Address and phone _____

I certify in accordance with 25 Pa Code Section 77.531, 87.112, 89.101, or 90.112 that the above-mentioned structure is complete and has been constructed.

 Signature of Registered Professional Engineer/Registered Professional Land Surveyor Date

 Registration Number and Expiration Date

 Signature of Permittee or Responsible Official Date

SEAL

 Title

MASTERCAT 4239

GENERAL DESCRIPTION

MasterCat 4239, a liquid coagulant, is a highly effective treatment for wastewater clarification, clay, and color removal. This product can handle large swings in pH, temperature, alkalinity, organics, and solids loading. MasterCat 4239 achieves superior total suspended solids results while minimizing the dose.

MasterCat 4239 provides easy product handling by direct injection without the need for a makeup system. The resulting superior performance over traditional treatments translates into lower dosages, fewer deliveries, more effective storage, and potentially lowers overall treatment costs. If faster settling rates of suspended material are required, the MasterFloc series can be overlaid. In most cases, this is not required.

PRODUCT APPLICATION

MasterCat 4239 should be fed with a genuine MasterCat feed system. This feed system is supplied and serviced by your Process Masters representative as part of the treatment program as long as you are using Process Masters products. Feeding of MasterCat products should always be done in a manner that enables the best continuous distribution and mixing of the product. Your Process Masters representative will assist you with the proper product feed points and feed rate.

PHYSICAL DESCRIPTION

Form	Liquid	pH	4.0 - 4.4
Appearance	Yellowish	Solubility in Water	Complete
Odor	None	Freeze Point	20°F
Bulk Density	10.04 - 11.21 lbs./gal.	Boiling Point	230°F
Specific Gravity	1.33 - 1.35	Vapor Pressure	None

DOSAGE

Your Process Masters representative will run all the tests required to determine the optimum product and dosage for your application.

COMPATIBILITY

Compatible: FRP, PVC, HDPE, or Rubber

PACKAGING

55 gallon reusable drums, 275 gallon reusable totes, and 2,000-4,000 gallon bulk quantities.

FOR MORE INFORMATION

Please contact your local Process Masters representative.



940 Krumsville Road

Kutztown, PA 19530

(610) 683-5674

Processmasterscorp.com

Product Number 4239
Safety Data Sheet

Page: Page 1 of 7
Revision Date: 2/11/2019
Print Date: 2/22/2021

1. Identification Of The Product

Product Name: **MasterCat 4239**

Company Identification: Process Masters Corporation
Kutztown, Pennsylvania. 19530

Emergency Phone Number: 610-683-5674

2. Hazards Identification

OSHA/HCS Status: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of the product.

Classification of the substance or mixture: No classified.

GHS label elements:

Signal word: No signal word.
Hazard statements: No known significant effects or critical hazards.

Precautionary statements:

Prevention: Not applicable.
Response: Not applicable.
Storage: Not applicable.
Disposal: Not applicable.

Hazards not otherwise classified: None known.

3. Composition and Information of Ingredients

Substance/mixture: Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4. First Aid Measures

Description of necessary first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact: Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.

Ingestion: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable or breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Product Number 4239
Safety Data Sheet

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Most important symptoms/effects, acute and delayed

Potential acute health effects:

Eye contact: No known significant effects or critical hazards.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: No known significant effects or critical hazards.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments: No specific treatments.
Protection of first aiders: No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for surrounding fire.
Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: No specific fire or explosion hazard.
Hazardous thermal decomposition products: Decomposition products may include the following materials:
Halogenated compounds; metal oxide/oxides.

Special protective actions for fire-fighters: No special protection is required.
Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel."
Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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Methods and materials for containment and cleaning up

Spill: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and Storage

Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure Controls / Personal Protection

Control parameters

Occupational exposure limits: None
Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Skin protection:
Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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Respiratory protection: Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. Physical and Chemical Properties

Physical state:	Liquid	Lower and upper explosive (flammable) limits:	Not available
Color:	Colorless to light yellow	Vapor Pressure:	Not available
Odor:	None	Vapor Density:	1 [Air=1]
Odor threshold:	Not available	Relative Density:	1.33 to 1.35
pH:	4 - 5	Solubility:	Easily soluble in the following materials: cold water and hot water
Melting Point:	-7° C (19.4° F)	Solubility in Water:	Not available
Boiling Point:	110° C (230° F)	Partition coefficient: n-octanol/water	Not available
Flash Point:	Not applicable	Auto-ignition temperature:	Not available
Burning time:	Not applicable	Decomposition temperature:	Not available
Burning rate:	Not applicable	SADT:	Not available
Evaporation Rate:	Not available	Viscosity:	Not available
Flammability (solid,gas):	Not available		

10. Stability and Reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability: The product is stable.
Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid: No specific data.
Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials and metals.
Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological Information

Information on toxicological effects

Acute toxicity: There is no data available.
Irritation/Corrosion:
Skin: There is no data available.
Eyes: There is no data available.
Respiratory: There is no data available.
Sensitization:
Skin: There is no data available.
Respiratory: There is no data available.
Mutagenicity: There is no data available.
Carcinogenicity: There is no data available.
Reproductive toxicity: There is no data available.
Teratogenicity: There is no data available.
Specific target organ toxicity (single exposure): There is no data available.
Specific target organ toxicity (repeated exposure): There is no data available.
Aspiration hazard: There is no data available.

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Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects:

Eye contact: No known significant effects or critical hazards.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: No known significant effects or critical hazards.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure:

Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Long term exposure:

Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates: There is no data available.

12. Ecological Information

Toxicity

Product/ingredient name	Result	Species	Exposure
Product	Chronic EC 6999 mg/L	Daphnia – Daphnia magna	-
	Chronic LC50 3623 mg/L	Fish – Fathead minnow	-

Persistence and degradability: There is no data available.

Bioaccumulation potential: There is no data available.

Mobility in soil: Soil/water partition coefficient (Koc): -2.49

Other adverse effects: No known significant effects or critical hazards.

13. Disposal Considerations

Disposal Methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any byproducts should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the

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requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport Information

	DOT Classification	IMDG	IATA
UN number	Not regulated	Not regulated	Not regulated
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing Group	-	-	-
Environmental hazards	No.	Yes.	No.
Additional information	-	-	-

Special precautions for user: **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available.

15. Regulatory Information

US Federal regulations:

TSCA 8(a) CDR Exempt/Partial exemption:	Not determined.
United States Inventory (TSCA 8b):	All components are listed or exempted.
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs):	Not listed
Clean Air Act Section 602 Class I Substances:	Not listed
Clean Air Act Section 602 Class II Substances:	Not listed
DEA List I Chemicals (Precursor Chemicals):	Not listed
DEA List II Chemicals (Essential Chemicals):	Not listed

SARA 302/304

Composition/information on ingredients: No products were found.
SARA 304 RQ: Not applicable.

SARA 311/312

Classification: Not applicable.
Composition/information on ingredients: No products were found.

State regulations:

Massachusetts - None of the components are listed.
New York - None of the components are listed.
New Jersey - None of the components are listed.
Pennsylvania - The following components are listed: Dialuminium Chloride Pentahydroxide
California Prop. 65: No products were found.

International regulations:

International lists: Australia inventory (AICS):	All components are listed or exempted.
China inventory (IECSC):	All components are listed or exempted.
Japan inventory:	Not determined.

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Korea inventory:	All components are listed or exempted.
Malaysia inventory (EHS Register):	Not determined.
New Zealand Inventory of Chemicals (NZIoC):	All components are listed or exempted.
Philippines inventory (PICCS):	All components are listed or exempted.
Taiwan inventory (CSNN):	Not determined.

