Large Noncoal Surface Mining: Permitting Summary

Birdsboro Materials

H&K Group, Inc.

Union Township
Berks County, Pennsylvania

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The following provides a summary of the permitting process for a large noncoal surface mining permit application. The application is made up of twenty-four (24) modules which each address specific aspects of the operation. The summary below outlines the topics addressed, within each module, and addresses the specifics that would be involved in an expansion of the existing permit at Birdsboro Materials.

Module 1: Application – Large Noncoal Industrial Minerals Mine Permit (Form 5600-PM-BMP0315-1)

This module is the general application for the permitting process and provides applicant information, type of application whether new, modification, renewal, transfer, etc., locational information, areas of operations, municipal permit coordination, application fees, consultant information, land use information pertaining to zoning, etc., public notice information, recognition of PaDEP mandated setback per Chapter 77 and Pennsylvania Natural Diversity Index (PNDI) coordination information.

Module 2: NPDES Information (Form 5600-PM-BMP0315-2)

This module details the specifics of the permit's surface water discharge points, specifically the National Pollutant Discharge Elimination System (NPDES) permit. Information provided identifies whether the discharge permit is a general permit (typically non-HQ or EV watersheds) or individual permit (typically HQ or EV watersheds).
High Quality (HQ) watersheds and/or Exceptional Value (EV) watersheds are special protection water sheds requiring greater protections to the receiving stream/watershed than that of a traditional watershed like Cold Water Fishes (CWF), Warm Water Fishes (WWF), Trout Stocking (TSF), etc.

Module 3: Ownership Compliance Information (Form 5600-PM-BMP0315-3)

This module details information specific to corporate officers, principal shareholders and ownership interests related to the permittee. Information specific to any contractors performing day-to-day operations within the permit.

Module 4: Areas where Mining is Prohibited or Limited (Form 5600-PM-BMP0315-4)

This module is Reserved.

Module 5: Property Interest-Right of Entry (Form 5600-PM-BMP0315-5)

This module identifies properties within the permit area and properties within 1,000 feet of the limits of the permit boundary and links the property listing to a Property Interest Map.

Module 6: Environmental Resources Maps (Form 5600-PM-BMP0315-6)

This module identifies the items listed in Module 6 detailing topographic contours, surface water features, geologic test hole locations and information, geologic strata strike and dip, geologic faults, formational contacts, local and regional groundwater flow, background and proposed monitoring points, NPDES discharge points, etc. In addition, this mapping identifies property lines, buildings, oil and gas wells (if present), public and private cemeteries, public and private roadways, and other surface and subsurface manmade features. Refer to Module 6 for a complete listing of these features.

Module 7: Geology Information (Form 5600-PM-BMP0315-7)

This module details, via published information and on-site exploratory work, the geologic stratigraphy and structure, provides geologic logs of boreholes and monitoring wells, information specific to the overlying overburden and information, if specific to the site, related to karst geology and geologic units having the potential to host naturally occurring asbestos.

Module 8: Hydrology (Form 5600-PM-BMP0315-8)

This module provides background data, quantitative and qualitative, for monitoring wells, private water supply wells, streams, wetlands, etc. The data provides characterization of groundwater and surface water within and surrounding the operation. The module outlines the monitoring program that will be conducted during the life of the operation. The module also analyzes the hydrologic impact of the operation via groundwater modeling and details the method to review and address replacements in the event a water supply is impacted by operations.

Module 9: Operations Map (Form 5600-PM-BMP0315-9)

This module identifies the items listed in Module 9 detailing many of the features illustrated on the Environmental Resources Map in addition to phases of mining, highwall/bench development, water treatment facilities, overburden storage areas, haul roads, processing facilities and stockpile areas, etc.

Module 10: Operations Information (Form 5600-PM-BMP0315-10)

This module is keyed to the Operations Map and identifies the equipment and operational plan, pit configuration, structures typical of impoundments, stream crossing facilities, etc, sequence of operations related to accomplishing the final reclamation plan, identification of any and handling procedures for any toxic materials (if any), management of exploratory boreholes and monitoring wells during progression of mining, access to public highways, presence of public parks and/or historic features, utilities and computations pertaining to the required bonded areas and amounts.

Module 11: Incidental Coal Extraction (Form 5600-PM-BMP0315-11)

This module is not applicable at Birdsboro Materials.

Module 12: Erosion and Sedimentation Controls (Form 5600-PM-BMP0315-12)

This module details the erosion and sedimentation control facilities which will be utilized to control disturbed areas within the permit area. Typical facilities at Birdsboro Materials are sediment traps, sediment basins and collection channels. The layout and configuration of haul roads is also addressed within this module.

Module 13: Impoundments/Treatment Facilities (Form 5600-PM-BMP0315-13)

This module addresses the design, use and implementation of quarry/pit sumps, dams and impoundments and Class C Dams. Birdsboro Materials currently is permitted to utilize a quarry/pit sump which collects any groundwater and surface water contributive to the quarry floor and identifies the volume required for the facility and the operation and maintenance requirements associated with the same. Birdsboro Materials currently, and in the in the future, will only have one impoundment, i.e., quarry/pit sump, which will be addressed by Module 13. Birdsboro Materials has no Class C Dams.

Module 14: Impoundments/Treatment Facilities (Form 5600-PM-BMP0315-14)

This module provides information specific to wetlands within the permit area and linked to a formal Wetland/Waters Delineation Report made part of the module submission. Information provided is related to the functions and values of the wetlands/waters, any potential stream crossings and/or wetland impacts, the permitting and mitigation measures related to said crossings/impacts, etc.

Module 15: Noncoal Underground Mines (Form 5600-PM-BMP0315-15)

There are no noncoal underground mines related to Birdsboro Materials.

Module 16: Large Noncoal Blast Plan (Form 5600-PM-BMP0315-16)

This module details the specifics of the operations blast plan and incorporates the approved blast plan as part of the module.

Module 17: Air Pollution and Noise Control Plan (Form 5600-PM-BMP0315-17)

This module provides information pertaining to air quality control measures related to processing facilities like crushers, screens, and conveyors as well as on-site ground level emission sources like haul roads, access roads, drilling operations, overburden management, stockpiles, etc. Identification of the air quality permits for the operation are included within this module.

Module 18: Land Use and Reclamation Map (Form 5600-PM-BMP0315-18)

This module identifies the items listed in Module 9 detailing many of the features illustrated on the Environmental Resources Map and Operations Map and, more specifically, permanent erosion and sedimentation controls, find grade configuration, permanent revegetation cover types linked to Module 23, existing and proposed post-mining land uses, any structures proposed to remain post-mining, final drainage patterns, etc.

Module 19: Land Use-Vegetation (Form 5600-PM-BMP0315-19)

This module identifies existing land uses (pre-mining), vegetation and percent ground cover and protection/enhancement of fish and wildlife which is connected to the PNDI information provided in Module 1.

Module 20: Postmining Land Use and Reclamation (Form 5600-PM-BMP0315-20)

This module is keyed to the Land Use and Reclamation Map and identifies the proposed postmining land use and the final grading scenario whether it is approximate original contour (AOC) or an alternative to AOC.

Module 21: Topsoil-Subsoil (Form 5600-PM-BMP0315-21)

This module details the soil thickness and soil types of the on-site topsoil/overburden and a plan for removal, storage, and redistribution.

Module 22: Currently vacant within permitting framework

Module 23: Revegetation (Form 5600-PM-BMP0315-23)

This module provides specifics related to the soil testing plan for revegetation, temporary and permanent seeding specifications, plan for re-establishment of woody plants within the reclamation plan and plan to restore cropland, if applicable, in a manner that will achieve crop yield standards.

Module 24: Special Protection Waters (Form 5600-PM-BMP0315-24)

This module utilizes the Anti-degradation Supplement for Mining Permits for mining operations within Exceptional Value (EV) watersheds to identify the special protection waters, non-discharge alternatives evaluation, demonstration for maintaining and protecting existing water quality and use of anti-degradation best available combination of technologies (ABACT approved erosion and sedimentation facilities).

The objective of the module/supplement is to demonstrate the way the facility will operate and the manner in which the implementation of ABACT controls will ensure non-degrading discharges.

5600-PM-BMP0315-1 Rev. 1/2022

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING PROGRAMS

DEP USE ONLY
Date Received
Permit Number

LARGE NONCOAL (INDUSTRIAL MINERALS) MINE PERMIT APPLICATION

Before completing this form, read the step-by-step instructions provided with this Permit Application Package.

SECTION A. APPLICANT INFORMATION

Applicant Name

Mailing Address

(Street # and Name or P.O. Box)

(Address Line 2)

(City) (State) (Zip Code + Four)

Applicant Type

- ☐ Individual (INDIV)
- ☐ PA Corporation (PACOR)
- ☐ Non-PA Corporation (NPACO)
- ☐ General Partnership (PARTG)
- ☐ Limited Partnership (PARTL)
- ☐ Municipality (MUNI)
- ☐ Sole Proprietorship (SOLEP)
- ☐ Other (OTHER)

(Telephone #) Ext. (Email Address)

Surface Mining Operator's License #

☐ Pending

Applicant Contact

(Last Name) (First Name) (MI)

(Title)

Mailing Address ☐ **Check here if the address is the same as listed above**

(Street # and Name or P.O. Box)

(City) (State) (Zip Code + Four)

(Email Address) (Telephone #)

SECTION B. DESCRIPTION OF ACTIVITY

Application Type

☐ New ☐ Revision/Modification ☐ Renewal ☐ Transfer Permit Number _____

Type of Mining Activity(ies)

☐ Surface Mining ☐ Underground Mining (Includes Surface Effects of Underground Mining) ☐ Incidental Coal Extraction

☐ Other (specify)

SECTION C. SITE INFORMATION

Operation/Site Name

Operation/Site Location

County(ies) Municipality(ies)

SECTION C. (continued)

Operation/Site Location

U.S.G.S. Map Name(s) _____

Map Coordinates (center of proposed permit area)

Latitude ____ ° ____ ′ ____ ″ Longitude ____ ° ____ ′ ____ ″

Method of latitude/longitude collection _____

Horizontal accuracy (feet/inches) _____

Horizontal Reference Datum

- ☐ N.Am. 1927
- ☐ N.Am. 1983
- ☐ World Geodetic 1984

Name or route number of nearest state/township road and a description of the location of the road that provides access to the operation _____

Name(s) of receiving stream(s) and Chapter 93 Classification

MSHA Mine I.D. No

Extent of Mining

Mining Area

List Rock/Mineral to be Mined (Include topsoil/overburden to be sold)	Acres of Rock/Mineral Removal

Total surface acres to be affected by rock/mineral removal _____

Total underground acres to be affected by rock/mineral removal _____

Permit Area (total acres of mining and support) _____

Remining

Total acres of abandoned mine land (i.e., open pits, refuse/spoil piles, surface area affected by underground mining) to be reaffected. _____

Processing Facility

Total acres to be affected _____

Wetlands

Total acres of wetland to be affected by mining _____

Total acres of wetland to be replaced _____

SECTION D. PERMIT COORDINATION

1. Will this noncoal mining project involve the crushing and screening of noncoal minerals other than sand and gravel? ☐ Yes ☐ No

2. Will this noncoal mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations (crushing and/or screening) processing unconsolidated materials with a rated capacity of less than 150 tons/hour? ☐ Yes ☐ No

3. Will this noncoal mining project involve the construction, operation and/or modification of a portable mineral processing plant? ☐ Yes ☐ No

4. Will underground tanks for storage of fuel or chemicals be located within the proposed permit area? ☐ Yes ☐ No

SECTION E. APPLICATION FEE

Refer to the DEP web page "Fees Associated with Mining Activities" to calculate the appropriate fee for the application package.
https://www.dep.pa.gov/Business/Land/Mining/BureauofDistrictMining/Pages/Fees.aspx

Total Fee submitted: $_____
Description of total fee included (new permit + NPDES permit, etc.): _____

Additional fees may be required for water obstructions, stream modifications, and dams. Contact the DMO to discuss.

SECTION F. CONSULTANT

_____ (Last Name) _____ (First Name) _____ (MI)

_____ (Title) _____ (Name of Consulting Firm)

Mailing Address

_____ (Street # and Name or P.O. Box)

_____ (City) _____ (State) _____ (Zip Code + Four)

_____ (E-mail Address) ( ) - _____ (Telephone #)

SECTION G. LAND USE INFORMATION

Complete the following for new permits and major revisions that include new surface area.

1. Is there an adopted county or multi-county comprehensive plan? ☐ Yes ☐ No
2. Is there an adopted municipal or multi-municipal comprehensive plan? ☐ Yes ☐ No
3. Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal ordinance? ☐ Yes ☐ No

If "Yes" is answered to questions 1, 2, or 3, complete 4, 5, and 6.

4. Does the project meet the provisions of the zoning ordinance or does the proposed project have zoning approval? ☐ Yes ☐ No
5. Applicants are encouraged to submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances. Have you submitted local municipal and county approval letters* for this mining project with this permit application? ☐ Yes ☐ No

   (If yes, please attach the local municipal and county approval letters.)
6. Have you addressed any concerns from the local municipal and county prior to submitting the application to the Department? ☐ Yes ☐ No

   (If yes, please attach all correspondence addressing the concerns.)

* If Municipal and County Land Use Letters are not included, the applicant should demonstrate that they attempted to obtain the letters. A copy of correspondence sent by the applicant via Certified Mail to the municipality (addressed to the municipal secretary with a copy to the township supervisor chair) and to the county (addressed to the county planning office with a copy to the county commissioners) to request Municipal and County Land Use Letters within 30 days of receipt should be included with this form.

