

- 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).)

As per Module 8.3(a), the groundwater contribution into the Maggie Lynn Underground Mine is expected to be minimal. However, as per the Department's concerns, the operator has submitted an estimate of between 0.2 gpm to 0.3 gpm per acre of groundwater contribution into the proposed underground mine, with a maximum of 0.5 gpm per acre for safety purposes, primarily for sediment pond construction calculations. This equates to a maximum 184,752 gallons/day when the mine is at its maximum acreage extent. Please note that initially the groundwater extent will be near zero and will only increase as the actual deep mine progresses.

April 2024 Revision. As per additional Department concerns, there is a separate groundwater component associated with the existing pits. As of April 2024, there are two separate pits associated with previous Benwood Limestone mining associated with surface mine permit 63100401. This main pit has existed for many years and will remain throughout the proposed Benwood Limestone deep mining. This main pit is approximately 200 feet in height and consists of about 10-12 acres. The other pit is smaller and will be backfilled prior to the opening of the proposed deep mine. Both pits act as pseudo "cones of depression" as groundwater seepage zones from the highwall exist. The seepage ends up in the pit and is utilized for haul road watering, etc. The seepage zones have been noted previously and will likely be present throughout the life of the proposed deep mine. On March 21, 2024, personnel from GeoTech Engineering Inc. noted three separate areas of groundwater seepage associated with stratigraphy in the main highwall. A review of core hole B-1 (located just above the highwall) indicates areas of fractured and broken up material located at elevations at depths of 25, 35-50, and 100-110 feet from the surface. This correlates well with visual observations and photographs on March 21, 2024. It is noted that there was some pit water noted on March 21, 2024.

It is difficult to estimate the amount of groundwater emanating from the highwall due to seasonal fluctuations etc, however, if one uses 0.5-1.0 gpm per acre of water to be expected from the highwall, a value of about 5-10 gpm could be expected. NOTE: This is using the same formula that is in Module 8.3(a) and an estimated recharge of 10 acres.

In regard to concerns about sufficient water being available for dust suppression, please refer to Module 17.

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.

Most of the homes located within or adjacent to the permit area are supplied by public water by Southwestern Pennsylvania Water Authority.

Seven (7) private water supplies and a cistern which collects rainwater have been identified within 1000 feet of the proposed underground mining portion of the permit area.

Spring supply, sample point 34, is used for outside purposes. This spring lies just within 1000 feet north of the proposed underground portion of the permit area. This water supply occurs from the local flow system below the Waynesburg horizon. The recharge area for this spring is with topography to the east and northeast, which is located north of the proposed mining. This spring will not be affected.

Also located on the same property is drilled well supply 35, which is used for outdoor purposes including filling the swimming pool. The depth of the well is not known but is believed to be shallow. Recharge to this well supply is with topography and the structural orientation of confined beds. This recharge area is to the east with Unnamed Tributary "G" to Ten Mile Creek lying between the proposed mining area and the well which is a groundwater divide. This well will not be impacted.

The property owner of private well supply, sample point 35, was interviewed on October 19, 2019. The well is old, constructed in the 1920's to 1930's. There is a surface jet pump that is used which suggests that the well is shallow. Based on its location this well supply intercepts the local water table with the bottom of the well (assuming a maximum depth of sixty feet), is at least 130 feet above the base of the Benwood Limestone. The pump is currently not functioning a may not be repaired, according to the owner.

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