

Areas Designated Unsuitable for Mining

Griffithtown Reservoir

Mr. Estay Greene, on behalf of the Griffithtown Water Association, submitted a complete area unsuitable for mining petition in November 1981 for a 466 acre tract in Blacklick Township, Cambria County. This was precipitated when a coal company applied to BMR to strip mine the Lower Freeport coals adjacent to the site. The Association members rely on the discharge from an abandoned Lower Freeport deep mine as their source of drinking water. Based on technical studies, input from various governmental and private agencies, and field investigations, the Department believes that surface mining will result in the loss of quantity of the supply because the extent of the deep mine unknown and since the recharge area for the Griffithtown water supply is an aquifer associated with the Lower Freeport coals with the deep mine acting as a collection system. Mining out the deep mine may result in diffuse seeps along the crop line would significantly reduce the quantity of water now intercepted by the deep mine.

Cold Stream Watershed

Mr. George Hill, on behalf of the Wood Duck Chapter of Trout Unlimited, submitted a complete area unsuitable for mining petition in April 1982 for approximately 20 square miles of the Cold Stream Watershed in Rush Township, Centre County. The action by the Chapter resulted when a coal company applied to BMR to strip mine the Clarion and Kittanning coals on a ridgetop near the village of Sandy Ridge. People of the Philipsburg area, including Chapter members, rely on the Cold Stream Watershed as the sole source of water for the Philipsburg area public water supply. Cold Stream also supports a significant trout population and sport trout fishery which is utilized by Chapter members. Based on technical studies, input from various governmental and private agencies, and field investigations, the Department believes that surface mining in the watershed would result in degradation of the water quality. Observations of water quality degradation due to past mining in the watershed and adjacent watersheds in the Moshannon Creek drainage are well documented.

Black Bear Run Watershed

Voyle E. Hoover, on behalf of the Cooper Township Municipal Authority, submitted a complete area unsuitable for mining petition in February 23, 1982 for 5,600 acres of the whole Black Bear Run Watershed in Rush Township, Centre County. The Authority alleged that surface mining would degrade or diminish their water supply (Black Bear Run Watershed), reduce or destroy productivity of renewable resource lands, damage or destroy fragile lands. Based on technical studies, input from various governmental and private agencies, and field investigations, the Department has concluded that surface mining within the petition area will result in degradation or loss of water supply, renewable resources (aquatic communities including trout species), and fragile lands. While the petition raised concern over possible loss of hunting and swimming opportunities, these impacts were either not evident nor irretrievable.

Mill Run Watershed

Paula Ford Cameron and William H. King, on behalf of the Juniata Valley Audubon Society and the Blair County Chapter of Trout Unlimited, submitted a complete area unsuitable for mining petition in March 1982 for 400 acres of the Mill Run Watershed in Logan Township, Blair County and Gallitzin Township, Cambria County. Mill Run and two tributaries are the water source for Mill Run Reservoir and Allegheny Reservoir, two water reservoirs owned by the Altoona City Water Authority. After technical review, using data gathered from various sources, the Department contends that surface mining within the petition area would result in degradation of water quality affecting the use of Mill Run as a water supply and as brook trout habitat. Detrimental effects of surface mining on fragile lands and recreational use, other than fishing, were determined to be of a temporary nature.

Rogues Harbor Run Watershed

Kenneth P. Vrana and Ralph Abels, on behalf of the Westover Municipal Authority and the PA Fish Commission, submitted a complete area unsuitable for mining petition in June 1983 for approximately 4.72 square miles of the Rogues Harbor Run Watershed in Chest Townships, Clearfield-Cambria Counties. The Westover Borough residents utilize the Rogue Harbor Run watershed as their sole source of public water supply. In addition, it also supports a significant wild brook trout population. Based on technical studies, input from various governmental and private agencies, and field investigations, the Department believes that with the exception of the Upper Freeport coal seam, surface mining activities conducted on the coal reserves of the watershed would result in the degradation of water quality in Rogues Harbor Run and possible diminution of stream water quality at elevations above the Lower Kittanning coal horizon.