SECTION H. ADDITIONAL RELATED INFORMATION

Name and Address of Public Office where a copy of this application is on file for public review.

Have arrangements been made to publish notice of this application in a local newspaper of general circulation in the locality of the proposed mining activities? ☐ Yes ☐ No

Name of newspaper where the public notice advertisement will appear: _____

Attach a copy of the proposed public notice (see instructions for sample notice containing suggested wording and content).

Provide the following (if applicable to this proposed operation):

Pre-Application No. _____

Notice of Intent to Explore No. _____

Application Date: _____

Restricted areas:

Are mining activities proposed in any of the following restricted areas? If yes, include a demonstration as required under 25 Pa. Code §77.504 (b)

☐ Yes ☐ No Areas within 300 feet from any occupied house or commercial or industrial building. If yes, include all waivers.(Form 5600-FM-BMP0460)

☐ Yes ☐ No Areas within 100 feet of the outside right of way of a public road or a relocation of a public road. If Yes, provide details in Module 10.12.

☐ Yes ☐ No Areas within 300 feet of any public building, school, church, community, or institutional building.

☐ Yes ☐ No Areas within 100 feet of a cemetery or burial ground.

☐ Yes ☐ No Areas within 100 feet of the bank of a perennial or intermittent stream. If Yes, provide details in Module 14.1.

☐ Yes ☐ No Areas within 125 feet of a permitted or registered oil or gas well. If Yes, provide details in Module 10.9.

☐ Yes ☐ No Areas within 300 feet of a public park.

Are mining activities proposed in any of the following additional restricted areas? If yes, consult with the designated agency or entity prior to submittal of this application. Include any applicable correspondence.

☐ Yes ☐ No Areas designated or petitioned to be designated included in a petition, which has been accepted for review by the Department, for designation as unsuitable for mining.

☐ Yes ☐ No Areas within the boundary of the Allegheny National Forest. If Yes, approval is required from U.S. Department of Interior.

☐ Yes ☐ No Areas within the boundary of a State Park, State Forest, or State Wild and Scenic River System. If Yes, approval is required from Pennsylvania Department of Conservation and Natural Resources.

☐ Yes ☐ No Areas within the boundary of a State Game Land. If Yes, approval is required from Pennsylvania Game Commission.

☐ Yes ☐ No Areas within the boundaries of the National Park System, the National Wildlife Refuge System, the National System of Trails, the National Wilderness Preservation System, and the Wild and Scenic Rivers System.

☐ Yes ☐ No Areas within a watershed designated as "Special Protection" pursuant to 25 Pa. Code Chapter 93. If Yes, provide the "Anti-Degradation Supplement for Mining Permits" (Form No. 5600-PM-BMP0007)

☐ Yes ☐ No Areas within the right-of-way any type of utility line or within 100 feet of an underground utility line. If Yes, provide details in Module 10.14.

PNDI Review:

Utilize the Pennsylvania Natural Diversity Index (PNDI) (https://conservationexplorer.dcnr.pa.gov/) to determine if any threatened or endangered species and/or critical habitats exist in proximity to the proposed mining activities. Provide a copy of the PNDI receipt and any copies of correspondence with state or federal agencies regarding the PNDI review. If any threatened or endangered species or critical habitats are identified on the PNDI receipt, then provide details in Module 19.3.

PNDI Receipt Number: _____

PHMC Review:

This project must be submitted for review to the PA State Historic Preservation Office using the PA-SHARE online tool at https://share.phmc.pa.gov/pashare/landing.

Project Number Assigned by PHMC: _____

Attach all correspondence received from PHMC. ☐

Are any cultural or historic resources listed on the National Register of Historic Places located within or adjacent (within 1000 ft.) to the proposed permit area? ☐ Yes ☐ No

Are any publicly owned parks located within or adjacent (within 1000ft.) to the proposed permit area? ☐ Yes ☐ No

Are any significant archaeological sites located within or adjacent (within 1000ft.) to the proposed permit area? ☐ Yes ☐ No

If Yes to any of the three questions above, provide details in Module 10.13

SECTION I. AFFIDAVIT (§77.107)

Commonwealth of Pennsylvania, County of _____

I, _____ 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

_____ Day of _____ (month) _____ (year)

_____
Signature of Applicant or Responsible Official

_____
Notary Public

_____
Name (Typed)

_____
Title and Seal

_____
Address

Address

PERSON(S) AUTHORIZED BY APPLICANT TO PREPARE THIS APPLICATION

The application, plans, reports and specifications shall be certified by a registered professional engineer, registered professional geologist or registered professional land surveyor, as appropriate. Geologic and hydrogeologic information must be certified by a registered professional geologist. Impoundments requiring a 25 Pa Code Chapter 105 permit or having a storage capacity of equal to or greater than 20 acre-feet; and final contours/grading other than approximate original contour in conjunction with achieving an alternate postmining land use must be certified by a registered professional engineer. Impoundments which do not require a Chapter 105 permit or have a storage capacity of less than 20 acre-feet must be certified by a registered professional engineer or a registered professional land surveyor.

Registered Professional Engineer

I, _____ do hereby certify to the best of my knowledge, information and belief, that the application, plans, specifications and reports have been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I further certify that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____

Address _____ Seal

_____

Telephone No. _____

Registered Professional Geologist

I, _____ do hereby certify to the best of my knowledge, information and belief, that the application, plans, specifications and reports have been prepared in accordance with accepted practice of geology and hydrology, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I further certify that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____

Address _____ Seal

_____

Telephone No. _____

Registered Professional Land Surveyor

I, _____ do hereby certify to the best of my knowledge, information and belief, that the application, plans, specifications and reports have been prepared in accordance with accepted practice of land surveying and engineering land surveys, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I further certify that it is within my professional expertise to verify the correctness of the information. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____

Address _____ Seal

_____

Telephone No. _____

APPLICATION FORM CERTIFICATION

Complete the following if the application is submitted on forms other than the original Department Forms.

Registered Professional Engineer, Registered Professional Land Surveyor or Registered Professional Geologist

I, _____ ; being a registered professional

(Engineer's/Surveyor's/Geologist's Name - Print or Type)

engineer/registered professional land surveyor or registered professional geologist (circle as appropriate) do hereby certify that the forms used in the accompanying application have been reproduced under my supervision and are a facsimile of the forms prepared by the Department. I am aware that there are significant penalties for altering the content of the Department's forms, including the possibility of fine and imprisonment.

Signature _____ Date _____ Seal

NPDES No. PA _____
(for Department Use Only)

Module 2: NPDES Information

A National Pollutant Discharge Elimination System (NPDES) permit is needed for all mining permits. Application for an NPDES permit can be made at the same time as the mining permit using the options described below.

Please check which option is being used for this permit.

☐ **1. Coverage under General Permit BMR GP-104** (Document No. 5600-PM-MR0388).

This type of NPDES coverage is applicable for non-special protection watersheds where the only potential discharge to surface waters of the Commonwealth will be composed entirely of **stormwater**, in which the main potential pollutant is sediment. To apply for coverage under GP104, complete the Notice of Intent form no. 5600-PM-MR0008 and submit it with this mining permit application.

☐ **2. Individual NPDES Permit**

An individual NPDES permit is applicable for those sites that have any one of the following characteristics:

- Permit area is in a special protection watershed (HQ/EV).
- The permit specifies a discharge of treated water (beyond simple containment of stormwater runoff), mine drainage treatment facilities discharge, process water or pumped groundwater.
- Discharge authorization does not qualify under the GP-104.

To apply for coverage under an individual NPDES permit associated with mining activities, complete form no. 5600-PM-BMP0032: APPLICATION FOR INDIVIDUAL NPDES PERMIT ASSOCIATED WITH MINING ACTIVITIES

☐ **3. Other Option**

Check here if another option is chosen and provide an explanation: _____

_____

_____

_____

_____

Module 3: Ownership/Compliance Information

Instructions: Provide the following information on an 8½ x 11 sheet of paper. Attach the page(s) to this Module and identify as *Exhibit 3: Ownership/Compliance Information.* Use Module number, letter, and heading to identify information.

If applicant is currently a licensed mine operator or has submitted an application for mine operators license to the Department, provide only contractor information requested in Module 3.2, if applicable. The ownership and compliance information will be generated by the Department from information on file with the Department (in eFACTS) for a licensed mine operator or a mine operator that has submitted an application for mine operators license. That information will be made part of this Module.

3.1 Ownership Interest. [§77.162] Identify whether the applicant is a single proprietorship, corporation, partnership, association, or other business entity. For businesses other than single proprietorships provide the following:

a) name and address of every officer, partner, director, or other person performing a function similar to a director of the applicant;

b) name and address of any person who is a principal shareholder of the applicant; (**Note:** A principal shareholder is any person who is the legal owner of ten percent or more of any class of voting stock) and,

c) names under which the applicant, partner, or principal shareholder previously operated a mining operation in Pennsylvania and the United States within the five years preceding the date of this application.

d) the name, address and phone number of the resident agent of the applicant who will accept service of process.

3.2 Contractor. [§77.162(a)(iii)] If a contractor or contractors will be conducting the operation provide the name, address, and telephone number of the contractor and if the contractor is a business entity other than a single proprietor, provide the names and addresses of the respective principals, officers, and resident agents.

Module 4: Areas Where Mining is Prohibited or Limited
[§§77.126 & 77.504]

RESERVED

Module 5: Property Interests/Right of Entry

Instructions: Provide the following information on an 8 1/2" x 11" sheet of paper. Attach the page(s) to this module and identify as Exhibit 5: Property Interests/Right of Entry. Identify the module number and letter (e.g 5.1c) on the attached page(s). Each owner name listed in this module must be exactly the same as the name is identified on the maps and other documents.

5.1 Permit Area. [§77.163] For each parcel of land within the permit area provide the following information: (identify each parcel and key to maps.)

a) the names and addresses of every legal or equitable owner of record; the holders of record of any leasehold interest; and any purchaser of record under a real estate contract of the surface property to be affected by surface operations and facilities and of the mineral to be mined;

b) the documents on which the applicant bases the legal right to enter and commence noncoal mining activities and whether that right is subject of pending court litigation; and

c) a Consent of Landowner Form "Supplemental C" Form 5600-FM-MR0050 when applicable (indicate whether the Form is contained in this application or will be submitted with successive bonding phases – if Consent of Landowner is not applicable, indicate reasons.)

5.2 Contiguous Area. [§77.410(a)(1)] For each parcel of land contiguous to the permit area provide the names of the owners of record of the surface. (Identify each parcel and key to maps.)

5.3 Adjacent Area. [§ 77.410(a)(3)] For each parcel of land within 1,000 feet of the permit area provide the name of the owner of record of the surface property. (Identify each parcel and key to maps.)

Module 6: Environmental Resources Maps

6.1 *U.S.G.S. Map. [§77.104]*

Provide a 7 1/2 minute U.S.G.S. topographic map (latest edition) delineating the proposed surface mine permit area and NPDES discharge points. Identify the map as Exhibit 6.1. (Note: Reproductions or maps obscured by identification keys will not be accepted.)

6.2 Environmental Resource *Map. [§77.410]*

Provide a map or plan that includes the permit area and the area within 1000 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 Modules 9 and 18. Identify the map plan as Exhibit 6.2 Environmental Resources 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. A registered professional geologist must certify the geology-related information of items m), n), o), and p). 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 this item. Please provide the permit number (if it has been assigned) or a space for it in the title block.

- ☐ a) topographic contours (contour intervals of 20 feet or less)
- ☐ b) proposed permit area
- ☐ c) surface water bodies such as streams, lakes, ponds, springs, wetlands, mine discharges and constructed or natural drains (include restricted and 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 names of the owners and present occupants, and the current use. Show restricted or variance areas)
- ☐ f) man-made features such as public highways, railroads, utility lines including right-of-ways or easements and other surface and subsurface manmade 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 proposed permit area (include the name of the well owner/operator and well permit number. Show restricted or variance areas.)
- ☐ h) public or private cemeteries or Indian burial grounds (include restricted areas)
- ☐ i) existing or previously surface-mined areas, and existing areas of spoil, waste, and processing waste disposal (key to Module 7.4 and show permit name on map)
- ☐ j) areal extent of active and abandoned underground mines and entries (Key to Module 7.4)
- ☐ k) solid waste disposal areas
- ☐ l) test hole locations (key to 7.1 b data)
- ☐ m) strata strike and dip or structure contours
- ☐ n) geologic faults
- ☐ o) formation contacts and coal croplines (when applicable)
- ☐ p) direction(s) of groundwater flow (local and regional)
- ☐ q) public and private water supplies (include type, elevation of all springs, and key to Module 8.2(a)(8))
- ☐ r) public water supplies within ½ mile of the permit area and those with Wellhead Protection Zone extending to the permit area. Show on Exhibit 6.1 if outside limits of Exhibit 6.2.
- ☐ s) background and proposed monitoring points (key to Module 8. 1A)
- ☐ t) NPDES discharge points
- ☐ u) landslide prone areas
- ☐ v) sinkhole development and known cave systems

Module 7: Geology Information
[§77.403-404]

7.1 Stratigraphy.

a) Rock Unit: Period (e.g., Lower Ordovician) _____

Formation (e.g., Rockdale Run) _____

b) Attach Geologic Logs of test holes or equivalent information on attached data sheet (test holes should be drilled to the ultimate depth of mining unless waived by the Department based on acceptable equivalent information). Log description must include the surface elevation of each hole submitted, lowest elevation of proposed excavation, elevation of static groundwater (method and date of measurement), lithologic description, location and extent of voids and thickness of strata encountered. Drill holes, highwall sections, or equivalent information should be located to represent the thickness of mineral and overburden to be disturbed in areas of maximum thickness.

c) Provide stratigraphic correlation of the strata by geologic cross sections or fence diagrams to include lithology, stratigraphy, existing ground surface, proposed mining limits, proposed benching, final reclamation slopes, postmining water table, aquifers to be encountered or affected, directions of groundwater movement and underground mines and cave systems. [Horizontal scale shall not be smaller than the scale of Exhibit 6.2 (i.e. not less than 1 inch:400 feet, or 1 inch:200 feet), larger scales are acceptable (e.g. 1 inch:100 feet)]

7.2 Structure.

a) Describe the local geologic structure and its relationship to the regional structure. Use diagrams and regional structural relief maps where applicable.