Chemical Weapons Convention List Schedule I Chemicals:	Not listed
Chemical Weapons Convention List Schedule II Chemicals:	Not listed
Chemical Weapons Convention List Schedule III Chemicals:	Not listed

16. Other Information

Key to abbreviations:

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and labeling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate bulk container
IMDG = International Maritime Dangerous Goods
LogPow = Logarithm of the octonal/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

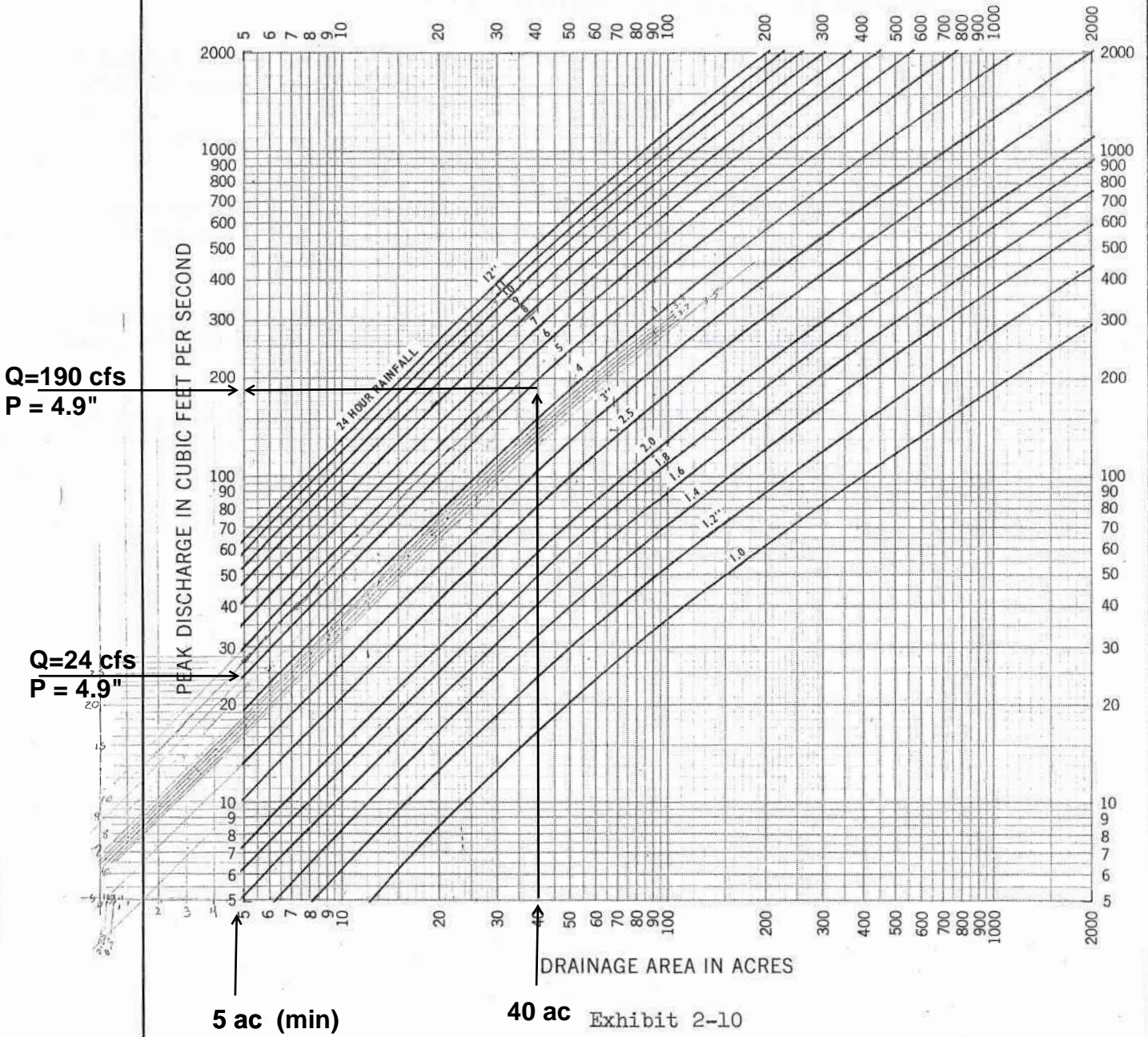
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling use, processing, storage, transportation, disposal and release, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specific in the text.

PEAK RATES OF DISCHARGE FOR SMALL WATERSHEDS TYPE II STORM DISTRIBUTION

2-751

SLOPES - STEEP
CURVE NUMBER - 90

24 HOUR RAINFALL FROM US WB TP-40



25 YEAR PEAK RUNOFF
BASIN 1 = 24 cfs
BASIN 2 = 190 cfs

<p>REFERENCE "Chapter 2, Engineering Field Manual for Conservation Practices"</p>	<p>U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE ENGINEERING DIVISION - HYDROLOGY BRANCH</p>	<p>STANDARD DWG. NO. ES-1027 SHEET <u>21</u> OF <u>21</u> DATE <u>2-15-71</u></p>
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Emergency Spillway Calculations

Minard Mine

Exhibit 13.1

05/05/23

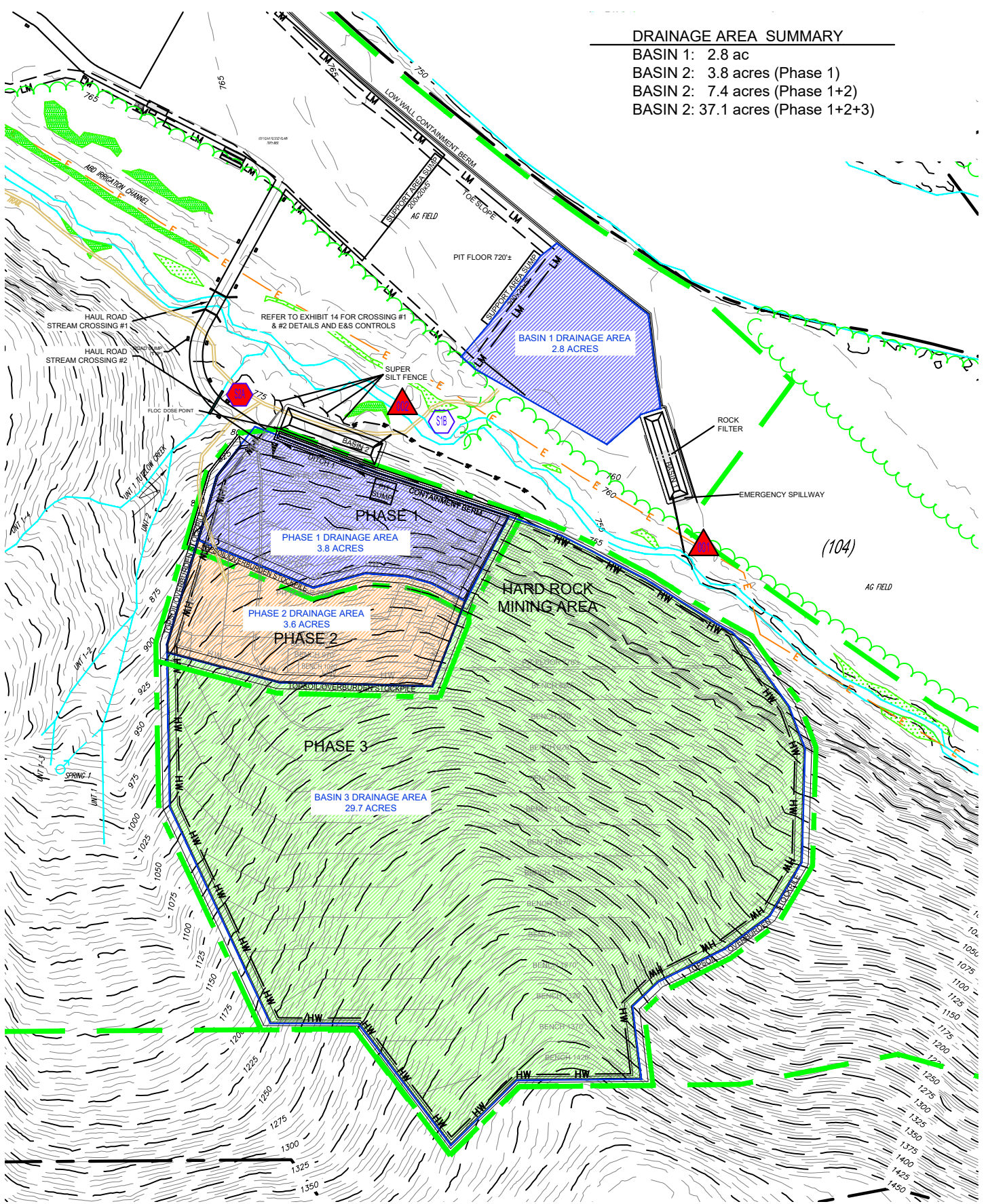
Weir Flow:

$$Q = C L H^{1.5}$$

	C	L ft	H ft	Qs cfs	Q max (25 yr) cfs	Qs > Qmax
Basin 1	2.8	25	0.5	24.7	24	YES
Basin 2	2.5	45	1.5	206.7	190	YES

DRAINAGE AREA SUMMARY

- BASIN 1: 2.8 ac
- BASIN 2: 3.8 acres (Phase 1)
- BASIN 2: 7.4 acres (Phase 1+2)
- BASIN 2: 37.1 acres (Phase 1+2+3)



Date: 05/05/23	PROJECT: Minard Mine Bishop Brothers Construction Co. Inc. Athens Township, Bradford County, Pennsylvania	TRACT ENGINEERING, PLLC 120 Ridge Avenue State College, PA 16803 814 272 0301 www.TractLLC.com	PROJECT NO: 20.0113	
Rev No: 0	TITLE: Exhibit 13.3: Basin Drainage Areas		DRAWING NO: Minard	
Sheet No: 1 of 1			DRAWN BY: tsg 05/05/23	
			CHKD BY: TSG 05/05/23	
			REV.	DATE
			BY	COMMENT

Module 17: Air Pollution and Noise Control Plan
 [Chapters 121,123,127,129/NSMCRA 3323(a)(3)/§§ 77.455/77.575]

17.1 Processing Facilities

- a) Indicate whether or not there are any processing facilities in the permit area. (Key to Exhibit 9) and specify the mineral(s) to be processed.