Upper Powell Run Watershed

The Concerned Citizens for Pure Water (Eugene Jenkins, Chairman), on behalf of the residents of Blandburg, submitted a complete area unsuitable for mining petition in October 1983 for 960 acres associated with the Upper Powell Run Watershed in Reade Township, Cambria County. The action was prompted by a Swistock Associates Coal Corp. mine drainage permit application that proposed to mine within the upper Powell Run Watershed. Since that time, Swistock revised its application to withdraw from the watershed. Blandburg rely upon the petition area as their only drinking water source. The petitioners, in submitting their petition, alleged that the Blandburg reservoir would be polluted by surface mining, rendering it unfit as a public water supply. In addition, the petitioners also alleged that adverse impacts to recreational and renewable resources such as standing timber, wildlife, brook trout, and other aesthetic values would result from surface mining. The department concluded that surface mining in the study area would result in adverse impacts on the water quality of Powell Run in the form of acid mine drainage and high metals concentrations. While some of the other allegations of adverse impacts on their environmental values had merit, they were of a temporary nature or beyond the jurisdiction of the Department's Areas Unsuitable for Mining program.

Byrnes Run Watershed

The Kersey-Byrnes Watershed Association and Jack McCluskey, UFM Petition Committee Chairman, submitted a complete area unsuitable for mining petition in September 1, 1983 for a 13.3 square mile area including the Byrnes Run Watershed in Jay and Fox Townships, Elk County. The petitioners alleged that surface coal mining could degrade or diminish the uses of Byrnes Run Watershed for water supplies and recreation, destroy renewable resources, aesthetic qualities and historic sites. Three water supplies use Byrnes Run Watershed as an unfiltered water source. Byrnes Run provides a recreational fishery for brook and brown trout and has an important native brook trout population. Initial review of available information indicated that the major impact of surface mining in the petition area would be degradation of water quality, adversely affecting the present uses of Byrnes Run for community water supplies and trout habitat.

North Fork Tangascotack Creek Watershed

Kurt Smith, President, on behalf of the Lloyd Wilson Chapter Trout Unlimited, submitted a complete area unsuitable for mining petition in December 16, 1983 for a 12,055 acre tract in Bald Eagle, Beech Creek and Grugan Townships, Clinton County (the Department determined that the area of the North Fork Tangascotack Creek Watershed was in fact 12,121 acres). The petitioners alleged that surface mining would result in substantial long-range loss or reduction in productivity of the fragile aquatic resources in the watershed, specifically the naturally reproducing brook and brown trout communities. In addition, adverse impacts to recreational and renewable resources such as standing timber, wildlife and other aesthetic values would result from surface mining. The Department concluded that surface mining in the southern portion of the watershed would result in substantial long-range loss or reduction in productivity of the fragile aquatic resources in the watershed, specifically the naturally reproducing brook and brown trout communities. While some of the other allegations of adverse impacts on other environmental values had merit, the impacts would be temporary in nature or beyond the jurisdiction of the Department's Areas Unsuitable for Mining program.

Upper Little Muddy Run Watershed

William Ricciotti, President, Muddy Run Sportmen Club, Michael Wasiw, Beccaria-Gulich Water Authority, and Samuel Berzonsky, Janesville Civic Association submitted a complete area unsuitable for mining petition in December 3, 1984 for 9,600 acre Little Muddy Run Watershed located in Gulich and Bigler Townships, Clearfield County and Reade Township, Cambria County. During initial review of the petition, it was determined that the 4,992 acre lower watershed could possibly benefit from surface mining related reclamation efforts and deleted the area from the technical view process. Technical review was then initiated on the 4,608 acre upper Little Muddy Run Watershed and revealed that much of the upper watershed contained surface mineable coal reserves. The majority of these reserves are located in the northern two-thirds of the upper watershed. The petitioners alleged that surface mining would result in substantial long-range loss of a planned public water supply in the form of two large volumes, presently unaffected springs located on Camp Wopsonock. Additionally, further degradation of Little Muddy Run, which is partially polluted by acid mine drainage and iron deposition, would result in the loss of suitable stream water quality for an existing recreational stocked trout fishery and, in the upper reach, a naturally reproducing brook trout population.. The petitioners also alleged that surface mining, by further degrading stream water quality, would affect the recreational facility at the Janesville Dam and reduce or eliminate water oriented recreational opportunities, and adversely impact standing timber, wildlife, other aesthetic values. The petition as originally submitted included the entire Little Muddy Run Watershed. Extensive disturbed areas in the lower watershed could be reclaimed and water quality improved by surface mining techniques. Therefore, the Department did not conduct a technical review of the lower watershed. Additionally, the findings indicate that surface mining on the upper watershed would adversely impact certain environmentally sensitive entities. Using present mining technology, it appears that mining on the Lower Kittanning, Clairon #1 and #2 and Mercer coals would cause acid mine drainage resulting in substantial long-range loss of a planned public water supply, and the use of Little Muddy Run for recreational stocked trout and as a habitat for naturally reproducing brook trout.