7.3 Indicate joint and fracture orientations on the Module 6.2 map (or Module 6.1 if locations not within limits of Module 6.2), using standard joint strike and dip symbols, where fracture/joint measurements were taken. Rose diagrams may be submitted if available.

Type of Joint Or Fracture*	Lithology	Number of Measurements	Depth Below Surface	Aperture (width)	Key to 6.2 (or 6.1)

*Type of Joint or Fracture refers to tectonic, stress relief, bedding plane, etc.

Source of information (site specific measurements, publication source, etc.) _____

_____

_____

NOTE: Operations in karst geology areas may be required to complete the *Karst Permitting Supplement* in addition to supplying this information.

7.1(B) GEOLOGIC LOG DRILL HOLES/OVERBURDEN ANALYSIS DATA

Hole No.: _____
(Key locations to Modules 6.2 and 9)
Surface Elevation: _____
Bottom Elevations: _____
_____
_____
Groundwater Elevations and Date Measured
_____ _____
_____ _____
Surveyed by: _____
Method: _____
Remarks: _____

Operation Name: _____
Method of Drilling: _____
Date Drilled: _____
Drilled By: _____
Logged By: _____
Township: _____
County: _____

Quadrangle: _____
Laboratory: _____
Latitude: ____° ____' ____." Longitude: ____° ____' ____."

Depth	Thick-ness	Scale	Graphic Log	Lithologic Description and Water Conditions	Overburden Analysis Logs*					
					Color or Munsell Code	OBA Sample Number	Log Interval	% Total Sulfur	Fizz Rating	Neutralization Potential
		10								
		20								
		30								
		40								
		50								
		60								
		70								

*When requested by the Department

7.1(B) GEOLOGIC LOG DRILL HOLES/OVERBURDEN ANALYSIS DATA - CONTINUED

Hole No.: _____ Operation Name: _____

Remarks:

Depth	Thick-ness	Scale	Graphic Log	Lithologic Description and Water Conditions	Overburden Analysis Logs*					
					Color or Munsell Code	OBA Sample Number	Log Interval	% Total Sulfur	Fizz Rating	Neutralization Potential

*When requested by the Department

7.4 Mine Workings and Solid Waste Sites.

Submit the following data on all active, completed and abandoned underground and surface mines and coal refuse disposal sites which are in or within 1000 feet of the permit area: (Key location to Modules 6.2, 9 and 18.)

Surface and Underground Mines

Operator	*Permit No.*	*Map Key*	*Status*	*Mineral*	*Water Sample No.(s)*

List the operator permit number, and type of any solid waste disposal sites in or within 1000 feet of the permit area.

7.5 Overburden Analysis.

Note: Typically overburden analysis is not required for noncoal mining operations. However, there are geologic conditions that may make overburden analysis necessary due to the potential for surface and/or groundwater pollution. Examples are mines in coal field strata that may be acid-forming, and sites where rock has undergone sulfide mineralization. The necessity for overburden analysis should be determined prior to permit application submittal. This can be done by contacting the appropriate District Mining Office.

The interpretation of overburden analysis should be provided in this Module. However, the operational plans for material placement should be provided in Module 10.

a) Overburden Analysis Report

The overburden analysis report must include at a minimum:

1) Geologic logs of overburden analysis test holes including Munsell color codes. This must include the information requested in Module 7.1b. Overburden holes must be logged by a geologist. Water condition information is the same as that requested in Module 7.1b. This information is to be presented on a completed Module 7.1(B) "Geologic Log Drill Holes/ Overburden Analysis Data."

2) An explanation of considerations employed in determining

   aa) drill hole spacing and number of holes,
   bb) sampling depth; and
   cc) sampling intervals of overburden analysis test holes.

3) A series of stratigraphic cross-sections or fence diagrams including all overburden analysis test holes, plus other representative test holes. The vertical scale must be sufficient to show all potentially acidic and alkaline zones and any zones proposed for special handling; a scale of one (1) inch to twenty (20) feet or greater is recommended. The stratigraphic correlations between overburden holes and other test holes must be shown. In addition, hydrogeologic information (such as water table, perched systems and so forth) should be portrayed.

4) Overburden holes accurately located on Exhibit 6.2. Overburden holes must be surveyed such that surface elevations and hole locations are accurately determined and plotted.

5) Results of the chemical analysis of all overburden strata and strata immediately below the lowest stratum being mined. Acid-base accounting data must be presented on Module 7.1(B) "Geologic Log Drill Holes/ Overburden Analysis Data." Actual laboratory analysis sheets may be submitted in addition to Module 7.1(B). Forms of sulfur (when submitted) should be submitted on a separate sheet.

6) Techniques and methods of chemical analyses. References pertaining to technique or method should be cited as appropriate (e.g. Sobek, and others 1978, p. 47-50; ASTM Method D2492-84) and where a standard method is not used or has been modified, the method used should be described in detail.

7) An identification of any stratigraphic units possessing the potential for significant acid or alkaline production and an overall interpretation of the overburden analysis data. The criterion and rationale by which the overburden is being judged must be explained.

8) The name, address and telephone number of the individual(s) responsible for the collection and analysis of the data and interpretation of the data.

7.6 Special Considerations.

a) Karst Geology. Operations sited within carbonate rock areas (e.g. limestone, dolostone) may be required to complete the *Karst Permitting Supplement* (5600-PM-BMP0456). [§ 77.404(5)]

b) Naturally Occurring Asbestos. Operations sited within areas that contain igneous and/or metamorphic rock types with the potential to host naturally occurring asbestos (NOA) may be required to complete the *Naturally Occurring Asbestos (NOA) Application Supplement*. (5600-PM-BMP0022). [§ 77.404(3)]

If the applicant is unsure if special considerations apply to an operation, please contact the respective District Mining Office.

7.1(B) GEOLOGIC LOG DRILL HOLES/OVERBURDEN ANALYSIS DATA

Hole No.: _____
(Key locations to Modules 6.2 and 9)
Surface Elevation: _____
Bottom Elevations: _____
_____
_____
Groundwater Elevations and Date Measured
_____ _____
_____ _____
Surveyed by: _____
Method _____
Remarks: _____

Operation Name: _____
Method of Drilling: _____
Date Drilled: _____
Drilled By: _____
Logged By: _____
Township: _____
County: _____
Quadrangle: _____
Laboratory: _____
Latitude: ____° ____' ____." Longitude: ____° ____' ____."

Depth	Thick-ness	Scale	Graphic Log	Lithologic Description and Water Conditions	Overburden Analysis Logs*					
					Color or Munsell Code	OBA Sample Number	Log Interval	% Total Sulfur	Fizz Rating	Neutralization Potential
		10								
		20								
		30								
		40								
		50								
		60								
		70								

*When requested by the Department

7.1(B) GEOLOGIC LOG DRILL HOLES/OVERBURDEN ANALYSIS DATA - CONTINUED

Hole No.: _____ Operation Name: _____

Remarks:

Depth	Thick-ness	Scale	Graphic Log	Lithologic Description and Water Conditions	Overburden Analysis Logs*					
					Color or Munsell Code	OBA Sample Number	Log Interval	% Total Sulfur	Fizz Rating	Neutralization Potential

*When requested by the Department

APPLICATION SUPPLEMENT
NATURALLY OCCURRING ASBESTOS (NOA)

Applicability: This supplement is applicable only for those operations where the permit area or areas in proximity contain igneous and/or metamorphic rock types (and their derived soils) with the potential to host *naturally occurring asbestos* (NOA).

The purpose of this application supplement to the noncoal permit application is as follows:

- Supply additional information about the geologic deposits (rock and soil) that exist within the permit area that have the potential to host NOA.
- Provide an assessment regarding the disturbance and possible emission of NOA into the atmosphere (as *fugitive dust*).
- Determine if the applicant needs to develop a monitoring plan in cases where NOA is known to be present or is potentially present.
- Determine if the applicant needs to develop a mitigation plan in cases where NOA is known to be present or is potentially present.

Submittal: This supplement must be prepared and submitted by a Pennsylvania-registered professional geologist (PG) with experience in NOA mineralogy and petrology.[1] If a site is determined to contain NOA, a *subject matter expert* (SME) may be required to establish appropriate monitoring protocols and engineering controls.

The operator is encouraged to consult with their respective Department of Environmental Protection (DEP) District Mining Office (DMO) prior to submitting this supplemental information. If the operator determines that NOA is known to exist or may exist on the site, a pre-application meeting is strongly encouraged prior to application submittal.

Definitions

"*Naturally occurring asbestos*" *(NOA)* is defined as, asbestos that is a natural component of soils or rocks as opposed to a commercially processed or manufactured asbestos containing material (such as insulation or pipe wrapping) that has been imported to a site.

"*Fugitive dust*" is defined in §77.1 as, "Particulate matter not emitted from a duct or stack which becomes airborne due to the forces of wind or surface noncoal mining activities, or both. During surface noncoal mining activities the term may include emissions from haul roads; wind erosion of exposed surfaces, storage piles, processing facilities and spoil piles; reclamation operations; and other activities in which material is either removed, stored, transported or redistributed."

"Subject matter expert" (SME) is defined as, a professional individual who possesses expert level knowledge of a particular discipline. This individual should hold professional licensure or accreditation (i.e. registered Professional Geologist (PG), registered Professional Engineer (PE), Certified Industrial Hygienist (CIH), or other qualified person). For the purposes of this supplement, expertise should be met through education and experience with respect to initial identification, testing/monitoring, and mitigation of NOA or asbestos.

[1] If the NOA expert is not a PA-registered PG then the applicant must supply the submittal through a licensed PG who has reviewed and approved the site-specific information.

Provide the following documentation and plans as specified.

1. **Naturally Occurring Asbestos (NOA) determination** [§§ 77.130, 77.404, 77.410]

   Select one of the following and attach a geologic assessment in support:

   ☐ NOA is not expected to exist within the proposed/existing permit and/or general area. No additional information for this supplement will need to be submitted.

   ☐ NOA may exist within the proposed/existing permit area based on the geologic setting. Provide the following additional items:

   a. Results of exploration and testing that was designed to detect NOA in the rock mass or in specific NOA-bearing zones. This may take the form of a qualitative geologic survey including exploration drilling, face sampling, geological mapping, etc.

   b. Include a petrographic analysis report (including microscopy).

   c. Explain the proposed monitoring program (Section 3).

   ☐ NOA is known to exist within the proposed/existing permit area. Provide the following additional items:

   a. Results of exploration and testing that was designed to detect NOA in the rock mass or in specific NOA-bearing zones. This may take the form of a qualitative geologic survey including exploration drilling, face sampling, geological mapping, etc.

   b. Include a petrographic analysis report (including microscopy).

   c. Explain the proposed monitoring program (Section 3).

   d. Explain the engineering controls to be utilized to control fugitive emissions (Section 4).

   e. Explain how NOA-containing material will be handled (Section 5).

2. **Proximity Assessment** [§§ 77.130, 77.455, 77.575]

   a. Indicate if any of the following are adjacent to the permit area. Supply distances or range of distance, and orientation to prevailing wind direction.

   - Residential areas
   - Commercial areas
   - Schools, parks, churches, or other community areas

   If none are adjacent, indicate the approximate closest distance of the nearest area listed above. (Data may be presented as a table.)

   b. Provide a map highlighting this information. The map should show at least the area within 1000 feet of the permit area and include relevant details from subsequent sections as applicable.

3. **Inspection and Testing Plan** [§§ 77.130, 77.352, 77.455, 77.575]

   a. For mine sites with potential or confirmed presence of NOA, attach the monitoring, testing, and inspection plans regarding NOA during operations and reclamation.

   b. Discuss the methodology to be used for the following measures, as applicable:

   - Rock sampling
   - Settled dust sampling
   - Property boundary air sampling
   - Discharge water sampling

4. **Mitigation Plan** [§§ 77.130, 77.596, 77.631]

   Describe the NOA mitigation plan to be implemented to minimize or control the possible liberation/migration of NOA into the atmosphere. Specify all Best Management Practices and Engineering Controls to be used.

5. **NOA-containing Material Handling Plan** [§§ 77.456]

   a. Provide a detailed plan for management of NOA-containing material.

   b. Discuss the activities regarding stabilization and fate of NOA-containing material or potential NOA-containing material (i.e. plant and/or pond fines). Describe proposed inspection and documentation plans for this material.