Type of Processing Facility	YES	NO	If YES: DRY	WET	Minerals/Product
Crushing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>overburden, sand & gravel, shale</u>
Screening	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>overburden, sand & gravel, shale, topsoil</u>
Cleaning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stockpiling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>overburden, sand & gravel, shale, topsoil</u>

- b) Describe the processing facilities and the amount of minerals to be processed.

Crusher units, conveyors, and screens will be utilized to process material to a marketable end product. The amount of material to be processed is greater than 150 tons/hour.

The processing facilities will relocate throughout the site to be near the mineral extraction area.

- c) Provide the date that the DEP Regional Air Quality Office was contacted or, if applicable, provide a copy of the DEP Air Quality Program's determination to grant an exemption from the Air Quality Permit requirements and of any authorizations granted under the Air Quality General Permit for Portable Nonmetallic Mineral Processing Plants (BAQ-GPA/GP-3).

BAQ-GPA/GP-3 and BAQ-GPA/GP-9 permits will be obtained from the DEP Regional Air Quality Office (permit conditions attached).

Note: All crushing and screening of noncoal minerals other than sand and gravel will require a separate Air Quality Permit from the DEP Regional Office Air Quality Program unless that Program makes a determination to grant an exemption. Crushing and/or screening of sand and gravel will require a separate Air Quality Permit from the DEP Regional Office Air Quality Program except for wet sand and gravel operations (screening only) and wet or dry sand and gravel operations (crushing and/or screening) unconsolidated material with a rated capacity of processing less than 150 tons per hour unless that Program makes a determination to grant an exemption. BAQ-GPA/GP-3 may be used for authorizing the construction, operation, and modification of portable nonmetallic mineral processing plants that will be located at the mine site.

- d) Is the processing facility to be operated by the mining permittee? Yes No
 If so, will the Air Quality permit be held by the mining permittee or a third party? Permittee Third Party

17.2 Air Pollution Control Plan

Provide a description of the air pollution control plan including what measures will be taken to reduce dust from the following activities:

- a) Access roads, haul roads and adjoining portions of the public road

Access roads and haul roads will be constructed to take advantage of existing windbreaks, where possible.

The operator shall maintain a policy within his own organization setting accepted speed limits of 10 mph for all vehicles traveling within the limits of the mining operations.

Periodic watering of access roads and haulage ways may be utilized whenever necessary to suppress fugitive dust. This method of treatment is dependent on the equipment available at the site. Where conditions dictate that this procedure has too short of an effective duration, the roadways will be stabilized through the utilization of non-toxic soil binders, dust palliatives, and/or chemical binder (calcium chloride or equivalent).

Permanent and temporary haul roads will be constructed of rock to inhibit the formation of dust.

Scheduled scraping and compaction of the road surfaces will be conducted to limit accumulation of loose or fragmented materials.

Periodic inspection of the portion of the public road accessing the site will be incorporated into the dust control practices. Removal of material build-up will be completed as necessary.

Access to the site from public roadways will be restricted to the access point shown on the Exhibit maps. Where access roads intersect public roadways, gravel will be placed and maintained to prevent mud and debris from being tracked onto the public road. Once access roads enter the mining and/or processing areas, dust will be controlled by limiting the speed limits to less than 10 mph, watering the roads in dry weather, or placing a chemical binder (calcium chloride or equivalent) on the roadways to maintain as free a dust environment as possible.

- b) Truck traffic (including fugitive particulate material from truck loads).

Trucks may be tarped to prevent fugitive particles from leaving the vehicles.

- c) Drilling operation.

Shrouds and dust collection stacks will be utilized on the drill for containment during drilling operations. Should conditions warrant, water spray will be utilized for dust suppression.

- d) Overburden removal and mineral extraction

Overburden removal shall be planned to take advantage of existing windbreaks, where possible.

- e) Stockpiles (overburden, topsoil, product).

Topsoil stockpiles will be seeded within 20 days to assure there is not accelerated erosion from either wind or precipitation.

All stockpiles will be maintained by periodic watering to eliminate potential for dust.

Overburden piles which will remain over long periods of time will be positioned in as much as possible to take advantage of wind breaks or other natural features.

Product stockpiles will be maintained by periodic watering to eliminate potential for dust.

- f) Loading and unloading areas.

Loading and unloading activities in the mining area will take place near the working face and processing equipment where possible or in the stockpile areas.

Loading and unloading activities in the support areas will utilize windbreaks (existing stockpiles) where possible.

- g) Crushing and other processing equipment.

Water spray bars shall be used to control dust at the crushing and processing equipment.

h) Conveyors.

Water spray bars shall be used to control dust at the conveying equipment.

Activities under 17.2 a) through h) which are addressed and regulated as part of a separate Air Quality Permit do not need to be included in this module. Indicate which activities (or specific aspects of an activity) are addressed under a separate Air Quality Permit.

Refer to BAQ-GPA/GP-3 and BAQ-GPA/GP-9 permit conditions (or other applicable permits) for additional conditions for the portable processing plant.

17.3 Noise Control Plan

a) List all noise sources from equipment and mining activity that will originate within the permit area.

**Mobile mining equipment: excavators, loaders, dozers, trucks, skid steers, & generators
Processing equipment: mobile screen plants, mobile crushers, & mobile stackers**

b) Indicate the standard days and hours of operation for mobile and stationary equipment:

**M-F: 7 a.m. to 5 p.m.
SAT: 7 a.m. to 12 p.m.**

No mine product shall be transported off-site any day after 3:30 p.m., on any Sunday, or on any government holiday.

c) Indicate any of the following non-standard/extraordinary operational days and hours:

- Continuous 24 hours a day. Which equipment?
- Night time hours. Which equipment?
- Weekends. Which equipment? **All equipment as necessary to meet market demands.**
- Holidays. Which equipment?
- Other. Which equipment? **All equipment as necessary to meet market demands.**

OTHER shall be emergency situations where aggregate must be provided address an emergency situation.

d) Are any of the following located adjacent to the proposed mine operation? Check all that apply and include distance and details.

- Residential Areas
- Schools
- Hospitals
- Churches

Details:

Residential properties 102, 103, 104, 104-1 have granted a dwelling variance for mining activities and mineral extraction to occur within 300' of the structure.

Residential properties along Meadowlark Drive will be at least 300' from sand and gravel mining activities and over 3,700 feet from the rock mining area. The residential properties will be separated from the mining activities by an earthen berm.

Commercial and residential properties to the east of the operation are greater than 1,600 feet from mining activities. SR 220, a four lane limited access highway, is located ~1,400 feet from the mining area between the mine and the commercial and residential properties.

- e) Describe the pre-mining environmental sound levels within the adjacent area during weekdays, night time, weekends, and holidays.

The pre-mining environmental sound levels are equivalent to a rural farm land setting with a four (4) lane limited access highway east of the site. Pre-mining sound levels are vary based upon traffic conditions during weekdays, night time, weekends, and holidays.

- f) Has a noise study been conducted to characterize the pre-mining noise levels of the surrounding area and estimate the noise levels from the proposed mine operation? Yes No
If yes, submit that study.

- g) Describe the measures (best management practices) that will be taken to mitigate noise and prevent noise from becoming a public nuisance.

The operation is located in a rural area with few dwellings immediately adjacent to the site.

The mining activities will be in a pit depressed below natural grade.

Operations in unconfined areas will be minimized to the extent possible.

Noise will be controlled by the method of operations and the implementation of a berm around the site. Equipment used for the removal and transport of raw materials to the processing facility will be maintained in ways to reduce noise generation (ie mufflers). Excessive engine reving will be minimized, especially in areas of initial mineral recovery where the topography may be elevated above adjacent natural ground and sound is more likely to migrate outward from operations. The mining area will begin to self-absorb sound as mineral removal will create perimeter walls. Once the pit is established and the majority of pit area will be below the natural ground, machinery noise generated within these areas will be absorbed by the pit area itself and the berm around the working areas.

