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.

The Pierson Rheems Quarry is a historic quarry operation, opened before 1940. It operated under the original permit within 87.7 acres until 2008, when it was expanded southwardly by 14.94 acres to the current 102.64 acres. It is now proposed that the quarry be expanded southwesterly by 30 acres, with 21 mining and 9 support acres. See Exhibits 6.2,9 and 18. There are no phases of mining, although the 21 acre mineral extraction expansion area wil be the focus of mining going forward. The parent limestone/dolomite formation is blasted, the blasted material is loaded onto off road haulage vehicles, and transported to the primary crusher, which is located on the quarry floor, then conveyed 200' upward to the secondary and tertiary crushing facilities located on the surface, and processed and stockpiled for sale to the public. See the attachment to Module 17 for a complete list of equipment used in the operation. The current processing equipment will continue to be used for expansion area.

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.

The permitted depth of mining in the existing portion of the mine, as well as in the major modification portion is to an ultimate elevation of 126 msl.The existing pit floor is at elevation 175 msl, the surface elevation is 400 +/-, for a current depth of pit of 175 msl. There are no proposed phases.

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.

The typical highwall height shall not exceed 50' except where topography influences the height of the uppermost face, the highwall may be developed to a height of 65 feet. The minimum width for a horizontal bench between successive working faces shall be 25 feet. Reclamation for the expanded area will be backfill where the highwalls above elevation 339 will be backfilled to achieve a 35 degree final reclamation slope. The expected final reclamation water surface level is 389 MSL. The toe of said reclamation slope will rest on the 339 bench which must be a width of 72' at its final horizontal limit. There are small sectionsas shown on the reclamation map which will require highwall reduction blasting down the slope to below 35 degrees. The width of the proposed final benches are shown on the Operations Map at the ultimate extent of mining. All reclamation slopes are shown on the Reclamation Map/Bonding Map.
(See Exhibit 9: Operations Map and Exhibit 18 Reclamation/Bonding Map)

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.

The 30 acre major modification pit floor area, as well as the existing pit floor, at the currently proposed extent of mining, will be 70.66 acres, under a reclamation pool surface elevation of 389. The total reclamation pool surface will be approximately 60 acres in aerial extent. The face of the reclamation slope on the upper bench will be revegetated in accordance with Module 23, in consideration of the extended period of time that the post mining pool will require to reach elevation 389.

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.)

The quarry is operated such that all precipitation and infiltrating groundwater drains to a pit pool on the existing quarry floor, at approximaly elevation 175, where particulate matter falls out of the water, the water is then pumped to a pit sump at approximately elevation 250, and allowed to further clarify, from which it is pumped to NPDES Discharge Point 001, into an unnamed tributary to Donegal Creek, at approximately elevation 400.

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.

The quantity of overburden available to reclaim the upper bench is 862,630 C.Y., the amount of overburden required to reclaim the upper bench to an elevation of 339, or 50' below the reclamation pool, is 327,565 C.Y. See attached Overburden Calculations. There is ample room within the permit area to store the reclamation overburden. The upper lift will be backfilled and revegetated as the pit floor elevation below the area to be reclaimed is reached. The overburden is stored on the existing surface grades, which are flat, and which can readily be fine graded to drain toward the pit pool as the stored overburden is removed. It is estimated that the quarry life will be 30 years, with final grading and reclamation activities occurring throughout that period of time.

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.

The attached Exhibit 18 and Cross Sections show the post reclamation surface contours graded to direct surface precipitation runoff to the quarry pit. The material to be re-distributed will be placed in such a manner that only native topsoil will be used as the final top dressing. See attached Module 21. Wheel loading on relatively flat areas and chain dragging on the top lift backfilling to a 35 degree slope, will be the compaction technique of choice.

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.

Concurrent reclamation in accordance with 25 Pa. Code 77.595, has been completed on the upper lift of the northern face. Typical reclamation activities will occur during the winter grading activities. The parent formation is very deep, with the 30 acre expansion being requested with this application allowing the operator the option of working away from the "existing" quarry pit. There is a conveyor system attached to the eastern face preventing concurrent reclamation in that area. Once the horizontal and vertical extents of the the proposed 30 acre pit for the expansion is achieved then concurrent reclamation shall occur. Market conditions shall dictate overall timeframe.

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.

This operation is located exclusively within the Eppler Formation, with no Toxic Materials in evidence over it's approximately 65 year existance. There are no known toxic materials at this location in accordance with Open-File Report OFMI-05-01.1 GEOLOGIC UNITS CONTAINING POTENTIALLY SIGNIFICANT ACID-PRODUCING SULFIDE MINERALS. Background sampling confirms no potential issues with acid and toxic forming materials.

10.8 Special Handling of Toxic Material

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

N /A

10.9 Oil and Gas Wells

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

N / A

10.10 Wells, Exploration Holes and Bore Holes

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

There are seven monitoring wells located within the quarry area that serve the purpose of establishing groundwater elevations. Six of them will be either mined out, or will be backfilled with bentonite at the termination of mining. One well, located within the Wolgemuth farm complex, will remain, at the Wolgemuth's request.

10.11 Underground Mines

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

N / A

10.12 Public Highways

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

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

The 30 acre major modification expansion area is not located within 100 feet of a public roadway. All access will occur through the existing mine.

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.

N / A

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.

N / A

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).