Module 8: Hydrology
[§§77.405-407, 77.457, 77.521]

8.1 Chemical Analysis.

Provide the following data, in accordance with 8.2 for each point in the background sampling and monitoring program and report on Module 8.1(A) (separate form).

a) pH (field & laboratory)

b) Total Suspended Solids (mg/l)

c) Total Dissolved Solids (mg/l) or Specific Conductance ($\mu S/_{cm}$ at 25°C)

d) Field temperature at sample source (°C).

e) Provide the following in addition to a) through d) above, if requested by the Department. *

Total Alkalinity (mg/l)
Total Acidity (mg/l)
Total Iron (Fe) (mg/l)
Total Manganese (Mn) (mg/l)
Sulfates (SO_4) (mg/l)

*If the proposed noncoal minerals to be mined are located within the coal fields or other known acid producing areas or a watershed sensitive to mining impacts, additional parameters may be required by the Department. Contact the appropriate District Mining Office prior to beginning sampling to determine if these parameters are needed.

f) Flows of perennial streams above and below the operation and surface and underground mine discharges must be measured by approved methods. In addition, other flows from springs, streams, seeps or other discharge points in the representative monitoring program should be measured to reflect seasonal variations. (The Department may waive sampling points if there is a representative sampling of the requested points.) The elevations and flows of springs, seeps, and mine discharges are required.

g) Provide a description of the type of sample point (e.g. well, spring, etc.) and its relationship to the mine site (e.g. up-gradient, perched aquifer, down-gradient).

h) Provide the name(s), address(es) and telephone number(s) of the individual(s) responsible for the collection and analysis of this data.

i) Provide a description of the methodology used to collect and analyze this data.

8.2 Background Sampling and Monitoring.

a) Background Sampling

Provide the results of the chemical analyses, as required by the Department, that characterize the water quality of sample points listed in 1) through 8). Background sampling points must have at least two (2) complete chemical analyses, at monthly intervals. All sampling points must be keyed to Exhibit 6.2 and identified in Module 8.1(A).

Note: *Include sample(s) from a low flow period.*

1) each stream that receives discharge, runoff or drainage from the operation.

2) streams, springs or wetlands that are representative of the surface and groundwater system of the general area.

3) springs, seeps and wetlands within the permit area and springs, seeps and wetlands within 1000 feet of the permit area.

4) impoundments within the permit area and impoundments within 1000 feet of the permit area.

5) impoundments, impoundment discharges, and discharges from backfilled areas associated with previous or current underground or surface coal mines within the permit area and within 1000 feet of the permit area.

6) discharges within the permit area resulting from underground mines and discharges resulting from underground mines that are within the permit area but discharge outside the permit area.

7) any monitoring wells developed to determine the characteristics of the groundwater. (The Department may require additional monitoring wells.)

8) private water supplies and water supplies abandoned because of degradation or pollution from mining, within the permit area and within 1000 feet of the permit area. For each water supply sampled, provide the data required on the Private Water Supply Information Exhibit 8.2(A)(8) and indicate the source of the information (e.g. owner interview, survey by operator, P.E. etc.). (Provide driller logs if available.) (The Department may require additional water supply information on a case-by-case basis.)

b) Monitoring Program

Describe the proposed surface and groundwater monitoring plan that will be conducted. The monitoring plan shall include quantity and quality measurements of discharges from the operation; points that will show any effect of the discharge on the receiving stream; and points that will show any effect on the groundwater system. Unless otherwise approved by the District Mining Office prior to permit application submittal, monitoring points must have a minimum series of six (6) complete chemical analyses collected at monthly intervals and should include the month of August, September or October to reflect low flow conditions. A minimum of six (6) monthly samples should be submitted with the application and any additional samples while the application is in process.

All monitoring points must be keyed to Exhibit 6.2. Monitoring plans must provide for collection and monitoring on a quarterly basis unless otherwise specified by the Department. All monitoring data must be compiled on Module 8.1(A) or equivalent facsimile. All monitoring points should be identified in the field with durable markers that can be maintained (wooden stakes, metal or plastic tags, etc.; not just plastic flagging).

The following monitoring locations should be included in the monitoring program:

		Monitoring Points (Key to Exhibit 6.2)
1)	receiving streams above proposed discharge points	_____
2)	receiving streams below proposed discharge points	_____
3)	abandoned underground or surface mine discharges that are hydrologically connected and may be impacted by the proposed mining	_____
4)	representative springs and seeps within the permit area and within 1000 feet of the permit area	_____
5)	representative wetlands with **defined discharge points** within the permit area and wetlands within 1000 feet of the permit area that may be impacted by the proposed mining,	_____
6)	water supplies	_____
7)	cased boreholes/piezometers	_____
8)	point source discharges	_____
9)	treatment pond discharges	_____
10)	sedimentation pond discharges	_____
11)	pit water during active mining (identify by mineral being mined)	_____
12)	each monitoring well developed to determine the characteristics of the groundwater	_____

Note: In cases where cased boreholes/piezometers or monitoring wells are not necessary, insert NA above and provide an explanation.

8.2(A)(8) PRIVATE WATER SUPPLY INFORMATION (key to Module 6.2)

Sample Point No	Owner	Type of Supply (Dug or Drilled Well, Spring)	Use	Surface Elevation (MSL)	Depth of Casing	Diameter of Well	Static Water Elevation (MSL) or Flow, Date of Measurement	Depth of Well	Type of Treatement If Any (iron filter, etc.)

8.3 Characterization of Groundwater [§§ 77.405, 77.457 and 77.521]

Characterize the existing hydrologic balance of the permit and general areas. Cite all references and sources of information.

a) Identify all aquifers above the lowest mineral to be mined and the first aquifer below the lowest mineral to be mined. Include stratigraphic units, depths, and current use. Discuss the general uses of these aquifers in the area and known quality or quantity issues with these aquifers in relation to their uses.

b) Describe the groundwater movement and the conditions that control and influence the groundwater system. Include the influence on quantity and quality from underground mines, industrial or municipal effects, fracture zones, faults, karst features and cave systems. Provide a groundwater contour map, if suitable.

c) Identify the effects any current or previous mining (including previous mining at this site) has had on the quantity and quality of the groundwater in the area, including impacts from diminution, increased turbidity, suspended solids or settleable solids. Include description of the source, rock unit involved and the reasons for the effect.

8.4 Characterization of Surface Water [§§ 77.406 77.457 and 77.521]

a) Identify each stream receiving drainage from the proposed operation and the 25 Pa Code Chapter 93 projected water use classification.

Stream	***Classification***

b) Identify the effects which current or previous mining (including previous mining at this site) has had on the quantity and quality of the surface waters in this area, including impacts from increased turbidity, suspended solids or settleable solids. Include the source, rock unit involved, and reasons for the effect.

c) Identify any current or previous land uses that may have significant impacts on surface water quantity and quality.

8.5 Public Water Supply Information.

Provide the name, type, and location of all current public (community and non-community) surface water supplies that have intakes on the receiving stream within 10 miles downstream of the proposed permit area; public (community and non-community) water supplies (wells or springs) in or within one half mile of the proposed permit area; and public water supply wells for which any part of the permit area is within the Wellhead Protection Zone. Show the location of these supplies on Exhibit 6.1 or 6.2.

8.6 Hydrologic Impact Assessment [§ 77.457 and 77.521]

a) Describe the groundwater hydrology in relation to the proposed mining operation (at maximum depth and lateral development) - i.e. - intercept regional water table, above regional water table, intercept perched water table, etc. State if and when groundwater will be intercepted (e.g., mining below the water table, installation of a production well for support or processing facilities). Include the depth to groundwater and the water table conditions present (artesian, regional, perched, etc.), the relationship to the mineral to be mined.

b) Describe the probable hydrologic consequences of the proposed mining activities on the hydrologic system of the permit area and adjacent area both during the stages of and after the conclusion of operations. Describe the impact, during and after mining, on existing quantity and quality of the surface and groundwater as described in Sections 8.3 and 8.4.

c) Is pumping of groundwater planned within the life of the operation. ☐ Yes ☐ No.

If yes, indicate the estimated gallons/day to be pumped for each stage of mining. Submit a science-based estimate of the zone of influence for each proposed stage of the operation. This may require a groundwater model to be developed using existing aquifer data as well as collecting new data, tracer tests or fracture trace analysis. Provide all documentation for the modeling. Use of groundwater modeling may be required to support the discussion of potential effects of groundwater withdrawal if the withdrawal has the potential to adversely impact water supplies, wetlands and other water resources and their affiliated uses, or if the withdrawal has the potential to cause or exacerbate sinkhole formation (See section 8.7). (Key groundwater elevations to cross-sections in 7.1 (c).)

NOTE: Operations in karst geology areas may be required to complete the *Karst Permitting Supplement* (5600-PM-BMP0456) in addition to supplying this information.

8.7. Water Supply Replacement [§§ 77.407 and 77.533]

a) Identify water supply sources that may be contaminated, diminished or interrupted by the mining operation and the means to restore or replace the affected supply. Include a demonstration that the quantity of the water supply will be sufficient to meet the needs of the water supply use. Note why other water supplies will not be affected.

b) Provide a specific capacity, step-drawdown, or other approved yield test for all water supplies that may be impacted by mining and for each proposed replacement supply source. Yield tests on other wells are at the discretion of the applicant or as requested by the Department. Provide specific capacity data on Module 8.6(A). Please refer to the guidance document, "Procedures for Establishing the Quantity of Water in Low-Yield Wells" (TGD # 563-2112-606) for methods.

c) Provide the existing operation and maintenance costs for each water supply that may be contaminated, diminished or interrupted by the mining operation and the projected operation and maintenance costs for the proposed replacement supply.

d) If the operation and maintenance costs for the proposed replacement water supply will be more than for the existing water supply, identify the provisions for compensating the water supply owner for the increased costs or provide the consent to Lesser Water Supply Agreement Form 5600-FM-BMP0110 for the increased operation/maintenance costs.

Module 8.1(A)
☐ BACKGROUND or ☐ MONITORING REPORT*
(check appropriate block)

Operator: _____
Operation Name: _____
Permit No.: _____
Township: _____
County: _____

Monitoring Point I.D.: _____
Latitude: ____° ____' ____."N and
Longitude: ____° ____' ____."W
Surface Elevation (MSL): _____

Description of Sample Point**: _____

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

Date Sampled	Method of Flow Measurement	Flow (GPM) or Static Water Elevation	Field pH	Laboratory pH	Suspended Solids mg/l	Total Dissolved Solids mg/l or Specific Conductance $\mu S/_{cm}$ @25°C	Field Temp. °C	Alkalinity mg/l	Acidity mg/l	Iron Mg/l	Manganese mg/l	Aluminum mg/l	Sulfate mg/l		Laboratory and Name of Sampler
								Submit above as requested by the Department							

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____ _____
Signature of Permittee or Responsible Official or Authorized Representative *** Date

* Water Monitoring Report Cover Sheet Form 5600-FM-MR0113 may be used for mutliple monitoring point sample submittals.

** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

*** Written notification of delegation of signatory authority must be submitted to the Department if signature is other than company official. Signature not necessary if this report is submitted as part of the permit application.

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 is 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.

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.

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.

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.

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.)

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.

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.

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.

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.

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.

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.

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.

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.

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.)

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.

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.

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).

Module 11: Incidental Coal Extraction
[§86.5]

11.1 Request for Exemption

If coal will be extracted incidental to the extraction of other minerals, complete Module 11A Request for Exemption.

11.2 Stratigraphy of the Coal and Areal Extent of Coal Extraction

a) Identify the areal extent of the incidental coal extraction area on the Exhibit 9 Operations Map.

b) Identify in Module 7.1b) and c) the thickness of the coal to be extracted and its relative position to other minerals to be extracted.

(**Note**: To qualify as incidental coal extraction, the coal must be located above the other minerals to be extracted for commercial use or sale)

11.3 Mineral Production and Economic Data

Provide the following:

a) Estimates of annual production of coal and the other minerals within each mining area over the anticipated life of the mining operation.

b) Estimated annual revenues to be derived from bona fide sales of coal and other minerals to be extracted within the mining area.

c) The estimated annual fair market values at the time of projected use of the coal and other minerals to be extracted from the mining area, where coal or the other minerals are to be used rather than sold.

d) The basis for annual production, revenue and fair market value estimates.

e) A summary of sales commitments and agreements for future delivery, if any, which have been received for the other minerals to be extracted from the mining area, or a description of potential markets for the minerals.

f) A description specifying the use if the other minerals are to be commercially used by the applicant.

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.

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.

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);

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;

c) Measures to control and prevent erosion and sedimentation; include proposed spacing of sediment traps, turnouts, culverts, check dams, etc.;

d) Plan for reclamation after mining is completed;

e) If the haul road involves the crossing of any intermittent or perennial stream or wetland include Module 14 Streams/Wetlands;

f) Will a PennDOT highway occupancy permit be needed? ☐ Yes ☐ No

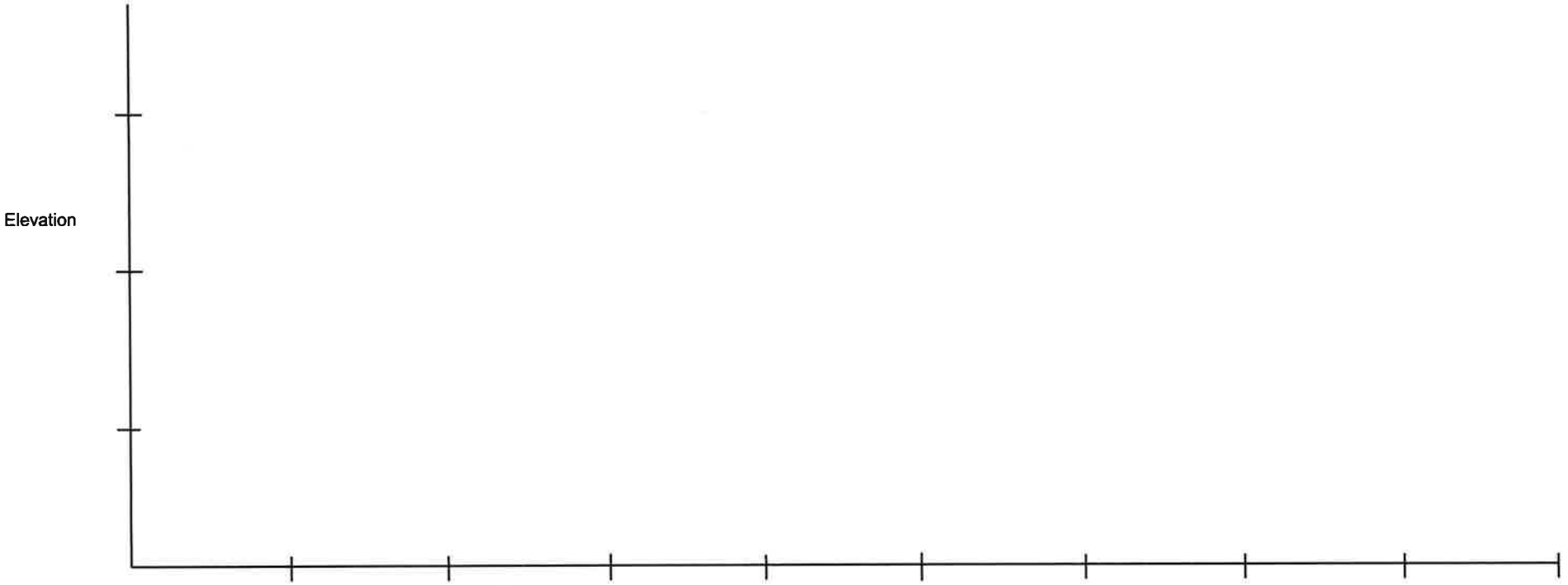
If yes, PennDOT Occupancy Permit number must be submitted prior to permit activation.