The processing equipment will be maintained to minimize unnecessary noise levels (ie loose belts, plates, screens). The processing facilities will relocate throughout the site to be near the mineral extraction area.

Because of the rural nature of the area and the remote location of the site, the noise pollution for this site will be very minimal. Additionally, hours of operation will be generally during daylight hours. The operation may work nights as circumstances warrant.



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

GENERAL PLAN APPROVAL AND/OR GENERAL OPERATING PERMIT
For
Portable Nonmetallic Mineral Processing Plants
(BAQ-PGPA/GP-3)

1. Statutory Authority and General Description

In accordance with Section 6.1(f) and (g) of the Air Pollution Control Act, 35 P.S. § 4006.1(f) and (g), 25 Pa. Code §§ 127.514 and 127.631, the Department of Environmental Protection (Department) hereby issues this general plan approval and general operating permit for portable nonmetallic mineral processing plants (hereinafter referred to as "General Permit").

2. Applicability/Source Coverage Limitations

This General Permit is limited to the erection, operation, and modification of portable nonmetallic mineral processing plants:

- a. Which are temporarily (no longer than 24 months) located at construction sites;
- or,
- b. Which are located at sites for which a valid mining permit or an air quality permit exists for the operation of a nonmetallic mineral processing plant.

"Nonmetallic mineral processing plants," as defined in 40 CFR § 60.671, means any combination of equipment that is used to crush or grind any nonmetallic mineral. Nonmetallic mineral processing plants are designed to process nonmetallic minerals, and consist of affected units like crushers, grinders, screening operations, belt conveyors, bucket elevators, storage bins, bagging operations, and enclosed truck and rail car loading stations.

"Portable plant" means any of the nonmetallic mineral processing plants that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turn-buckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

Diesel-fired internal combustion engine(s) required to operate nonmetallic mineral processing plants are not covered by this General Permit. Internal combustion engine(s) may be covered by general plan approval and general operating permit for a diesel or No. 2 fuel-fired internal combustion engines (BAQ-GPA/GP 9) or nonroad engines (BAQ-GPA/GP-11) as applicable.

This General Permit has been established in accordance with the provisions described in 25 Pa. Code Chapter 127, Subchapter H (relating to general plan approvals and general operating permits). If the portable nonmetallic mineral processing plant at the facility cannot be regulated by the requirements of this General Permit, a plan approval and/or an operating permit issued in accordance with 25 Pa. Code Chapter 127, Subchapter B (relating to plan approval requirements) and/or F (relating to operating permit requirements) will be required, or, if the facility is a Title V facility, a Title V operating permit issued in accordance with Subchapters F and G (relating to Title V Operating Permits) will be required.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

- a. Crushed and broken stone, including limestone, dolomite, granite, traprock, sandstone, quartz, quartzite, marl, marble, slate, shale, oil shale, and shell;
- b. Sand and gravel;
- c. Clay including kaolin, fireclay, bentonite, Fuller's earth, ball clay, and common clay;
- d. Rock salt;
- e. Gypsum;
- f. Sodium compounds, including sodium carbonate, sodium chloride, and sodium sulfate;
- g. Pumice;
- h. Gilsonite;
- i. Talc and pyrophyllite;
- j. Boron, including borax, kernite, and colemanite;
- k. Barite;
- l. Flourospar;
- m. Feldspar;
- n. Diatomite;
- o. Perlite;
- p. Vermiculite;
- q. Mica; and
- r. Kyanite, including andalusite, sillimanite, topaz, and dumortierite.

Nonmetallic minerals do not include coals of any type.

This General Permit is designed to serve as both a general plan approval and a general operating permit for one or more portable nonmetallic mineral processing plant located in a facility. The specific use of the General Permit will depend upon permit status, emission levels and location of the facility as outlined below.

Plan Approval

This General Permit authorizes the construction of portable nonmetallic mineral processing plants that meet the best available technology (BAT) required under 25 Pa. Code §§127.1 and 127.12(a)(5), provided the respective construction is not subject to the requirements of 25 Pa. Code Chapter 127, Subchapter D (relating to prevention of significant deterioration), or 25 Pa. Code Chapter 127, Subchapter E (relating to new source review). For the purpose of this General Permit, BAT shall include the installation of water spray dust suppression systems, fabric collectors, combinations of these or other measures capable of meeting the emission limitations described in Condition 21.

Operating Permit

This General Permit authorizes the operation of portable nonmetallic mineral processing plants for a period of no longer than twenty four (24) months for plants located at a construction site and maximum up to five (5) years for plants located at a site for which a valid mining permit or an air quality permit exists for the operation of a nonmetallic mineral processing plant. A facility, which is subject to the requirements of 25 Pa. Code Chapter 127, Subchapter F (relating to Operating Permit Requirements), or Subchapters F and G (relating to Title V Operating Permits Requirements) may use this General Permit as a plan approval to construct and an operating permit to operate a qualifying portable nonmetallic mineral processing plant on a temporary basis until such time as the operating permit required pursuant to 25 Pa. Code Chapter 127, Subchapter F, or Subchapters F and G, has been obtained or amended to include the terms and conditions of this General Permit.

Once authorization to use this General Permit is granted, operation may proceed provided that the permittee notifies the Department in accordance with Condition 6.

Any portable nonmetallic mineral processing plant located at a "Title V facility" as defined in 25 Pa. Code § 121.1, shall comply with the requirements of 25 Pa. Code §127.514 (relating to general operating permits at Title V facilities).

3. Application for Use

Any person proposing to install, operate or modify under this General Permit shall notify the Department using the Portable Nonmetallic Mineral Processing Plant General Permit Application provided by the Department. In accordance with 25 Pa. Code § 127.641 (relating to application for use of general plan approvals and general operating permits for portable sources), the applicant shall receive written authorization from the Department prior to installing, operating or modifying under this General Permit. The Department will take action on the application within 30 days of receipt.

Any portable nonmetallic mineral processing plant driven by internal combustion engine(s) must also apply for General Plan Approval and/or General Operating Permit for Diesel or No. 2 Fuel-Fired Internal Combustion Engines (BAQ-GPA/GP 9), or General Plan Approval and/or General Operating Permit for Nonroad Engines (BAQ-GPA/GP 11), in conjunction with the portable nonmetallic mineral plant general permit application.

4. Compliance

Any portable nonmetallic mineral processing plant operating under this General Permit must comply with the terms and conditions of the General Permit. The portable nonmetallic mineral processing plant and any associated air cleaning devices shall be:

- a. Operated in such a manner as not to cause air pollution, as the term is defined in 25 Pa. Code § 121.1.
- b. Operated and maintained in a manner consistent with good operating and maintenance practices.
- c. Operated and maintained in accordance with the manufacturer's specifications and the applicable terms and conditions of this General Permit.

5. Permit Modification, Suspension and Revocation

This General Permit may be modified, suspended, or revoked if the Department determines that affected nonmetallic mineral processing plants cannot be adequately regulated under this General Permit. Authorization to use this General Permit shall be suspended or revoked if the permittee fails to comply with applicable terms and conditions of the General Permit.

Authorization to operate the portable nonmetallic mineral processing plant shall be suspended, if, at any time, the permittee causes, permits or allows any modification without Department approval (as defined in 25 Pa. Code §121.1) of the portable nonmetallic mineral processing plant and any associated air pollution control device covered by this General Permit. Upon suspension of the General Permit, the permittee may not continue to operate or use said nonmetallic mineral processing plant. If warranted, the Department will require that the nonmetallic mineral processing plant be permitted under the state operating permit or Title V operating permit requirements in 25 Pa. Code Chapter 127, as appropriate.

6. Notice Requirements

The applications and notifications required by 25 Pa. Code § 127.621 shall be submitted to the appropriate Regional Office responsible for authorizing the use of General Permits in the county in which the portable nonmetallic mineral processing plant is, or will be located. As required under § 127.621(b), the application shall be either hand delivered or transmitted by certified mail with a return receipt.

The permittee shall notify the Department, in writing, of the permittee's intent to commence operation of source(s) authorized by the General Plan Approval at least five (5) working days prior to the completion of construction. The notice shall specify the expected date of completion of construction and date of commencement of operation for the source(s).

The permittee shall notify the Department, by telephone, within 24 hours of the discovery of any malfunction of a portable nonmetallic mineral processing plant operating pursuant to this General Permit, or any malfunction of an associated air cleaning device, which results in, or may possibly be resulting in, the emission of air contaminants in excess of any applicable limitation specified herein or in excess of the limitations specified in any applicable rule or regulation contained in 25 Pa. Code Chapters 121 through 145 or which otherwise results in, or may possibly be resulting in, noncompliance with the requirements specified in any applicable condition of this General Permit (if the permittee is unable to provide notification within 24 hours of discovery due to a weekend or holiday, the notification shall be made to the Department by no later than 4 p.m. on the first Department business day following the respective weekend or holiday). The permittee shall additionally provide whatever subsequent written report the Department may request regarding any reported malfunction.