Brubaker Run Watershed

The Hastings Borough Council, on behalf of the Hastings Municipal Water Authority, submitted a complete area unsuitable for mining petition on July 16, 1985 for 940 acres in Elder Township, Cambria County. The Elder Township Water Authority also obtains water from this area and services in the St. Boniface area. The area coincides with the known extent of an Upper Kittanning underground mine that provides water to the two water authorities. The technical study revealed that northern portions of the petitioned area are not within the recharge areas of Hasting's and Elder Township's water supplies. In addition, certain portions of the original petition were found to be ineligible for designation pursuant to 25 Pa. Code 86.121(a) because they were within the boundaries of surface mining considered as the potential designation area. The technical study identified 525 acres of this area as the approximate recharge zone of the water supplies. The petitioners alleged that surface mining would disrupt their water supply recharge area, introduce sediments, and increase acid mine drainage production resulting in a substantial loss or reduction in the long-range productivity of their water supply. Additionally, they alleged that such adverse impacts have already occurred locally. In support of these opinions, information was submitted that indicates a decrease in water quality of the Elder Township Water Authority's water supply which they believe is related to recently completed surface mining activities. Findings of the Department's technical study indicate that strata within the upper Allegheny Group have the potential to produce acid mine drainage. The study further indicates that these strata are hydrologically connected to the water supply sources of the Hastings and Elder Township water supplies and that surface mining activities within the recharge areas of the water supplies have the potential to adversely impact the water quality of these supplies.

Sixmile Run Watershed

Bernard Hoffnar, on behalf of the Coaldale Borough-Six Mile Run Area Water Corporation, submitted a complete area unsuitable for mining petition on June 30, 1986 for 1484 acres including portions of the Sixmile Run and Shoups Run Watersheds in Broad Top Township, Bedford County. The watersheds are tributaries to the Raystown Branch of the Juniata River. The petitioners alleged that surface mining within the petition area would result in long-term reduction or degradation of the Water Corporation's water supplies and that no

alternative water sources are available. The Water Corporation's water supply sources are located in the Sixmile Run Watershed. The original petition area delineated the area the petitioners believed to be the recharge or support areas for their water supplies. Certain portions of the original petition area were found to be ineligible for designation pursuant to 25 Pa. Code 86.121(a) because they were within the boundaries of permits on which surface mining operations were being conducted on August 3, 1977. Therefore, the petition was adjusted. Findings of the technical study indicate that surface mineable coal reserves are present within the petition area and that surface mining has the potential to adversely affect the quality and quantity of the Coaldale Borough-Six Mile Run Area Water Corporation's water supplies. Three Conemaugh Group coals have been surface mined in and adjacent to the petition area, resulting in post-mining discharges containing acid mine drainage and/or metals in excess of public drinking water standards.

Moose/Montgomery Creek Watersheds

Jeffrey S. Williams, on behalf of the Clearfield Municipal Authority, submitted a complete areas unsuitable for mining petition on May 13, 1986 for 10,934 acres including portions of the Montgomery Creek Watershed and the Moose Creek Watershed in Lawrence, Pike, and Pine Townships, Clearfield County. The watersheds are utilized as a public water supply for approximately 20,000 people in the Clearfield Borough and several other municipalities in Clearfield County. The petitioners alleged that surface mining within either of the watersheds would cause long-term degradation of the public water supply with subsequent expensive water treatment not presently required. Additionally, they allege that surface mining of Clarion and Mercer coals, both of which occur within the petition area, has been demonstrated to cause acid mine drainage in areas surrounding the water supply watersheds. The petitioners also alleged that evidence found in a surface mining permit file for a proposed surface mine adjacent to the Montgomery Creek reservoir drainage basin demonstrated that acid mine drainage could occur at this site and therefore could occur if surface mining would take place within the Montgomery Creek watershed. Findings of the technical study indicate that, in some cases, strata associated with the Clarion and Mercer coals have potential to produce acid mine drainage. The study indicates that there is significant potential for degradation of the Clearfield public water supply if surface mining activities were conducted within the Montgomery Creek or Moose Creek public water supply drainage basins. The results of the technical study also indicate that the occurrence of known surface mineral coal reserves within the petition area is restricted to areas on the adjacent slopes north-northeast of Montgomery Creek reservoir and Moose Creek reservoir.