12.1 Diversion/Collection Ditch Data Sheet

Title:	Site:	Company:	Permit Number:
Prepared by:	Telephone Number:	Date:	Sheet _____ of _____

Design Calculations:

Station																		With Freeboard		
Start / End	Elevation	Drainage Area acres	Design Storm (yrs.)	Average Watershed Slope (%)	Curve Number	Peak Discharge Q cfs	Channel Bed Slope (%)	Freeboafd (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	Channel Depth (ft.)	Top Channel Width (ft.)	Q Available cfs



PROFILE

Vertical Scale 1" = ____
Horizontal Scale 1" ____

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.

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).

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

a) Proposed use.

b) Map and location (key to maps).

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.

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

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.

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

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.)

13.4 Class C Dams

A separate permit is required for impoundments that meet one or more of the following:

1) a contributory drainage area exceeding 100 acres;

2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 ft;

3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet.

13.5 Operation and Maintenance Requirements

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

13.6 Removal

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

Module 14: Streams/Wetlands
[Chapter 105/§77.504/§77.523]

Note: The United States Army Corp of Engineers (Corps) authorizes a Pennsylvania State Programmatic General Permit – 4 (PASPGP-4) when there will be a discharge of dredged or fill materials, or the placement of both temporary and/or permanent structures, which individually or cumulatively result in impacts to 1.0 acre or less of waters including wetlands. Projects will be sent to the Corps as a Category III activity for review. The Commonwealth has issued 401 Water Quality Certification for projects eligible under PASPGP-4.

If there will be a discharge of dredged or fill materials, or the placement of both temporary and/or permanent structures, which individually or cumulatively result in impacts to more than 1.0 acre of waters including wetlands, or such activities are otherwise ineligible for a PASPGP-4, the Corps may require an individual permit in accordance with Section 404 of the Clean Water Act and separate 401 Water Quality Certification.

Stream/Wetland encroachments may also require authorization from the US Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act. If this project requires a federal permit, you may be eligible for either PASPGP-4 authorization or you must file a separate application with the Corps. If you require a permit and are not eligible under the PASPGP-4 you must request a Section 401 Water Quality Certification from the Department using module 14A "Request for Federal Clean Water Act (CWA) Section 401 Certification for Mining Activities.".

Does this project require a permit from the Corps? ☐ Yes ☐ No

If no, explain why not.

14.1 Mining Activities Within 100 Feet of a Stream/Stream Relocation/Channel Change

If the mining activities are proposed within 100 feet of an intermittent or perennial stream, including haul road crossings, or the relocation or channel change of an intermittent or perennial stream provide the following information: (**Note**: Variance request for these and the expansion of pits must be included in the proof of publication. A separate Module 14.1 should generally be completed for each proposed encroachment.)

a) Name and location of the stream; and location, length, and acreage disturbed by the proposed activities (Identify the location of the proposed activities on Exhibits 9 and 18);

b) A narrative giving a description and the purpose and justification of the proposed activities;

c) A description of the character of the stream bed and banks, and a profile of the stream for a reasonable distance above and below the proposed site showing bed slopes, normal and flood water surfaces and a description of the riparian vegetation including a characterization of the resident aquatic community, a description of the riparian vegetation and an assessment of the probable hydrologic consequences of the proposed activities on the water quality and quantity and the resident aquatic community. Provide the name(s), address(es) and telephone number(s) of the individual(s) responsible for the collection and analysis of this data and provide a description of the methodologies used to collect and analyze the data;

d) A stream profile for the existing and proposed channel for a reasonable distance upstream, downstream and within the proposed change, showing bed slopes, pool-riffle ratios, normal and flood water surfaces, and existing obstructions;

e) A hydrologic and hydraulic analysis which shall include:
   1. data on size, shape and characteristics of the watershed;
   2. the size and frequency of the design storm;
   3. the hydraulic capacity of any structures or replacement channel;
   4. the hydraulic capacity of the channel upstream and downstream of the structure or the relocation/channel change;

f) Where a bridge, culvert or other water obstruction is proposed, provide the following information:
(Note: General Permit (BMR-GP-102) is available for construction of access roads.)

1) Plans and details showing the location, type, size, and height of the structure;

2) A narrative description of the construction methods and sequence including water handling during construction, and erosion and sedimentation controls;

3) Indicate if the structure will be temporary or permanent (include plans for removal of temporary structures).

g) For a Channel Change or Stream Relocation:

A detailed plan and cross-sections of the existing and proposed channel upstream, downstream and within the proposed channel change showing the limits and configuration of the proposed activities, dimensions, channel linings, and normal and flood water surfaces;

A description of the construction methods and sequence including: water handling during construction, erosion and sedimentation controls, and measures to be taken to prevent adverse impacts to water quality and quantity, water users and the aquatic communities.

h) A characterization of the existing water quality and quantity of the stream including downstream water uses, and 25 Pa Code Chapter 93 Protected Water Use Classification.

14.2 Wetland Related Information

a) Provide the name(s), address(es), telephone number(s) and qualifications of the person(s) who made the determination if wetlands exist within the proposed permit area.

b) Show the location of wetlands on Exhibits 6.2, 9 and 18.

c) What is the total wetland acreage (which will be affected) for the proposed permit area?

_____ acres.

d) Provide responses to the following for each wetland which will be affected by the proposed mining activities:

Exceptional Value Wetland Characteristics

1) Does the wetland serve as habitat for flora and fauna listed as "threatened" or "endangered" under the Endangered Species Act of 1973, Wild Resource Conservation Act, Fish and Boat Code, or Game and Wildlife Code? ☐ yes ☐ no

2) Is the wetland hydrologically connected to or located within 1/2 mile of the wetlands identified in d)1) and does it maintain the habitat of the "threatened" or "endangered" species within the wetlands identified in d)1) above)? ☐ yes ☐ no

NOTE: If this wetland is located more than 1000 feet from the permit area, show its location (and the location of the wetland that is hydrologically connected to or located within ½ mile of) on the Exhibit 6.1 Map.

3) Is the wetland located in or along the floodplain of a wild trout stream (as designated by the Pennsylvania Fish and Boat Commission), or the floodplain of a tributary to a wild trout stream? ☐ yes ☐ no

4) Is the wetland located in or along the floodplain of a stream listed as exceptional value (under 25 Pa Code Chapter 93) or the floodplain of a tributary to an exceptional value stream? ☐ yes ☐ no

5) Is the wetland within the corridor of a waterway which has been designated as a wild or scenic river in accordance with the Wild and Scenic Rivers Act of 1968 or the PA Scenic Rivers Act? ☐ yes ☐ no

6) Is the wetland part of, or located along, an existing public or private drinking water supply and does it maintain the quality or quantity of the drinking water supply? ☐ yes ☐ no

7) Is the wetland located in areas designated by the Department as "natural" or "wild" areas within state forest or park lands? ☐ yes ☐ no

8) Is the wetland located in areas designated as Federal wilderness areas under the Wilderness Act or the Federal Eastern Wilderness Act of 1975? ☐ yes ☐ no

9) Is the wetland located in areas designated as National natural landmarks by the Secretary of the Interior under the Historic Sites Act of 1935? ☐ yes ☐ no

NOTE: If a "yes" response is indicated for any question in d)1) through d)9), the wetlands would be "exceptional value" (as defined in 25 Pa Code Section 105.17) and a demonstration must be made that the requirements of subsection (a) of 25 Pa Code Section 105.18(a) have been met.

Wetland Functions

10) Does the wetland serve natural biological functions, including food chain production; general habitat; and nesting, spawning, or resting sites for aquatic or land species? ☐ yes ☐ no

11) Does the wetland provide areas for study of the environment, or as sanctuaries or refuges? ☐ yes ☐ no

12) Does the wetland aid in, or maintain natural drainage characteristics, natural water filtration processes, current (flow) patterns or other environmental characteristics? ☐ yes ☐ no

13) Does the wetland serve as storage areas for flood and storm waters, or does it shield other areas from erosion or storm damage? ☐ yes ☐ no

14) Does the wetland provide a groundwater recharge area that maintains minimum baseflows? ☐ yes ☐ no

15) Does the wetland serve as a prime natural recharge area where surface water and groundwater are directly connected? ☐ yes ☐ no

16) Does the wetland aid in the prevention of pollution? ☐ yes ☐ no

17) Is the wetland used for, or does it provide the opportunity to be used for recreation? ☐ yes ☐ no

e) If a "yes" response is indicated for the question in d)1) or d)2), identify how the determination was made and indicate any contacts with state or federal agency personnel.

14.3 Wetland Impact Analysis/Assessment

a) Describe the alternatives to the proposed mining activities that have been considered to avoid or minimize impacts on wetlands. An alternative analysis should include alternatives to the proposed mining activities, including alternative locations, routings or designs to avoid adverse impacts on the wetlands (e.g. relocating spoil/topsoil storage areas, rerouting haul roads).

b) Discuss whether any of the alternatives are practical to achieve the basic purposes of the project taking into account availability, cost, technology and logistics of the other possible project sites which would not affect the wetlands.

c) For any wetlands within the proposed permit area, provide the following:

1) Identify and delineate the wetland and the areal extent of the impact (wetlands must be identified and delineated in accordance with 25 Pa Code Section 105.451 Identification and delineation of wetlands – statement of policy).

2) Submit a cross-sectional view showing the wetland and the proposed mining area.

3) Explain how the proposed mining activities will directly affect the wetlands.

aa) If the proposed mining activities will affect less than 1.0 acre of wetland and the wetland is not an exceptional value wetland (in accordance with 25 Pa Code Section 105.17), provide a description of the wetland functions which will be impacted by the proposed mining activities. **Note:** If a "yes" response is indicated for any question in Module 14.2 d)1) through d)9), the wetlands would be exceptional value (as defined in Section 105.17).

bb) If the proposed mining activities will affect 1.0 or more acres of wetlands or may affect an exceptional value wetland, provide a detailed assessment of the wetland functions identified in Module 14.2 d)10) through d)17).

d) If any wetlands within the proposed permit or adjacent area will be indirectly affected (e.g. altering the wetland hydrology), provide the following:

1) Identify and delineate the wetland and provide an estimate of the total wetland acreage affected (wetlands must be identified and delineated in accordance with 25 Pa Code Section 105.451 Identification and Delineation of Wetlands – statement of policy).

2) A description of how the proposed mining activities will indirectly affect the wetlands.

e) Will the cumulative impact of the proposed and anticipated mining activities result in a major impairment of the wetland resource in the general area? ☐ yes ☐ no

Provide an explanation of the determination and identify any contacts with state or federal agencies involved in making the determination.

14.4 Wetland Mitigation/Replacement

Note: If a total of one-half (.5) acres or less of wetlands will be affected, participation in Pennsylvania's Wetlands Replacement Project may be authorized by the Department in lieu of onsite replacement of the wetlands.

a) If wetland mitigation measures or wetland replacement are proposed, address the following:

1) Identify the wetlands where mitigation measures will be employed.

2) Identify the wetlands that will be replaced and the location of the replacement wetland site. Provide the number of acres for each wetland to be replaced and the acreage of the replacement wetland.

3) Provide a plan for mitigation/replacement following the guidelines in the Department's technical guidance titled "Design Criteria - Wetlands Replacement Monitoring" document 363-0300-001. This guidance is available from the Division of Waterways, Wetlands and Erosion Control, Post Office Box 8854, Harrisburg, Pennsylvania 17105-8554 or through the Department's website.

Show the location of replacement wetland sites on the Operations Map (Exhibit 9) and the Land Use and Reclamation Map (Exhibit 18).

Note: At a minimum, wetland replacement must be at a 1:1 ratio (replacement acres: affected acres). The Department may require the ratio to exceed 1:1 based on the functions and values of the wetlands to be affected. Wetland replacement sites will generally not be approved unless the site is located within the same general area as the existing wetland to be replaced.

14.5 United States Army Corp of Engineers Permits

a) If the United States Army Corp of Engineers (Corps) requires a Pennsylvania State Programmatic General Permit – 4 (PASPGP-4)for your proposed activity:
Completed and attach the "PASPGP-4 Cumulative Impacts Project Screening Form (3150-PM-BWEW0050)" and supporting documents listed below.