7. Sampling and Testing

No later than one hundred and eighty (180) days after initial start-up, the permittee shall demonstrate compliance with the emission limitations for particulate matters established in Condition 21.

If, at any time, the Department has cause to believe that air contaminant emissions from a nonmetallic mineral processing plant covered by this General Permit are in excess of the limitations specified in, or established pursuant to, any applicable regulation contained in 25 Pa. Code, Subpart C, Article III, the permittee shall conduct tests deemed necessary by the Department to determine the actual emission rate(s).

The permittee shall perform such testing in accordance with applicable provisions of 25 Pa. Code Chapter 139 (relating to sampling and testing) and in accordance with any restrictions or limitations established by the Department at the time the permittee is notified, in writing, of the testing requirement.

8. Monitoring, Recordkeeping and Reporting

The permittee shall comply with applicable monitoring, recordkeeping and reporting requirements set forth in 25 Pa. Code Chapter 139 (relating to sampling and testing), the Air Pollution Control Act (35 P.S. §4001 et seq.), the Clean Air Act (42 U.S.C. §7401 et seq.), and the applicable regulations under the acts.

Records maintained under this General Permit shall be kept for a period of five (5) years and shall be made available to the Department upon its request.

9. **Term of Permit**

Authority to use this General Permit is granted for a fixed period of five years.

The authority to operate the portable nonmetallic mineral processing plants at one location would be allowed for:

- a. No longer than twenty-four (24) months for plants, which are temporarily located at construction sites.
- b. A maximum up to (5) years for plants, which are located at sites for which a valid mining permit or an air quality permit exists for the operation of nonmetallic mineral processing plant.

Authority to operate the portable nonmetallic mineral processing plants beyond the stipulated periods in 9a and 9b above at one location would require a new authorization from the Department.

The Department will notify each applicant, in writing, when authority to construct and/or operate under this General Permit is granted.

10. **Permit Fees**

- a. This General Permit establishes the following application fees for a new authorization:

One thousand (\$1000) dollars.

- b. The following additional fees are applicable each time a change in location of the nonmetallic mineral processing plant along with its diesel-fired or nonroad engine(s), which may be used to operate it occurs:

Three hundred seventy five (\$375) dollars.

A new plan approval application and fee as indicated in Condition 10.a is required each time the permittee installs or modifies a portable nonmetallic mineral processing plant. The installation or modification of a portable nonmetallic mineral processing plant must be conducted according to the terms and conditions of this General Permit and only after written authorization is received from the Department.

11. **Expiration and Renewal of Authorization**

The permittee's authority to use this General Permit terminates after a fixed term of five years from the date of issuance of the authorization and cannot be renewed for another term.

12. **Change of Location**

In advance of each change in location without any modification of the portable nonmetallic mineral processing plant the permittee shall, in accordance with 25 Pa. Code § 127.641, notify both the Department and the municipality where the operation will take place. The notice to the Department shall require an application and appropriate fees required by Condition 10.b.

13. **Applicable Laws**

Nothing in this General Permit relieves the permittee from its obligation to comply with all applicable Federal, state and local laws and regulations.

14. **Prohibited Use**

Any stationary air contamination source that is subject to the requirements of 25 Pa. Code Chapter 127, Subchapter D (relating to prevention of significant deterioration), 25 Pa. Code Chapter 127, Subchapter E (relating to new source review), or 25 Pa. Code Chapter 127, Subchapter G (relating to Title V operating permits), may not operate under this General Permit. Title V facilities may use this General Permit as a general

plan approval when major new source review and prevention of significant deterioration requirements are not applicable.

15. Transfer of Ownership or Operation

The permittee may not transfer authorization to operate under this General Permit. A new owner shall submit a new application and fees as described in Condition 10.a.

16. Regulatory Conflicts

Wherever a conflict occurs between this general plan approval and operating permit and any of the regulations listed below, the permittee shall, in all cases, meet the more stringent requirement:

- a. 25 Pa. Code §§ 123.1, 123.2, 123.13(c), and 123.41.
- b. 40 CFR 60, Subpart OOO.

17. Emission Limitations

The operation of a portable nonmetallic mineral processing plant shall not at any time result in the emission of:

- a. Fugitive air contaminants in excess of the limitations specified in 25 Pa. Code §§ 123.1 and 123.2. All reasonable actions shall be taken to prevent particulate matter from becoming airborne. These actions include, but are not limited to, the following:
 - i. Proper installation of a water spray dust suppression system and operation in accordance with Condition 18 or proper design, installation, and operation of a fabric collector.
 - ii. Application of asphalt, water or suitable chemicals on dirt roads, material stockpiles and other surfaces that may give rise to airborne dusts.
 - iii. Paving and maintenance of plant roadways.
 - iv. Prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosions by water, or other means.
- b. Particulate matter emissions from air pollution control devices in excess of 0.04 gr/dscf as specified in 25 Pa. Code § 123.13(c).
- c. Visible emissions from air pollution control devices in excess of the following limitations:
 - i. Equal to or greater than 20% for a period or periods aggregating more than three minutes in any one (1) hour.
 - ii. Equal to or greater than 60% at any time.

18. Air Pollution Control Device Specifications

- a. Water Spray Dust Suppression Systems.

Water spray dust suppression systems on portable nonmetallic mineral processing plants shall be operated on any and all occasions that the respective plant is operated. Operation without simultaneous operation of the water spray dust suppression system can take place only in those unusual instances where processed materials contain sufficient moisture so as not to create air contaminant emissions in excess of the limitations and standards of this General Permit. If, however, the water spray dust suppression system is incapable of operation due to weather conditions or any other reason, the permittee may not operate the plant. A pressure gauge will be installed to indicate a normal operation of the dust suppression system.

b. Fabric Collectors

Fabric collectors shall be equipped with pressure drop measuring instrumentation and operated in accordance with manufacturer's specifications. Compressed air sources for fabric collectors shall be equipped and operated with air dryers and oil traps.

c. Scrubbers

Scrubbers shall be equipped with pressure drop and flow measuring instrumentation for water and gas streams and operated in accordance with manufacturer's specifications.

19. **Maintenance**

a. The permittee shall keep on hand a sufficient quantity of spare fabric collector bags for any fabric collector associated with a portable nonmetallic mineral processing plant in order to be able to immediately replace any bags requiring replacement due to deterioration resulting from routine operation of the plant.

b. The permittee shall keep on hand such equipment and materials as are necessary to take reasonable action (including, but not limited to the application of water, oil or chemicals) to prevent fugitive particulate matter resulting from the use of any roadways and/or material stockpiling operations associated with the plant from becoming airborne and shall be used, as necessary, to prevent such fugitive particulate matter from becoming airborne.

c. The storage and handling of any material collected in any air cleaning device associated with the plant shall not at any time result in the emission of fugitive air contaminants in excess of the limitations specified in 25 Pa. Code § 123.1(a).

20. **Portable nonmetallic mineral processing equipment manufactured and commenced construction, reconstruction, or modification on or after August 31, 1983**

Conditions 21 through 25 detail requirements of the federal New Source Performance Standards (40 CFR Part 60, Subpart OOO) and are applicable to all portable nonmetallic mineral processing plant equipment manufactured and commencing construction, reconstruction, or modification on or after August 31, 1983.

21. **Standard for particulate matter**

- a. The operation of a portable nonmetallic mineral processing plant shall not cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any stack emissions which:
 - i. Contain particulate matter in excess of 0.05 g/dscm (0.022 gr/dscf); and
 - ii. Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubber control device. Facilities using a wet scrubber must comply with the reporting provisions of Condition 23.c., d. and e.
- b. On and after the sixtieth (60th) day after achieving the maximum production rate at which the processing plant will be operated, but not later than one hundred and eighty (180) days after initial startup as required under 40 CFR § 60.11, the operation of nonmetallic mineral processing equipment shall not cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in Condition 21.c. or d.
- c. On and after the sixtieth (60th) day after achieving the maximum production rate at which the processing equipment will be operated, but not later than one hundred and eighty (180) days after initial startup as required under 40 CFR § 60.11, the operation of a nonmetallic mineral processing plant shall not cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.
- d. If any transfer point on a conveyor belt or any affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in Paragraphs 21.a. b. and c., or the building enclosing the affected facility or facilities must comply with the following limits:
 - i. Operation of nonmetallic mineral processing equipment shall not cause to be discharged into the atmosphere from any building enclosing any other affected emissions unit any visible fugitive emissions except from a vent.
 - ii. Operation of nonmetallic mineral processing equipment shall not cause to be discharged into the atmosphere from any vent of any building enclosing any transfer point on a conveyor belt or any other affected facility emissions which exceed the stack emissions limits in Paragraph 21.a.
- e. On and after the sixtieth (60th) day after achieving the maximum production rate at which the processing plant will be operated, but not later than one hundred and eighty (180) days after initial startup as required under 40 CFR § 60.11, the operation of nonmetallic mineral processing equipment shall not cause to be discharged into the atmosphere from any baghouse that controls emissions from only an individual, enclosed storage bin, stack emissions which exhibit greater than 7 percent opacity.
- f. The operation of multiple storage bins with combined stack emissions shall comply with the emission limits in paragraph a.i. and a.ii. of this condition.
- g. On and after the sixtieth (60th) day after achieving the maximum production rate at which the processing plant will be operated, but not later than one hundred and eighty (180) days after initial startup, the operation of nonmetallic mineral processing equipment shall not cause to be discharged into the atmosphere from:
 - i. Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to the next crusher, grinding mill or storage bin.