Bells Gap Run Watershed

Kenneth E. Estep, President, on behalf of the Bellwood Sportmen's Association and eight cosponsors (Bellwood Borough Council, the Antis Township Supervisors, the Bellwood-Antis School Board, the Blair County Chapter of Trout Unlimited, the Juniata Audubon Society, the Blair County Federation of Sportmen's Clubs, the Unified Sportsmen of Pennsylvania, and the Blair County Heritage, Inc.), submitted a complete areas unsuitable for mining petition on April 15, 1987 for 13,000 acres surrounding Bells Gap Run Watershed in Antis and Logan Townships, Blair County and Dean and Reade Townships, Cambria County. The upper Bells Gap Run Watershed, in the petition area, is the source of the Borough of Bellwood's only public water supply and one of the City of Altoona's public water supplies. Bells Gap Run also supplies water to the Bellwood Sportmen's Association's trout nursery, which is operated in cooperation with the PA Fish Commission. Both the sportsmen and the Fish Commission annually stock Bells Gap Run with trout downstream of Altoona's reservoir. A naturally-reproducing brook trout population exists upstream of the reservoir. The Department modified the petition boundaries to correspond to the watershed area for which the petitioners are seeking protection. Of the 11,700 surface areas in the revised petition area, approximately 87% is State Game Lands. The petitioners alleged that surface mining within the Bells Gap Run Watershed would cause long-term degradation of the public water supplies and adversely affect the native and stocked trout populations and the viability of the trout nursery. Additionally, they allege that surface mining in the petition area has produced sedimentation and acid mine drainage, causing degradation of Bells Gap Run and its tributaries, and that surface mining would adversely affect wildlife habitat, scenic qualities, and recreational use of the petition area. Findings of the technical study indicate that surface mineable coal reserves of the Mercer, Clarion, Lower Kittanning, Middle Kittanning, Upper Kittanning, and Lower Freeport seams exist within the petition area. The

Upper Freeport coal has also been reported within the watershed, but its areal extent and mineable reserves could not be determined with existing information. The technical study findings indicate that strata associated with the Lower Kittanning, Clarion, and Mercer coals have the potential to produce acid mine drainage. Surface mining has degraded the public water supplies and damaged the naturally-reproducing trout populations, and there is significant potential for further adverse impacts to these resource and to the stocked trout fishery and the trout nursery if further surface mining on these coal seams occurs within the watershed. Certain abandoned mine land areas exist on State Game Lands within the petition area which could pose a threat to public safety because of unreclaimed high walls. These open pits, however, are on seams which have the potential to produce acid mine drainage if remined.