1) the PASPGP-4 Cumulative Impact Project Screening Form (3150-PM-BWEW0050);

2) Exhibits (pdf format):

   a) U.S.G.S. Map 6.1 (site location map),

   b) Environmental Resources Map 6.2,

   c) Operations Map 9,

   d) Land Use and Reclamation Map 18, and

   e) a CD or DVD with any plans that are larger than 8 ½ by 11 inches.

3) Module 1: Large Noncoal (Industrial Minerals) Mine Permit Application

4) Module 14 and any detail drawings for stream / wetland encroachment activities (including Form 14A, Request for Federal Clean Water Act (CWA) Section 401 Certification For Mining / Coal Refuse Disposal Activities).

5) the Endangered Species Act /Pennsylvania Natural Diversity Inventory receipt,

6) the Pennsylvania Historical and Museum Commission correspondence (Section 106 coordination)

FORM 14A - Request for Federal Clean Water Act (CWA) Section 401 Certification For Mining / Coal Refuse Disposal Activities

General requirements: A mining or coal refuse disposal activity that involves encroachment into a stream or wetland requires a DEP mining activity permit and a US Army Corps of Engineers (Corps) permit issued pursuant Section 404 of the Federal Clean Water Act (FWPCA). An applicant proposing this type of activity must file a state mining activity permit application with the DEP district mining office and a separate federal permit application with the Corps district office.

Need for a Section 401 certification: As a matter of coordination, the Corps district office will not issue the federal Section 404 permit until DEP issues an Individual Water Quality Certification pursuant to Section 401 of the FWPCA, certifying that the activity will comply with the provisions of sections 301-303, 306 and 307 of the FWPCA and will not violate applicable federal and state water quality standards. The DEP district mining office issues this certification based on the information presented in the state permit application, public comments received with respect to the state permit application, and consultation with the Corps district office in regard to the federal permit application.

To ensure timely processing of both state and federal permit applications, the applicant is encouraged to:

- Contact the Corps district office to determine if a Section 404 permit is required for the proposed activity, and what type of permit is needed (an individual permit or nationwide permit).
- Complete and submit this form with the state mining activity permit application to the DEP district mining office.

Applicant _____ Application No. _____
Address _____ Operation Name _____
_____ Municipality _____
Telephone _____ County _____

Section 1: Corps Determination:

This project requires 401 certification for:

☐ An individual 404 permit
☐ Modification to an existing 404 permit
☐ Authorization to operate under Nationwide Permit No. _____

Section 2: Activity Description:

Please describe the activities that are the subject of this request:

_____

_____

_____

_____

_____

If the scope of activities (including any mitigation to be performed as compensation for the unavoidable impacts of fill placement) proposed under the federal permit application is the same as the scope of activities proposed under the state permit application, check here ☐ and provide the application number assigned by the Corps _____ and the date on which the application was filed _____.

If the scope of activities described under the federal permit application differs from the scope of activities described under the state permit application, attach a copy of the federal permit application.

Note that any substantial revisions required as part of the federal application review process must be provided to the DEP district mining office.

Section 3: Signature(s)

I (am the applicant) (am an officer of the applicant) (have the authority to file a Section 404 application for this project) and certify 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. **(Note: Cross out inapplicable portions in parenthesis).**

_____

Signature of Applicant or Responsible Official

_____

Name (typed)

_____

Title

Module 15: Noncoal Underground Mines

[§§77.163/77.410/77.454]

Module 15 outlines information to be supplied when applying for a permit to operate a noncoal underground mine, the following informational requirements are supplemental to the information outlined in Modules 1 through 24. All applicable modules in this application must be completed when applying for a permit to conduct noncoal underground mining activities.

(If additional sheets are required to respond to any item below, please use 8-1/2 x 11" paper and reference with the appropriate module and section number, i.e. 15.1).

15.1 Property Interests/Right of Entry

Provide property interest information as outlined in Module 5.1 for all tracts included within the proposed underground mine boundary. Include subsurface landowner information for each parcel of land contiguous to the permit area, provide names of landowners (Key To Exhibit 6.2)

15.2 Mine Development Map (suggested scale 1" = 400') Identify the map as Exhibit 15.2. Map must be sealed and signed by a registered professional engineer. (See 15.11 for mine map standards)

The following information must be provided for the underground portion of the mine and the 1000 ft. perimeter zone:

a) boundaries of the underground operation;

b) mining sequence within the underground permit area;

c) barrier pillars designed to promote post-closure inundation;

d) structure contours of strata to be mined or an appropriate marker unit;

e) formation contacts and coal crop lines (when applicable);

f) faults and areas where the bed, vein or deposit is unmineable;

g) locations of existing and proposed mine openings, including boreholes;

h) surface bodies of water;

i) outlines of adjacent active, inactive and abandoned mines (surface, underground and auger);

j) public roads, haul roads, and access roads;

k) dwellings, public buildings, commercial buildings;

l) permit lines of surface activity associated with the operation;

m) water supplies over the underground permit area;

n) discharge points, proposed monitoring points;

o) test borings, drill holes which were used to compile geologic/hydrologic information;

p) surface contours.

q) The location of gas and oil wells within the proposed permit area.

15.3 Operational Mine Maps. Maps must be sealed and signed by a registered professional engineer or a registered professional land surveyor. (See mapping standards at 15.11)

Operational mine maps must be submitted to and accepted by the Department before underground mining begins. However, these maps need not be submitted with the initial permit application. The maps must be on a scale of not less than 1 inch = 200 feet, must be updated annually, and must include, at a minimum, the information listed below:

a) openings, tunnels, workings, excavations and connections between each;

b) the direction of air currents, indicated by arrows;

c) inclination of strata;

d) elevation of the bottom of each shaft, slope, tunnel and gangway and any other point on the surface or in the mine deemed necessary by the inspector;

e) number of last survey station and the date of each survey on the most advanced workings and the location and identity of each working face advanced and the location of each area of pillar removed since the last inspection;

f) permit boundary lines of mine;

g) location and elevation of any body of water dammed in the mine, or held back in any portion of the mine.

15.4 U.S.G.S. Map

Exhibit 6.1 map should include entire proposed underground mine area + 1000 foot perimeter. Include a legend indicating the mine name, company name, township, county, date and quadrangle name.

15.5 Underground Operation Plan

Provide a description of the type and method of underground mining, major equipment to be used, starting point, mining sequence, annual production, mining height, percent extraction, type of haulage, anticipated life of mine, estimated acreage to be affected annually, handling of mine drainage.

15.6 Hydrology

This section is designed to expand on various aspects of Module 8, specifically the hydrologic impacts of the proposed underground mining activities. Address each of the following items in detail:

a) Provide a narrative outlining expected mine drainage quality and quantity both during and after mining; include discussions of the effects of overburden chemistry, existing groundwater conditions, subsidence, mine closure procedures, adjacent mining (both surface and underground), caverns and related solutional features, adjacent mine drainage quality/quantity, and fractures/lineaments.

b) Describe the probable hydrologic consequences of the proposed underground activities on the groundwater and surface water systems (address both the permit and adjacent areas). Address the potential for post-mining discharge and discuss expected quality and quantity changes and impacts.

c) Describe measures taken to ensure the return of the hydrologic system to its premining condition.

d) Address the potential impacts of the underground mining on public and private water supplies.

e) Design and outline a monitoring program specific to the potential impacts (the monitoring program must specifically address areas where post-mining discharges may develop and where water supplies may be adversely impacted). Include a representative number of existing groundwater supplies in the monitoring plan to demonstrate quantity and quality impacts during the life of the mine (background sampling and monitoring data should be collected as per Module 8.2).

f) Include information regarding depth to groundwater, uses of groundwater and any known groundwater problems over the proposed underground mine.

g) Provide a surface/groundwater inventory including elevation and flow rate of springs, seeps and mine discharges located over the proposed mine and within 1,000 ft. of the permit area. Include information regarding static water levels for inventoried wells throughout the permit area.

h) If water will be used in the underground mine complex (for dust control, etc.), describe the source of water and approximate daily usage rate in gallons. If groundwater wells will be employed, describe the target aquifer and any potential adverse hydrologic impacts from pumping the wells.

15.7 Geology

Provide (at a minimum) 2 geologic cross-sections covering the proposed underground mining area: one section perpendicular to strike and the other parallel to strike. Show all stratigraphic units down to and including the first aquifer system that may be affected below the lowest mineral extraction level (key location of cross-section to Exhibit 6.2 map). Include borehole locations over the extent of the deep mine permit area. Describe the local geologic structure in the area of the proposed underground mine and relate it to the regional geologic structure.

15.8 Sealing Plan

Provide a plan regarding the sealing/closure of all underground openings (drifts, shafts, slopes, boreholes, etc.). Include drawings, schematics showing bulkhead/seal designs and justify design vs. expected hydraulic head. All plans and maps must be sealed by a registered professional engineer.

15.9 Bonding for Underground Openings

Provide a breakdown of the projected costs needed to seal all openings (labor, material, etc.) and complete the attached FORM 15.9 Openings/Mine Seals.

15.10 Underground Disposal

This section is to be completed if water, wastes, or backfill material will be placed in underground mine voids. As a general rule, the disposal or placement of materials underground will be restricted to processing waste associated with mineral being mined, underground mine development waste, mine drainage treatment sludge, fly ash, flue gas desulfurization sludge and inert materials for mine stabilization projects.

a) Identify the nature and source(s) of the waste to be disposed of underground.

b) Provide maps and drawings illustrating the facilities and operations involved in transporting the waste from its point of origin to the final repository (Describe the design and operation of the waste disposal system).

c) Attach excerpts of mine maps illustrating the area of the workings to be filled, show flow paths of hydraulically transported materials, underground retention structures, discharge points, and monitoring points.

d) Address possible adverse hydrologic impacts of the operation and the measures and monitoring which will be employed to prevent or mitigate their occurrence.

e) Describe the lithology, thickness and attitude of the strata which comprise the floor of the repository area.

f) Describe the ownership rights which allow the repository to be used for waste disposal.

g) Provide a chemical analysis of the mine pool in which water, wastes or other materials will be placed.

h) Provide documentation that the Mine Safety and Health Administration has approved the underground disposal.

15.11 Mine Map Standards

It is extremely important for all mining operations in a given area to be tied into the same standardized coordinate system. This minimizes problems along boundaries and at mine connections. Additionally, this system must be tied into and made part of the state grid system. Therefore, the following minimum standards should be adhered to for mine maps:

a) Minimum angular and coordinate ties for raw data would be an angular tie of less than 00°01'00" (1 minute) and a coordinate tie of less than 1:10,000 (1 foot in 10,000 feet) for any given closed loop survey.

b) A closed loop survey is required to be at the next to last open crosscut of the mining section, but not more than 100 feet from the final face of a mining section.

c) Elevation closure of +/- 1.0 foot per 5,000 feet.

d) Vertical elevation shall be based on mean sea level (USGS elevation).

e) Preferred datum is the Pennsylvania State Plan coordinate system (NAD83 Datum).

f) Where applicable, appropriate coordinate transformation equation(s) should be placed on the map.

15.12 Adjacent Mine Workings

Utilize any and all sources necessary to accurately determine the full extent and location of adjacent abandoned mine workings. Document the types of sources used on the attached Form 15.12 which provides a check list of potential sources. Document any additional sources utilized in the form's blank spaces.

Provide a narrative summary of all information used and the steps taken to obtain that information. At a minimum, the summary should address the following types of information:

a) Identification of all data sources used to verify and validate mine maps as documented on Form 15.12;

b) Listing of all mine map repositories searched during the research process;

c) Procedures used to orient and locate nearby abandoned mine workings with respect to the proposed mine;

d) A description of and results of field reconnaissance used to delineate mine workings;

e) Identification of all maps found in the search and relied upon to map abandoned mine workings, including ID or catalog numbers, archive location, scale, and condition;

f) Local gas well or water well drill logs that may indicate the presence of absence of mine voids;

g) Underground mine inspection records:

h) Annual coal production report data, including mine opening date and last coal extraction;

i) Permit information cross-checks with the Bureau of Mining and Reclamation;

j) Mechanical, geologic, or geophysical testing used to verify the mine workings, such as vertical or horizontal drilling or geophysical surveying;

k) An operational history of each adjacent abandoned mine including all ownership changes, dates of operation, dates when the mine was idle, date of mine closure, mine name changes, coal company name changes, and all permit identification numbers including an explanation showing that the map corresponds to the data found in the history;

l) An explanation of how mine pool elevation data for each abandoned mine was determined;

m) A discussion of any disparities between sources of information including site-specific details provided by local residents.

FORM 15.9
OPENINGS / MINE SEALS

Opening Name/No.	Type of Seal	Sealing Date *	Estimate of Sealing Costs

*Indicate (P) for proposed, (A) for actual.

Form 15.12
Recommended Sources of Mine Map Information

In order to validate mine void location information provided to the Department, an applicant for an underground mine permit should use all sources necessary to accurately ascertain the full extent and location of adjacent abandoned mine workings. Potential sources of useful information are listed on the following checklist. Additional space is provided to add additional sources as needed.