- ii. Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, where such screening operation, bucket elevator, and belt conveyors process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.

22. Monitoring

Any permittee which uses a wet scrubber, baghouse or dust suppression system to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

- a. A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 1 inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.
- b. A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 5 percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.
- c. A device for measurement of pressure drop across the baghouse. Monitoring must be performed daily to ensure pressure drop is within manufacturer's recommended pressure drop range for normal operations. In cases of deviations, the permittee shall take corrective actions to return the operations of the baghouse to within the recommended operating range. The monitoring device must be calibrated on an annual basis in accordance with manufacturer's instructions.

23. Test Methods and Procedures

- a. In conducting the performance tests required by 40 CFR §60.8, the permittee shall use as reference methods and procedures the test methods in Appendix A of 40 CFR Part 60 or other methods and procedures as approved by the Department or the Environmental Protection Agency. Acceptable alternative methods and procedures are given in Paragraph (e) of this condition.
- b. Compliance with the particulate matter standards in Condition 21.a. shall be conducted as follows:
 - i. Method 5 or Method 17 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.
 - ii. Method 9 and the procedures in 40 CFR § 60.11 shall be used to determine opacity.
- c. In determining compliance with the particulate matter standards in Condition 21.b. and c., the permittee shall use Method 9 and the procedures in 40 CFR § 60.11, with the following additions:
 - i. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
 - ii. In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under Condition 21.e., using Method 9, the duration of the Method 9 observations shall be 1 hour (ten 6-minute averages).
 - iii. When determining compliance with the fugitive emissions standard described in Condition 21.b., the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if both of the following apply:

1. There are no individual readings greater than 10 percent opacity;
 2. There are no more than 3 readings of 10 percent for the 1-hour period.
- iv. When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used as described under Condition 21.c., the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if both of the following apply:
1. There are no individual readings greater than 15 percent opacity;
 2. There are no more than 3 readings of 15 percent for the 1-hour period.
- d. In determining compliance with Condition 21.d., the permittee shall use Method 22 to determine fugitive emissions. The performance test shall be conducted while all affected facilities inside the building are operating. The performance test for each building shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes.
- e. The permittee may use the following as alternatives to the reference methods and procedures specified in Condition 23:
- i. For the method and procedures of Paragraph (c) of this condition, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:
 1. Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
 2. Separate the emissions so that the opacity of emissions from each affected facility can be read.
- f. To comply with Condition 24.d., the permittee shall record the measurements as required in Condition 24.c. using the monitoring devices in Condition 22.a. and b. during each particulate matter run and shall determine the averages.
- g. If, after thirty (30) days notice for an individual scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required by this condition, the permittee shall submit a notice to the Department and EPA at least 7 days prior to any rescheduled performance test.
- h. Initial Method 9 performance tests under 40 CFR § 60.11 and Condition 21. of this General Permit are not required for:
- i. Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to, but not including the next crusher, grinding mill or storage bin.
 - ii. Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, that process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.
- i. On and after the sixtieth (60th) day after achieving the maximum production rate at which processing equipment will be operated, but not later than one hundred and eighty (180) days after initial startup the permittee shall conduct the tests required under 40 CFR § 60.11.

24. Reporting and Recordkeeping

- a. This General Permit allows the replacement of existing nonmetallic mineral processing plant equipment with equipment of equal or smaller size and having the same function as defined in 40 CFR § 60.671. Each permittee shall submit the following information about the existing unit being replaced and the replacement piece of equipment.
 - i. For a crusher, grinding mill, bucket elevator, bagging operation or enclosed truck or railcar loading station:
 1. The rated capacity in tons per hour of the existing equipment being replaced; and
 2. The rated capacity in tons per hour of the replacement equipment.
 - ii. For a screening operation:
 1. The total surface area of the top screen of the existing screening operation being replaced; and
 2. The total surface area of the top screen of the replacement screening operation.
 - iii. For a conveyor belt:
 1. The width of the existing belt being replaced; and
 2. The width of the replacement conveyor belt.
 - iv. For a storage bin:
 1. The rated capacity in tons of the existing storage bin being replaced; and
 2. The rated capacity in tons of replacement storage bins.
- b. Each permittee shall also submit the following data to the Director of the Emissions Standards and Engineering Division (MD-13), U.S. Environmental Protection Agency (EPA), Research Triangle Park, NC, 27711.
 - i. The information described in Condition 24.a.;
 - ii. A description of the control device used to reduce particulate matter emissions from the existing facility and a list of all other pieces of equipment controlled by the same control device; and
 - iii. The estimated age of the existing facility.
- c. During the initial performance test of a wet scrubber, and daily thereafter, the permittee shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.
- d. After the initial performance test of a wet scrubber, the permittee shall submit semiannual reports of such occurrences when the measurements of the scrubber pressure low (or gain) and liquid flow rate differ by more than ± 30 percent from the averaged determined during the most recent performance test.
- e. The permittee shall record the measurements of pressure drop for the gas stream across the baghouse daily.
- f. The permittee shall submit semiannual reports of such occurrences when the measurements of the pressure drop for the gas stream across the baghouse deviate from manufacturer's suggested operating range.

- g. The semiannual reports required under Paragraph d. and f. shall be postmarked within thirty (30) days following end of the second and fourth calendar quarters.
- h. The permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in Condition 21, including reports of opacity observations made using Method 9 to demonstrate compliance with Condition 21.b., c., and e. and reports of observations using Method 22 to demonstrate compliance with Condition 21.d.
- i. A permittee who operates any screening operation, bucket elevator, or belt conveyor that processes saturated material and is subject to Condition 21.g. and subsequently processes unsaturated materials, shall submit a report of this change within thirty (30) days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the 10 percent opacity limit in Condition 21.b. and the emission test requirements of 40 CFR § 60.11.

Likewise, a screening operation, bucket elevator, or belt conveyor that processes unsaturated material but subsequently processes saturated material shall submit a report of this change within thirty (30) days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the no visible emission limit in Condition 21.g.

- j. The notification requirement under 40 CFR § 60.7(a)(2), of the anticipated date of initial startup of portable nonmetallic mineral processing plant equipment shall be waived for a permittee operating under this General Permit.
- k. A notification of the actual date of initial startup of each affected facility shall be submitted to the Department and EPA.
 - i. For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of start may be submitted by the permittee to the Department and EPA. The notification shall be postmarked within fifteen (15) days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.
 - ii. The notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.

25. **Additional Requirement**

Pursuant to the federal New Source Performance Standards under 40 CFR § 60.4, the permittee shall submit copies of all requests, reports, applications, submittals, and other communications to both EPA and the appropriate Regional Office of the Department. Copies of all the documents shall be submitted to:

Air Enforcement Branch, Mail Code 3AP12
U.S. EPA, Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Approved by:

Joyce E. Epps
Director
Bureau of Air Quality

Date approved: March 6, 2006



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

GENERAL PLAN APPROVAL AND/OR GENERAL OPERATING PERMIT (BAQ-GPA/GP 9)

Diesel or No. 2 Fuel-fired Internal Combustion Engines

1. Statutory Authority and General Description:

In accordance with Section 6.1(f) and (g) of the Air Pollution Control Act, 35 P.S. §4006.1, and 25 *Pa. Code* §§127.611 and 127.631, the Department of Environmental Protection ("Department") hereby issues this general plan approval and/or general operating permit for diesel or No. 2 fuel-fired engine(s) (hereinafter referred to as "Diesel Engine(s) General Permit").

