Final Rulemaking
Designation of Area as Unsuitable for Surface Mining
Muddy Run Watershed, Reade Township, Cambria County

Executive Summary

This regulation amends 25 *Pa. Code* § 86.130 to add subsection (b)(18), designating the Lower Kittanning, Clarion, Brookville and Mercer coals within the upper portions of the Muddy Run watershed, Reade Township, Cambria County, as unsuitable for surface mining operations. The regulation is the result of a comprehensive technical evaluation, which was initiated by a formal petition to the DEP requesting that an area within the Muddy Run watershed be designated as unsuitable for surface coal mining operations. The petition was submitted March 21, 1996, by the Reade Township Municipal Authority (RTMA).

The designation protects the RTMA's water supply wells by restricting mining on acid mine drainage producing coal seams situated in close proximity to the water supply's source aquifers. The water supply wells provide potable water to approximately 550 service accounts and provide water for local fire protection. The designation protects the water quality of Muddy Run and its tributaries by substantially limiting additional disturbance of acid mine drainage producing rock formations within the watershed.

The designation process serves to aid coal operators in planning future mining activities. The unsuitable for mining area is explicitly delineated in the final rulemaking. This allows operators to avoid the cost of evaluating properties within the designated area, and to avoid the subsequent costs of preparing permit applications for mine sites that are highly unlikely to be approved for surface mining activities.

The Department's key technical findings are as follows:

- The recharge area for the RTMA wells appears to be primarily from the area east of the well field along the upper flank of the Allegheny Mountain, where the source aquifers are at, or near, the surface. Additional recharge to these aquifers is from downward infiltration from closely overlying coal-bearing units. The downward infiltration of water is enhanced by numerous fractures and two regional faults in the area.

- Based on available information, including regional geochemical tracer studies of acidic mine water traveling significant horizontal and vertical distances in the subsurface, there is a potential for mining-related pollution of the RTMA wells. Groundwater tests conducted to date are not sufficient to characterize conditions beyond the immediate vicinity of the RTMA wells or to assess the impact of highly transmissive fractures. The potential exists for hydrologic exchange between the RTMA water supply aquifer and the potentially acidic overlying coal-bearing units. The only way to conclusively determine the existence of a hydrologic connection to the wells is to conduct extensive draw-down pump testing. However such tests create an unacceptable risk because establishing the connection would destroy the public water supply wells.

- Overburden analysis results indicate the presence of high sulfur zones, with little or no alkaline strata, associated with the Lower Kittanning, Clarion, Brookville, and Mercer coals. There is a very significant potential for production of acid mine water from surface mining of these coals.

- Coal mining has significantly impacted the water quality and aquatic community of Muddy Run. As a result of coal mining activities, all stream sections of Muddy Run and its tributaries within the study area, except for the headwaters in the eastern portion of the study area (the unmined RTMA wells' recharge area), are acidic with low pH and have high concentrations of aluminum, iron, and manganese.

- Surface mining activities have significantly degraded groundwater resources within the technical study area, including numerous domestic and private water supplies.

The final regulations will affect all persons who have mineral rights within the designated area and all coal operators who may be interested in conducting surface mining operations on the identified coal seams. The remaining estimated reserves within the area are as follows: Lower Kittanning - 30 acres; Clarion - 200 acres; Brookville- 275 acres; and Mercer- 245 acres. The estimated mineable reserves total approximately 750 acres, representing approximately 2.75 million tons of coal. The coal reserve estimates are maximized by assuming persistent coal seams of uniform thickness. The estimated monetary and employment impacts assume that the coal reserves would be approved for mining through the normal permit application review process if the area were not designated unsuitable for mining. In fact, the high potential of these coal seams for causing pollution makes it highly unlikely that the Department would issue permits for surface mining on the coal seams.

The Environmental Quality Board approved the proposed rulemaking on March 16, 2010, with a recommended 30-day public comment period. The proposed rulemaking was published in the Pa Bulletin on May 8, 2010, at 40 *Pa.B.* 2425. During the public comment period that concluded on June 7, 2010, the Board received one comment from the Pennsylvania State Association of Township Supervisors (PSATS). In their comments, PSATS stated their support of the rulemaking and noted that without the rulemaking, there most likely would be a detrimental effect on those municipalities within the watershed that rely on groundwater from human consumption. The Independent Regulatory Review Commission (IRRC) issued no objections, comments or recommendations on the rulemaking and noted that the rulemaking would be deemed approved if the regulation is not amended and is retained in its proposed form. No changes are proposed to the final rulemaking.

The Department recommends the Board's approval of the final rulemaking, which will designate the surface mineable coal reserves of the Lower Kittanning, Clarion, Brookville and Mercer coals in the Muddy Run watershed, Cambria County, located south of State Route 253, including Muddy Run and its eastern tributary, Curtis Run, as unsuitable for surface mining.