Information Source	Place a check (√) next to each information source relied upon to validate location of mine workings	Date that Source Review was Completed	Reviewer's Initials
Coal production records	☐		
Tax records	☐		
Local Driller's logs (gas and water)	☐		
Worker's compensation records	☐		
County property records	☐		
Employment records	☐		
Newspaper accounts	☐		
Public mine map archives (Pennsylvania Geologic Survey, OSM, Pa. Deep Mine Safety, Pa. District Mining Operations)	☐		
Private mine map archives (local coal companies, museums and universities)	☐		
Museums	☐		
Local citizens	☐		
Field reconnaissance	☐		
Universities	☐		
Libraries	☐		
State Mine Inspector's records	☐		
Federal Mine Inspector's records	☐		
Operational histories of local mining companies	☐		
Survey data – notes, traverse books, sheets, etc…	☐		
	☐		
	☐		

Applicant's Signature _____ Date _____

Module 16: Large Noncoal Blast Plan

(Chapter 211/§§ 77.561/77.562/77.563/77.564)

☐ New
☐ Revised

Permittee _____
Permit No. _____
Mine Name _____
County _____
Township _____

Blasting Contractor _____

Blasting Contractor ATF Permit License No. _____

An application for proposed blasting shall contain a blasting plan for the proposed permit area, explaining how the applicant intends to comply with §§ 77.561-77.565 (relating to use of explosives) and including the following; drilling patterns, including size, number, depths and spacing of holes, charge and packing of holes, types of initiation and detonation controls, sequence and timing of firing holes, and scaled distance. Persons responsible for blasting operations at a blasting site shall be familiar with the blasting plan and site-specific performance standards (25 Pa. Code Chapter § 77.453).

A permit issued under the Noncoal Surface Mining and Conservation and Reclamation Act (52 P. S. §§ 3301-3326), and the regulations promulgated thereunder (25 Pa. Code Chapter 77), authorizing blasting activity shall act as a blasting activity permit issued under 25 Pa. Code Chapter 211. An application for a blasting activity permit shall be prepared by a blaster and shall include information needed by the Department to determine compliance with applicable laws and regulations and conditions necessary to ensure that the proposed blasting activity complies with the applicable statutes and 25 Pa. Code Chapter 211. (25 Pa. Code Chapter § 211.121, 25 Pa. Code Chapter § 211.124).

Sections 16.1 through 16.12 and Sections 16.14 through 16.17 must be submitted with the permit application. Section 16.13 (relating to public notice of blasting schedule) must be submitted prior to blast plan approval. There shall be no blasting until a blast plan has been approved by the Department.

There is a fee required under 25 PA Code Chapter § 77.106 for each blast plan application. Please refer to: https://www.dep.pa.gov/Business/Land/Mining/BureauofDistrictMining/Pages/Fees.aspx for the most current fee rates.

Is the fee being submitted with the application?

☐ Yes ☐ No

16.1a Blast Loading Plan 1 (§ 77.453)

	Hole DIA.	MAX # HOLES	MAX # ROWS	BURDEN		SPACING		HOLE DEPTH		STEMMING	
				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	TYPE
A											
B											
C											
D											
E											

Maximum explosives weight per delay (less than 8ms) _____ Minimum Scaled Distance _____

Specific Type of Explosives _____

Method of blast initiation Electric ☐ Non-Electric ☐ Other ☐

Explain Other _____

Comments:

A	
B	
C	
D	
E	

16.1b Blast Loading Plan 2 (§ 77.453)

	Hole DIA.	MAX # HOLES	MAX # ROWS	BURDEN		SPACING		HOLE DEPTH		STEMMING	
				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	TYPE
A											
B											
C											
D											
E											

Maximum explosives weight per delay (less than 8ms) _____ Minimum Scaled Distance _____

Specific Type of Explosives _____

Method of blast initiation Electric ☐ Non-Electric ☐ Other ☐

Explain Other _____

Comments:

A	
B	
C	
D	
E	

***16.2 Peak Particle Velocity and Airblast Limits* (§§ 211.151 (c),(d))**

Blasts shall be designed and conducted to meet the maximum allowable peak particle velocity indicated by Figure 1 of 25 PA Code Chapter 211.151 (c) and not exceed the noise levels specified in Table 1 of 25 PA Code Chapter 211.151 (d) at the closest building not owned or leased by the permittee or its customer.

The Department may establish an alternative peak particle velocity or airblast level if it determines that an alternative standard is appropriate or if the owner and lessee, if leased to another party, of a structure located on the permit area have each signed a waiver releasing the vibration limit. The waiver shall be clear, knowing and specific. (attachment(s) **NOTE:** *Additional review time will be necessary if the applicant submits a waiver for an alternative peak particle or airblast limit at a structure.*

***16.3 Will the sequence and timing of hole detonation be determined by considering factors such as geology, direction and proximity of homes or other structures, permit boundaries, or the locations of underground or overhead utilities.* (§ 77.453)** ☐ Yes ☐ No

***16.4 Will the loading of holes be determined by considering factors such as geology, direction and proximity of homes or other structures, permit boundaries, or the locations of underground or overhead utilities.* (§ 77.453)** ☐ Yes ☐ No

***16.5 Blasting near Dwellings, Public Buildings or Schools* (§ 77.564(g)(3))**

Will blasting occur within 1,000 feet of any dwelling, public building or school? ☐ Yes ☐ No

Indicate distance to the nearest dwelling or structure, neither owned nor leased by Permittee, from the area where blasting will occur. _____ feet

16.6 If blasting will occur within 1,000 feet of any public building or school, explain how notification required by 25 Pa Code § 77.564(g)(3) will be made.

16.7 Will blasting be conducted within 300 feet of an occupied dwelling? (§ 77.564(g)(4)) ☐ Yes ☐ No

16.7a If blasting is proposed within 300 feet of an occupied dwelling provide a notarized written waiver from the owner each dwelling specifying the distance blasting may occur to the dwelling (**Note:** If the waiver includes an increase in the peak particle velocity limits or in the airblast limits, in 25 Pa Code Section 211.151(c) and (d), the alternative limits must be specified in the waiver). (Attachment) (§ 77.564(g)(4))

16.8 Will blasting will be conducted within 800 feet of any public road? (§ 77.564(g)(1)) ☐ Yes ☐ No

16.8a If blasting will be conducted within 800 feet of any public road describe the precautions that will be taken to protect the travelling public (can be submitted as an attachment): (§ 77.564(g)(1))

16.9 Blast Area (§§ 77.564(d)(1), 77.564(e))

Describe how the blast area as defined in 25 Pa Code Section 211.101 will be determined, the procedures for notification of all persons who may have access to the blast area, and how the blast area will be secured and safeguarded (can be submitted as an attachment):

16.10 Underground Mines (§ 77.551)

Will blasting occur within 500 feet to any point over or adjacent to an active or abandoned portion of an active underground mine? ☐ Yes ☐ No

If yes attach completed MSHA form. ***(Attachment)***

16.11 Underground Utility Lines (§ 211.181-182)

Will blasting be conducted within 200 of feet Underground Utility Lines? ☐ Yes ☐ No

If underground utililities are located within 200 feet of the area where blasting will occur, attach a copy of the notification sent to the owner(s) (submit as an attachment).

If there are any requests for waiver of any of the provisions of 211.182 attach copies of any agreements with the owner(s) of the utilities (submit as an attachment).

16.12 Streams (§ 73 P.S. s 166(d)

If blasting will occur within 100 feet of any streams, identify the stream and indicate the distance blasting will occur from the stream.

Stream: _____ Distance: _____

16.13 Public Notice of Blasting Schedule (§ 77.563)

Submit the following to the Department prior to the initiation of blasting.

a) A Copy of the public notice of the blasting schedule that is published in a newspaper of general circulation in the locality of the area where blasting will occur (submit as an attachment)

b) A List of the Local governments and public utilities that are located within 1,000 feet of the area where blasting will occur, who received copies of the blasting schedule. (**Note:** These shall be sent a copy of the blasting schedule.) (submit as an attachment)

16.14 Explosive Storage (§ 87.65(a)(11)

Will explosives be stored within the proposed blasting area? ☐ Yes ☐ No

If "yes" provide current explosives storage security plan number. _____

If no explain the disposition of explosives materials used for this project.

_____

_____

_____

16.15 Blast Plan Preparer (§ 211.124(a))

The PA licensed blaster who prepared this application must print and sign name below. (General or Surface Mining Authorization Only)

Licensed Blaster _____
Print

Licensed Blaster _____ Date _____ Blaster's license Number **BL-**_____
Sign (General or Surface Mining Authorization)

16.16 Permittee Authorization Representative (§ 77.107)

The permittee or an authorized representative of the permittee must print and sign name below.

Permittee or Authorized Representative _____
Print

Permittee or Authorized Representative _____ Date _____
Sign

16.17 Map (attachment-delineates where blasting will occur and the area within 1,000 feet of where blasting will occur.) (If explosives are going to be stored on the mine site, the location of the explosives storage must be included on the map.) **The map should accurately show, at a minimum, permit boundaries, the locations of streams, gas wells and lines, other undrground utilities, overhead utilities and the nearest dewllings and other structures. (§§ 211.124(7)), (77.454(a)(9)**

16.18 List of attachments (Check all that apply)

- ☐ Dwelling Waiver
- ☐ Road Precaution Description
- ☐ Blast Area Security Plan
- ☐ MSHA Form
- ☐ Utility Notification
- ☐ Blast Schedule Public Notice
- ☐ Map
- ☐ Other _____
- ☐ Other _____

Department Use Only:

DEP Blasting Inspector _____
Print

DEP Blasting Inspector _____ Date _____
Sign

Recommendation - ☐ Approval ☐ Disapproval

Comments:

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	☐	☐	☐	☐	_____
Screening	☐	☐	☐	☐	_____
Cleaning	☐	☐	☐	☐	_____
Stockpiling	☐	☐	☐	☐	_____

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

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).

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

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

c) Drilling operation.

d) Overburden removal and mineral extraction

e) Stockpiles (overburden, topsoil, product).

f) Loading and unloading areas.

g) Crushing and other processing equipment.

h) Conveyors.

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.

17.3 Noise Control Plan

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

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

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?
- ☐ Holidays. Which equipment?
- ☐ Other. Which equipment?

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:

e) Describe the pre-mining environmental sound levels within the adjacent area 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.

Module 18: Land Use and Reclamation Map
[§§77.409/77.456/77.462]

Land Use and Reclamation Map

Provide a map or plan that includes the permit area and the area within 1000 feet of the permit area. The map or plan shall be clear, accurate, easily read, and on a scale of no smaller than one (1) inch = 400 feet. Maps on the scale of one (1) inch = 200 feet for permit areas of 100 acres or less and one (1) inch = 400 feet for permit areas larger than 100 acres are preferred. Use the same scale as used for Exhibits 6.2 and 9. Identify the map plan as Exhibit 18 Land Use and Reclamation 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.

- ☐ a) reclamation contours (contour intervals of 20 feet or less);
- ☐ b) proposed permit area;
- ☐ c) surface water bodies such as streams, lakes, ponds, springs and wetlands (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 restricted or variance areas);
- ☐ f) human-made features such as public highways, railroads, utility lines including right-of-ways or easements and other surface and subsurface human-made features (include the name of the highway, railroad, and utility and the restricted or variance areas);
- ☐ g) existing or previously surface-mined areas and existing areas of refuse, spoil, waste, and processing waste disposal;
- ☐ i) haul roads which will remain as part of postmining land use;
- ☐ j) erosion and sedimentation control facilities that will be used until bonds are released and those which will remain as part of postmining land use;
- ☐ k) dams or impoundments which will remain as part of postmining land use;
- ☐ l) existing land uses and proposed postmining land uses;
- ☐ m) areas to be restored to AOC (for areas other than AOC include sufficient cross-sections in Module 10.5 to adequately reflect final surface configurations and postmining water table);
- ☐ n) drainage pattern;
- ☐ o) permanent revegetation cover types to be established (key to seed mixture number as indicated in module 23.3, woody plant mixture number as indicated in Module 23.4, and/or cropping group number in Module 23.5). Note: if the cover type is consistent for each post-mining land use, then indicate this in lieu of providing an additional key on the map;
- ☐ p) facilities for protection or enhancement of fish and wildlife;
- ☐ q) lands classified as Primary Agricultural Land under Executive Order 2003-2 (The Agricultural Land Preservation Policy).

COMMONWEALTH OF PENNSLYVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING PROGRAMS

Module 19: Land Use / Vegetation [§§77.408/77.409]

19.1 Land Use

a) Identify the present uses of land use areas within the permit area (Key land use(s) to Exhibit 18: "Land Use and Reclamation Map").

b) For cropland, pastureland or land occasionally cut for hay, or commercial forest identify the productivity expressed as average yield of food, fiber, forage or wood products. Use yield data or estimates for similar sites based on current data from U.S. Department of Agriculture or Pennsylvania Department of Agriculture.

c) Identify any lands classified as Primary Agricultural Land under Executive Order 2003-2 (The Agricultural Land Preservation Policy). If there are, then indicate the alternatives to this disturbance considered and the reasons they were not deemed feasible.

19.2 Vegetation

Identify the percent ground cover of the natural vegetation within the permit area. If the postmining land use is fish and wildlife habitat, also identify the stocking and species composition of woody plants.

19.3 Fish and Wildlife (Protection/Enhancement Plan)

a) Have any threatened or endangered species and/or critical habitats of these species (includes species listed or proposed and habitats listed by the U.S. Department of Interior under the Endangered Species Act of 1973) been identified within or adjacent (within 1000 feet) to the proposed permit area?

☐ Yes ☐ No

If "yes" checked, identify the species and habitat area and include within your response to c) and d) information specific to the species and habitats identified.

b) Have any habitats of unusually high value (e.g., wild trout streams, wetlands, riparian areas, cliffs/caves supporting raptors, areas offering special shelter or protection) been identified within or adjacent to the proposed permit area?

☐ Yes ☐ No

If "yes" checked, identify the habitat area and include within your response to c) and d) information specific to the habitats identified.

c) Describe the measures which will be taken to avoid or minimize adverse impacts to fish and wildlife resources.

d) Describe the measures which will be taken to enhance fish and wildlife resources. Any facilities proposed for protection or enhancement of fish and wildlife resources are to be identified on Exhibit 18.

e) If no enhancement measures are identified in d), explain why enhancement is not practicable.