2. Applicability/Source Coverage Limitations:

This Diesel Engine(s) General Permit authorizes construction and/or operation of diesel engine(s) including, but not limited to, electrical power generation, rock crushing operation, portable non-metallic processing plants, and those engine(s) used in other processes, which are not covered by other General Permits. GP-11 and GP-12 shall be used for Non-road engines and engines located at coal or coal refuse mining sites respectively.

This Diesel Engine(s) General Permit has been established in accordance with the provisions described in 25 *Pa. Code* Chapter 127, Subchapter H (relating to general plan approvals and general operating permits). If the diesel or No. 2 oil-fired engine(s) at the facility cannot be regulated by the requirements of this General Permit, a plan approval and/or an operating permit issued in accordance with 25 *Pa. Code* Chapter 127, Subchapters B (relating to plan approval requirements) and/or Subchapter F (relating to operating permit requirements) will be required, or if the facility is a Title V facility, a Title V operating permit issued in accordance with Subchapters F and G (relating to Title V Operating Permits) will be required.

Plan Approval:

This Diesel Engine(s) General Permit authorizes the construction of internal combustion engine(s) that meet the best available technology (BAT) required under 25 *Pa. Code* §§127.1 and 127.12(a)(5). For purposes of this Diesel Engine(s) General Permit, BAT for any diesel-fired engine shall include the installation and operation of available control measures that reduce emissions to the limitations described in Condition 7.

Operating Permit:

Once authorization to use this Diesel Engine(s) General Permit is granted, operation may proceed provided that the permittee notifies the Department in accordance with condition 6.

Any diesel-fired engine(s) located at a "Title V facility" as defined in 25 *Pa. Code* §121.1, shall comply with the requirements of 25 *Pa. Code* §127.514 (relating to general operating permits at Title V facilities).

3. Application for Use:

Any person proposing to operate or construct under this Diesel Engine(s) General Permit shall notify the Department using the Diesel Engine(s) General Permit Application provided by the Department and shall receive prior written approval from the Department as required under 25 Pa. Code §127.621 (relating to application for use of general plan approvals and general operating permits). The Department will take action on the application within 30 days of receipt.

4. Compliance:

Any applicant authorized to operate a diesel-fired internal combustion engine(s) under this Diesel Engine(s) General Permit must comply with the terms and conditions of the general permit. The diesel-fired internal combustion engine(s) shall be:

- a. operated in such a manner as not to cause air pollution, as defined in 25 Pa. Code §121.1;
- b. operated and maintained in a manner consistent with good operating and maintenance practices; and
- c. operated and maintained in accordance with the manufacturer's specifications and the applicable terms and conditions of this General Permit.

5. Permit Modification, Suspension, and Revocation:

This Diesel Engine(s) General Permit may be modified, suspended, or revoked if the Department determines that the affected diesel-fired internal combustion engines cannot be regulated under this general permit. Authorization to use this Diesel Engine(s) General Permit shall be suspended or revoked if the permittee fails to comply with the applicable terms and conditions of the Diesel Engine(s) General Permit.

The approval herein granted to operate the Diesel Engine(s) General Permit shall be suspended, if, at any time, the permittee causes, permits or allows any modification (as defined in 25 Pa. Code §121.1) without Department approval of the internal combustion engine(s) covered by this General Permit. Upon suspension of the General Permit, the permittee may not continue to operate or use the diesel-fired internal combustion engines. If warranted, the Department will require that the diesel-fired internal combustion engine(s) be permitted under the State Operating Permit and/or Title V Operating Permit requirements in 25 Pa. Code Chapter 127, if appropriate.

6. Notice Requirements:

The applications and notifications required by 25 Pa. Code §127.621 shall be submitted to the appropriate Regional Office responsible for issuing general permits in the county in which the diesel-fired internal combustion engine is, or will be, located. As required under 25 Pa. Code §127.621(b), the application shall be either hand delivered or transmitted by certified mail return receipt requested.

The permittee shall not construct a new source under the Diesel Engine(s) General Permit until and unless the appropriate Regional Office is notified that construction is to be conducted and written authorization to construct is received. The fees described in Condition 13 shall accompany the notification of construction.

This Diesel Engine(s) General Permit may be used by a new source owner or operator to authorize operation provided that the Department receives written notice from the permittee of the completion of construction and the intent to commence operation at least five (5) working days prior to completion of construction.

The permittee shall notify the Department, in writing, within 24 hours of the discovery of any malfunction during a business day or by 5:00 p.m. on the first business day after a weekend or holiday of any malfunction of the diesel-fired internal combustion engine(s) which results in, or may result in, the emission of air contaminants in excess of the limitations specified in, or established pursuant to, any applicable rule or regulation contained in *25 Pa. Code*, Subpart C, Article III (relating to air resources).

7. Emissions Limits for Diesel Engines:

- a. Any diesel engine for which construction commenced prior to July 1, 1972: any diesel engine(s) operated under this general permit may not, at any time, result in the emission of:
 - i. Visible emissions in excess of the limitations specified in *25 Pa. Code* §123.41 (relating to limitations) as follows:
 - A. Equal to or greater than 20% for a period or periods aggregating more than three (3) minutes in any one (1) hour; and
 - B. Equal to or greater than 60% at any time.
 - ii. Particulate matter in excess of 0.04 grain per dry standard cubic foot (dscf), when the effluent gas volume is less than 150,000 dry standard cubic feet per minute as specified in *25 Pa. Code* §123.13 (c)(1)(i). Compliance with Condition 7.a.i. will be considered demonstration of compliance with the above particulate matter emission requirement of 0.04 grain per dscf.
 - iii. Sulfur oxides in such a manner that the concentration of sulfur oxides, expressed as SO₂, in the effluent gas exceeds 500 parts per million by volume, dry basis. Compliance with sulfur content of the diesel fuel of 0.3% (by weight) or less would ensure compliance with this requirement.
 - iv. Odor emissions in such a manner that the malodors are detectable outside the property of the permittee as specified in *25 Pa. Code* §123.31.
- b. Any diesel engine for which construction commenced on or after July 1, 1972 and best available technology requirements have not been previously established:
 - i. If the diesel-fired internal combustion engine has an engine rating greater than 100 brake horsepower, the engine shall, at a minimum, comply with a Total Hydrocarbon (THC) emission standard of 1.0 gm/bhp-hr.
 - ii. If the diesel-fired internal combustion engine is equal to or greater than 200 brake horsepower and number of hours of operation of engine are equal to or greater than the hours per year listed in the following table, then the engine shall be installed with NO_x control device with a minimum of 80% NO_x control efficiency.

Facilities Located in the “Severe” Ozone Non-Attainment Area

Engine Rating (BHP) >	Engine Rating (BHP) ≤	Actual Annual Operating Hours ≥
200	500	2,000
500	1,000	700
1,000	-----	500

Facilities Located in “Moderate” (or lower classified) Ozone Non-Attainment Areas

Engine Rating (BHP) >	Engine Rating (BHP) ≤	Actual Annual Operating Hours ≥
200	250	7,000
250	500	4,000
500	750	1,700
750	1,000	1,500
1,000	1,500	1,100
1,500	2,000	750
2,000	-----	500

If NO_x emissions from engine(s) are controlled using control technology that uses ammonia or urea as a reagent, then the company shall limit the exhaust ammonia slip at 10 ppmvd, or less corrected at 15% O₂.

All other diesel engines shall at a minimum comply with the NO_x emission standard of 6.9 gms/hp-hr.

- iii. If the diesel-fired engine is equal to or greater than 100 brake horsepower and number of hours of operation of engine are equal to or greater than the hours per year listed in the following table, then the engine shall be installed with CO Oxidation Catalyst control device with a minimum of 90% control efficiency.

Engine Rating (BHP) >	Engine Rating (BHP) ≤	Actual Annual Operating Hours ≥
100	150	4,800
150	250	2,800
250	500	1,850
500	750	1,200
750	1,000	950
1,000	1,500	700
1,500	2,000	670
2,000	2,500	500
2,500	-----	100

All other diesel engines shall at a minimum comply with CO emission standard of 2.0 gms/bhp-hr.

- iv. The sulfur content in diesel fuel shall not, at any time exceed 0.3 percent (by weight).
- v. The particulate matter emissions from each engine shall not exceed 0.4 gms/bhp-hr.

- vi. Visible emissions from diesel engine(s) stacks shall not exceed the following limitations:
 - A. Equal to or greater than 10% for a period or periods aggregating more than three (3) minutes in any one (1) hour; and
 - B. Equal to or greater than 30% at any time.
- vii. Odor emissions in such a manner that the malodors are detectable outside the property of the permittee as specified in *25 Pa. Code* §123.31.

8. Performance Testing:

- a. For a new diesel-fired internal combustion engine installed in accordance with Conditions 2 and 7.b. and which has a rated capacity equal to or less than 500 brake horsepower, vendor guarantees shall be sufficient to fulfill this requirement. However, the Department reserves the right to require an additional verification of emission rates which may include source testing in accordance with applicable provisions of *25 Pa. Code* Chapter 139 (relating to sampling and testing) or portable exhaust gas analyzers approved by the Department if the NO_x emissions from the facility including the proposed diesel engines are equal to or greater than:
 - i. 22.5 tons per year if the facility is located in severe ozone non-attainment areas; and
 - ii. 90 tons per year if the facility is located in any other area than those listed above in 8.a.i.
- b. For a new internal combustion engine installed in accordance with Conditions 2 and 7.b. and which has a rated capacity greater than 500 brake horsepower, within 180 days of receiving authority to construct under this general permit, the permittee shall perform stack testing in accordance with *25 Pa. Code* Chapter 139.
- c. In addition to the stack testing required by this condition, within 12 months after the initial stack testing, and annually thereafter, the permittee shall perform NO_x emissions tests upon each of the respective engines subjected to the BAT as stated in Condition 7.b. herein using a portable analyzer approved by the Department. The Department may alter the frequency of annual portable analyzer tests based on the results. The Department may also waive all or parts of this requirement if the permittee demonstrates compliance, in lieu of testing, through alternate means satisfactory to the Department.
- d. The Department reserves the right to require stack tests in accordance with EPA reference methods should the data from the portable analyzer warrant such tests. The purpose of this testing is to demonstrate compliance with the emission limitations required for new engines.
- e. The Department may accept the vendor guarantees or recent on-site test data on similar engines, or any other means approved by the Department as a verification of NO_x emission if the NO_x emissions from a diesel engine located in severe non-attainment area for ozone are less than 2.5 tons per year or 10 tons per year if a diesel engine is located in areas other than severe non-attainment for ozone.
- f. If performance stack tests are required for the demonstration of compliance with applicable emissions limits, the owner or operator of the affected facility shall comply with the following requirements:

- i. Within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but no later than one hundred eighty (180) days after the initial startup of the source and the owner or operator shall demonstrate compliance with the applicable emission limits.
- ii. At least sixty (60) days prior to the test, the company shall submit to the Department for approval the procedures for the test and a sketch with dimensions indicating the location of sampling ports and other data to ensure the collection of representative samples.
- iii. At least thirty (30) days prior to the test, the Department shall be informed of the date and time of the test.
- iv. Within sixty (60) days after the source test(s), two copies of the complete test report, including all operating conditions, shall be submitted to the Department.

9. Monitoring, Recordkeeping and Reporting:

- a. The permittee shall maintain accurate records, which, at a minimum, shall include:
 - i. The number of hours per calendar year that each engine or piece of equipment operated using non-resettable hour meter.
 - ii. The amount of fuel used per calendar year in each engine or piece of equipment.
- b. When a new diesel-fired internal combustion engine is installed in accordance with Conditions 2 and 7.b and is required to conduct a performance test, the permittee shall maintain records or report the following:
 - i. Records including a description of testing methods, results, all engine operating data collected during the tests and a copy of the calculations performed to determine compliance with emission standards.
 - ii. Copies of the report that demonstrates that the engines were operating at rated brake horsepower and rated speed conditions during performance testing.
 - iii. Submittal of reports in accordance with the requirements and schedules outlined in this Diesel Engine(s) General Permit.
- c. These records shall be retained for a minimum of five (5) years and shall be made available to the Department upon request. The Department reserves the right to expand the list contained in this condition as it may reasonably prescribe pursuant to the provisions of Section 4 of the Pennsylvania Air Pollution Control Act (35 P. S. §§4004), and as it may deem necessary to determine compliance with any condition contained herein.

10. Small Sources of NO_x requirements:

Each diesel engine rated at greater than 1,000 brake horsepower and located in severe non-attainment area for ozone shall comply with small sources of NO_x requirements as established in 25 Pa. Code §§129.203 through 129.205.

11. Interstate Pollution Transport Reduction Requirements:

Each diesel engine rated equal to or greater than 3,000 brake horsepower that emitted greater or equal to 153 tons of NO_x from May 1 through September 30 in 1995 or from May 1 through September 30 of any year thereafter shall comply with the applicable requirements as established in 25 Pa. Code §§145.11 through 145.115.

12. Term of Authorization to Use Diesel Engine(s) General Permit:

Authority to operate under this Diesel Engine(s) General Permit is granted for a fixed term of five (5) years. The Department will notify each applicant, by letter, when authority to operate under this general permit is granted.

Authority to operate Diesel Fired Engine(s) required to operate any portable nonmetallic mineral processing plants under this Diesel Engine(s) General Permit is granted for no longer than 24 months if it is temporarily located at construction sites. Authority to operate the same plant beyond 24 months would require a new authorization, in writing, from the Department.

13. Permit Fees:

The Diesel Engine(s) General Permit establishes the following application and renewal fees payable every five (5) years if no equipment changes occur:

Three hundred seventy five dollars.

An additional application fee as indicated above is required each time the permittee installs or modifies a diesel-fired internal combustion engine. The installation or modification of a diesel-fired internal combustion engine must be conducted according to the terms and conditions of this general permit. Two (2) or more diesel-fired engines may be installed under a single plan approval fee.

14. Expiration and Renewal of Authorization to Use Diesel Engine(s) General Permit:

The permittee's right to operate under this Diesel Engine(s) General Permit terminates on the date of expiration of the authorization to operate under this permit unless a timely and complete renewal application is submitted to the Department 30 days prior to the permit expiration date.

Upon receipt of a complete and timely application for renewal, the diesel-fired internal combustion engines may continue to operate subject to final action by the Department on the renewal application. This protection shall cease to exist if, subsequent to a completeness determination, the applicant fails to submit by the deadline specified in writing by the Department any additional information required by the Department to process the renewal application.

The Diesel Engine(s) General Permit application for renewal shall include: the identity of the owner or operator; location of the diesel-fired internal combustion engines; current permit number; description of the engines and equipment located at the facility; information regarding previously imposed limitations; the appropriate renewal fee listed in Condition 13; and, any other information requested by the Department. At a minimum, the permit renewal fee shall be submitted to the Department at least 30 days prior to the expiration of the Diesel Engine(s) General Permit.

15. Applicable Laws:

Nothing in this Diesel Engine(s) General Permit relieves the permittee of its obligation to comply with all applicable Federal, state, and local laws and regulations.

16. Prohibited Use:

Any stationary air contamination source that is subject to the requirements of 25 Pa. Code Chapter 127, Subchapter D (relating to prevention of significant deterioration), 25 Pa. Code Chapter 127, Subchapter E (relating to new source review), 25 Pa. Code Chapter 127, Subchapter G (relating to Title V operating permits), or 25 Pa. Code §129.91 (relating to control of major sources of NO_x and VOCs) may not operate a diesel-fired internal combustion engines under this Diesel Engine(s) General Permit. Title V facilities may use this Diesel Engine(s) General Permit as a plan approval when the major new source review and prevention of significant deterioration review requirements are not applicable.

17. Transfer of Ownership or Operation:

The permittee may not transfer the authorization to operate diesel engine(s). New owners or operators shall submit a new application and fees as described in Condition 13.

18. Department and Municipality Notification:

The permittee shall notify the Department and the municipality prior to relocation of any diesel-fired engine(s) used for operating a portable nonmetallic mineral processing plant as required under 25 Pa. Code §127.641(b)(2). The notification for relocation of any diesel-fired engine(s) to the Department and the municipality shall be either hand delivered or transmitted by certified mail return receipt requested as required under 25 Pa. Code §127.641(c).

19. Start-up and Shut-down Exclusion:

The emission limitations stated in Condition 7 of this General Permit shall apply at all times except during periods of start-up and shut-down, provided, however, that the duration of start-up and shut-down do not exceed one hour per occurrence.

20. Emission Limitations and/or Operating Requirements Previously Established Pursuant to Best Available Technology and/or Imposed to Give Synthetic Minor Status:

This Diesel Engine(s) General Permit cannot be used to vacate or reestablish best available technology or other emission limitations or requirements established through the air quality permitting process. Also, this General Permit was not intended to establish a new best available technology or other emissions limitations previously established through the air quality permitting process. The Department shall memorialize these limitations in the letter of authorization granted in accordance with Condition 2.

Note: A permittee may choose to apply for a plan approval for an engine in lieu of this general plan approval. If this option is chosen the applicable requirements shall be determined on a case-by-case basis.

Approved by: _____
Joyce E. Epps
Director
Bureau of Air Quality

Date Approved: March 17, 2005