Module 20: Postmining Land Use and Reclamation
[Section 7 NSMCRA/§§77.462/77.591/77.593]

20.1 Proposed Postmining Land Use

For premining land use areas identify the postmining land use to which the land will be restored, how each land use is to be achieved and the necessary support activities which may be needed to achieve the land use. Identify the type of reclamation for each area (approximate original contour, terrace, water impoundment, etc.). (Key the postmining land use(s) to the "Land Use and Reclamation Map" Exhibit 18.)

20.2 Approximate Original Contour

For postmining land use areas to be reclaimed to approximate original contour show that the reclaimed land will be capable of supporting the uses it was capable of supporting prior to mining or higher or better uses. Notes: A higher or better use is a post-mining land use where the economic value or nonmonetary benefit to the landowner or the community is greater than for the pre-mining land use. A highest or best use is where the economic value or nonmonetary benefit to the landowner or the community is maximized. If you are proposing an alternative to AOC, complete either section 20.3 or 20.4, as appropriate.

Are you proposing an alternative to AOC? ☐ No ☐ Yes
If Yes is checked fill out <u>either</u> section 20.3 or 20.4 as appropriate.

20.3 Alternative to Approximate Original Contour (AOC) Reclamation under Section 7 (c)(2)(ii) of NSMCRA/§ 77.593(1)

a) Show that the alternative to AOC is likely to be achieved and that it poses no actual or potential threat to public health or safety, or of water diminution, interruption, contamination or pollution.

b) Demonstrate that the proposed operation will be carried out over a substantial period of time; the ratio of the minerals proposed to be mined, relative to the volume of the overburden, is very large; and the overburden and other spoil material at the proposed permit area are insufficient to restore the area to AOC.

Show that the alternative to AOC reclamation is consistent with applicable land use policies, plans and programs and with Federal, State and Local law.

d) Demonstrate that the restored land will be capable of supporting the highest or best use it can reasonably support and that the proposed postmining land use is compatible with adjacent land uses.

20.4 Alternative to Approximate Original Contour (AOC) Reclamation under Section 7 (c)(2)(iii) of NSMCRA/§ 77.593(2)

a) Show that the alternative to AOC is likely to be achieved and that it poses no actual or potential threat to public health or safety, or of water diminution, interruption, contamination or pollution.

b) Demonstrate that the proposed alternative to AOC will leave no highwalls, will improve the watershed of the area, and that the landowner has approved the alternative to AOC. (Submit a notarized statement by the landowner approving the alternative to AOC.)

c) Demonstrate that the affected land will be restored to a condition capable of supporting the uses it was capable of supporting prior to mining or to a higher or better use.

Module 21: Topsoil / Subsoil

[§77.456(4)]

21.1 Topsoil Characteristics

a) Identify the thickness of topsoil present at the site. If the thickness of the topsoil varies, key the thickness of the topsoil to Exhibit 18.

b) Provide a 8 ½" x 11" copy of USDA Soil Survey Map delineating the proposed permit area.

21.2 Operations Plan

a) Provide a plan for removal, storage and redistribution of topsoil and subsoil.

b) If the B and C horizons will be segregated and replaced as subsoil, identify the thickness in inches of the B and C horizons to be removed, segregated and replaced.

c) If material other than the B and C horizons will be replaced as subsoil, identify the material and include test results demonstrating that this material will insure revegetation and soil productivity consistent with the postmining land use. Provide the name(s), address(es) and telephone number(s) of the individual(s) responsible for the collection and analysis of this data and a description of the methodologies used to collect and analyze this data

21.3 Previously Affected Areas

If an area has been previously affected by mining and no topsoil or subsoil is present, identify the material that will be used as the final surface layer and provide a demonstration, including chemical analysis, that the material is capable of supporting the vegetation of the postmining land use.

Module 23: Revegetation

[§77.456(5)]

23.1 Soil Test Plan

Provide a soil test plan for determining plant nutrients and soil amendments required to establish vegetation and achieve the approved postmining land use.

Example: Soil samples will be collected using a soil auger. A composite sample will be obtained from individual core samples from each type of existing land use. These samples will be analyzed by Blank Laboratory using "Soil Mailing Kits", or another accredited laboratory.

23.2 *Temporary Cover.* Provide the following information for each seed mixture to be used for temporary cover:

Example: Standard Seed Mixture

Seed Mixture No.	Seed Mixture (Species)	Rate of Appl. 100% PLS* (lbs./acre)	Seeding Dates (Months)
B	*Annual Ryegrass*	*40*	*Early spring till Late fall*
	If storage areas are to be left longer than one growing season the following will be used: Perennial Ryegrass	*10*	

a)

Seed Mixture No.	Seed Mixture (Species)	Rate of Appl. 100% PLS* (lbs./acre)	Seeding Dates (Months)

* PLS means pure live seed. PLS is the product of the percentage of pure seed times percentage germination divided by 100.

b) Use.

c) Method(s) of seeding.

d) How seedbed will be prepared for planting.

e) Type(s) of mulch to be used and rate(s) of application.
Example: Hay or straw at a rate of 2 ½ tons per acre.

23.3 Permanent Cover. [Insert standard seed mixture option(s)] Provide the following information for each seed mixture to be used for permanent cover: (Note: Key to Exhibit 18)

a)

Seed Mixture No.	Seed Mixture (Species)	Rate of Appl. 100% PLS* (lbs./acre)	Seeding Dates (Months)
A	Birdsfoot Trefoil	6	March, April, May
	Johnstone Fescue	30	Aug 10 to Sep 15
	Red Top	3	
	Clover (red, white, or alsike)	5	
	Nurse Crop:		
	Oats (spring)	3 bu/ac	spring
or	Wheat (fall)	3 bu/ac	fall
or	Rye (fall)	3 bu/ac	fall
D	Johnstone Fescue	15	March, April, May
	Birdsfoot Trefoil (low growing variety)	6	Aug 10 to Sep 15
	Red Top	3	
	Annual Ryegrass	4	

* PLS means pure live seed. PLS is the product of the percentage of pure seed times percentage germination divided by 100.

b) Use.

c) Method(s) of seeding.

d) How seedbed will be prepared for planting.

e) Type(s) of mulch to be used and rate(s) of application.
Hay or straw at a rate of 2 ½ tons per acre.
Any prime farmland soil areas will be mulched with 3 tons/acre of straw or hay.

23.4 Woody Plants. [Insert standard stocking species option(s)] For areas that will also be planted with woody plants, provide the following: (**Note**: Key to Exhibit 18)

a)

Woody Plant Mixture No.	Woody Plant Species	No./ac.
C	Oak species	680 per acre
	Maple species	
	Ash species	
	Red bud	
	Crab apple	

See 23.3 Permanent Cover – seed mixture D for grasses to be used with these woody plants.

b) Method of planting.

c) If the area is to be planted for wildlife habitat, identify the grouping and distribution of the plants.

23.5 Cropland. For areas that will be planted to crops (agronomic or horticultural), identify the crops to be grown and the management plans to achieve the crop yield standards. (**Note**: Key to Exhibit 18: Land Use and Reclamation Map)

Module 24: Special Protection Waters

Notes:

1. Module 24 "Special Protection Waters" has been rescinded.
2. Form 5600-PM-BMP0007 "Anti-Degradation Supplement for Mining Permits" is to be used in all cases where a mining operation is proposed for Special Protection Waters.
3. The Social or Economic Justification (SEJ) section is now Form 5600-PM-BMP0028 "Social or Economic Justification (SEJ) and Water Use Demonstration (for projects in high quality [HQ] waters only)".

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING PROGRAMS

APPLICATION SUPPLEMENT - ANTI-DEGRADATION

General Instructions: This supplement is to be completed if the operation is proposed within areas of Special Protection Waters where a new, additional or increased discharge is proposed. In Special Protection waters, Section 1 is required. Every effort must be made to achieve total non-discharge or partial non-discharge. For more info on the Anti-degradation analysis, refer to Technical Guidance Document No. 391-0300-002.

For all coal and large noncoal surface and underground permits: Because of the interaction necessary between the department and the applicant, Section 1 must be completed prior to a formal submission of the mining permit application. It may take two or more exchanges of information between the parties to adequately complete this module. Pre-application discussions are required. Submission of a mining permit without adequate pre-application information will result in the permit application being returned to you as incomplete.

After submitting Section 1 including the Non-Discharge Alternatives Analysis, the applicant will receive communication from the department regarding the information presented in Section 1. If applicable, the applicant then completes Section 2 or the Social or Economic Justification (SEJ) (5600-PM-BMP0028). All plans described in this supplement must correlate directly with Erosion and Sedimentation Control, Operation and Reclamation plans in the permit application. All parts and supporting data, including those sections previously submitted to the department, must be included with the permit application upon formal submittal which must also include an application for an individual NPDES permit even if there is no point source discharge proposed.

For small noncoal, bluestone, General Permits and exploration activities: Complete Section 1 in conjunction with an appropriate NPDES individual permit application. Submit with the permit application package. The Department encourages pre-application discussions for any mining activity in a Special Protection watershed but it is not required for sites 5 acres or less. Section 2 will need to be completed only by Department request.

Section 1

A. General Information

This supplement is submitted in support of the following facility:

Applicant: _____ Mining License No. _____

Permit or Authorization No.: _____ *Insert "pending" if no number has been assigned.*

Operation Name: _____

B. Receiving Streams

Watershed is: ☐ HQ (high quality) or ☐ EV (exceptional value)

Provide the name(s) and existing water use(s) as identified in 25 Pa Code Section 93.9 for each of the proposed receiving streams:

_____

_____

_____

C. Non-Discharge Alternatives Evaluation (*Attach extra sheets labeled "Non-Discharge Alternatives Evaluation"*)

Consider and evaluate non-discharge alternatives for the proposed storm water and/or encountered groundwater discharge(s) as required by 25 Pa Code Section 93.4c.(b)(1)(i)(A). Indicate which alternatives will be used at this site. Describe in an attachment(s) each specific alternative that will be used. If **no** specific options are feasible, provide feasibility analysis and cost data as justification.

To Be Used	
☐	1. Alternative project siting (in whole or in part)
☐	2. Alternative discharge locations/discharging to another (non-special protection) watershed
☐	3. Infiltration – galleries or land application
☐	4. Limiting disturbed area (vertically or horizontally), extent and/or duration of mining
☐	5. Recycling/reuse of water onsite
☐	6. Constructed treatment wetlands
☐	7. Holding facilities and/or wastewater hauling
☐	8. Injection (☐ pretreated) (☐ no treatment)
☐	9. Vegetated riparian buffers
☐	10. Specific pollution prevention processes
☐	11. Other(s) List:

D. Use of Non-Discharge Alternatives

In consideration of the options proposed for use in Section C. and in reference to supporting information that must be supplied for Section C., characterize the fate of stormwater runoff and/or encountered groundwater at this site. Choose #1 or #2.

☐ 1. Non-discharge alternatives will be used to address the entire discharge. No point source discharge is proposed. (Describe the implementation of the non-discharge alternative(s) you are proposing as part of the Erosion and Sedimentation plan and your NPDES permit application.)

OR

☐ 2. Non-discharge alternatives use will not account for the entire discharge. A point source discharge is anticipated. (Provide justification in Section 1.C. and chose a. or b. below.)

a. ☐ A demonstration will be made that the resulting discharge will maintain and protect the existing quality of receiving surface waters. (Section 2)

b. ☐ A demonstration will be made that the resulting discharge to the High Quality (HQ) water(s) will support the applicable existing and designated water uses (other than HQ uses) and an SEJ (Module 24) will be submitted.

STOP: Section 1 must be reviewed by the department before proceeding.

Department use only

Section 2

A. Demonstration for Maintaining and Protecting Existing Water Quality – Test for non-degradation of water quality

If no environmentally sound and cost-effective non-discharge alternative exists to address the entire discharge, provide a demonstration that a non-degrading discharge is feasible and will maintain and protect the existing water quality of the receiving stream(s). Using existing monitoring data, calculate the non-degrading effluent limits for this discharge (mass balance). Describe the technology and details of the practices that will be used to achieve these effluent limits and assess the costs. Attach separate sheets as necessary labeled "Non-degrading ABACT".

B. Anti-degradation Best Available Combination of Technologies (ABACT)

Identify the combination of Best Management Practices (BMPs) to be used during the mining operations to achieve a non-degrading discharge.

Best Management Practices (BMPs)

☐ 1. Oversized sediment basin (8600 ft3/ac or greater)	☐ 11. Sediment traps with infiltration trench
☐ 2. Sediment basin ratio of 4:1 or greater (flow length:basin width)	☐ 12. Diversions
☐ 3. Sediment basin with 4-7 day detention	☐ 13. Constructed wetlands
☐ 4. Alternate/additional sediment controls during basin construction	☐ 14. Vegetated swales
☐ 5. Flocculants	☐ 15. Manufactured devices
☐ 6. Manual dewatering device	☐ 16. Bio-retention
☐ 7. Vegetated Riparian buffers	☐ 17. Mulch immediately after topsoiling
☐ 8. Street sweeping	☐ 18. Land Preservation or non-use
☐ 9. Channels, collectors and diversions lined with permanent vegetation, rock, geotextile or other non-erosive materials	☐ 19. Other _____
☐ 10. Water reuse	☐ 20. Other _____

Are the ABACT BMPs selected sufficient to protect the existing surface water quality? ☐ Yes ☐ No

If no, and the project is located in a HQ water, complete Module 24, Social or Economic Justification (SEJ), in the permit application.

STOP: Section 2 must be reviewed by the department before proceeding.

Department use only