Goss Run/Brisbin Dam Watershed

Kay Churner, on behalf of the Brisbin Recreation Board, and James Martin, on behalf of the Locust Grove Sportsmen Club, submitted an area unsuitable for mining petition was received by the Department on April 3, 1989 and accepted as complete on May 26, 1989 for 2.86 square miles of the Goss Run Watershed in Woodward and Decatur Townships, and Brisbin Borough, Clearfield County. The petitioners allege that surface coal mining within the Goss Run Watershed would cause long-term degradation of Goss Run which in turn would adversely affect the recreational fishery and aesthetic aspects of the Brisbin Dam and associated public park. Additionally, they allege that degradation of source water for the Brisbin Dam would render the impoundment unfit as an emergency water supply for the Brisbin Borough. Another allegation expresses concern that surface mining activities within the Goss run Watershed would adversely affect wetland areas located at the confluence of Goss Run and Beaver Run at the village of Sterling. The geologic findings of the technical study indicate that surface mineable reserves of the Middle Kittanning, Upper Kittanning, Lower Freeport, and Upper Freeport coal seams exist within the petition area. Lower Kittanning and Clarion coals also exist but at depths which would not be mineable using current surface mining techniques. Water quality findings show that acid discharges originating from abandoned underground mines on the Lower Freeport coal have caused acidic conditions in the headwaters of Goss Run. Moderately alkaline discharges from other abandoned Lower Freeport underground mines; however, were found to have sufficient buffering capacity to neutralize the acidic headwater flows. The result of these drainage interactions is to produce alkaline, moderatel-hard stream water in Goss Run and in the Brisbin Dam impoundment. A naturally reproducing brook trout population resides in the alkaline section of Goss Run upstream of the Brisbin Dam. With appropriate filtration and disinfection, the Brisbin Dam could be used as an alternate public water supply. Findings from one permitted surface mine, which infringes on the petition study area at the headwater of the West Tributary to Goss Run, confirm that at least some strata occurring at the site have the potential to produce acid mine drainage. Pit water at this site was found to be acidic. Although the downstream sections of the West Tributary contained alkaline water, sulfate concentrations were elevated, which indicates that a neutralization of acidic water was taking place at the headwater. Acid mine drainage from abandoned underground and surface mine areas were also documented in Upper Morgan Run Watershed. The acid mine drainage in Upper Morgan Run, the acidic water in the Goss Run headwater, and acid mine drainage production in the West Tributary to Goss Run, are all associated with similar geologic strata. Because of the geologic similarities, further surface mining within the Goss Run Watershed upstream of the Brisbin Dam has a significant potential to produce acidic discharges. Additional acid mine discharges to Goss Run could overcome the alkaline stream water which would have adverse effects on fish populations and water quality. The natural trout population, as well as the recreational stocked trout fishery, which is maintained in the Brisbin Dam, depend on both the alkaline nature and the coldwater characteristics produced in Goss Run by the alkaline underground mine discharges. Further surface mining, which would encounter the old underground workings and underlying strata north-northwest of the Brisbin Dam, ahs the potential of reducing the alkalinity of the point-source underground mine discharges and could eliminate the long-established coldwater characteristics of Goss Run. This could adversely affect, or possibly eliminate, the native trout population and the stocked trout fishery. Surface mining, if conducted on the remaining unpermitted areas upstream of the Brisbin Dam, also has a significant potential to adversely affect future use of Goss Run as a public water supply.

Paddy Run/Drury Run Watershed

Gerald F. Lacy and Kerry A. Uhler and Associates, on behalf of Renovo Borough, submitted an areas unsuitable for mining petition on December 29, 1989 for 11.5 square mile portion of the Drury Run Watershed upstream of the Drury Run reservoir, and the entire 22.2 square mile Paddy Run Watershed located in Chapman, Leidy and Noyes Townships, Clinton County. Because of the number of petitions which were in process, the initial review of this petition was not completed until May 1, 1990. Upon completion of the initial review, the Department determined that the petition was complete as submitted and the petition was accepted for technical study. The petitioners alleged that surface mining within the Drury Run and Paddy Run Watersheds would cause long-term degradation of the sole sources of water for the Renovo Borough and surrounding townships. Supporting evidence provided by the petitioners included exhibits on water quality, aquatic life, erosion and sedimentation, and aesthetics.

The Department's technical study included surveys of geology, water quality, fish populations and aquatic invertebrate communities. The geologic findings of the technical study indicate that surface mineable reserves of the Lower Kittanning and Clarion coals of the Allegheny Group, and Mercer coals of the Pottsville Group are present in the petition areas. The strata where coals occur are located primarily in the Drury Run basin downstream of Sandy Run; however, coal bearing strata also occur on the higher elevations of the Paddy Run/Drury Run watershed divide, the Drury Run/Shintown Run Watershed divide, on Summerson Mountain in the Paddy Run Watershed, and in the headwaters of the Brewery Run Drainage. The Allegheny and Pottsville Group strata occurring within the technical study area were not found to contain significant amounts of alkaline material with no limestone or calcareous units reported in the drilling records. Field investigations indicate the rocks exposed within the watersheds are primarily shales and massive sandstone units. Water quality findings of the technical study indicate that Drury Run and Paddy Run are lightly buffered streams with little capacity to assimilate acidic discharges which may result from coal mining activities. Both streams originate in non-coal bearing formations and in these areas stream waters are slightly to moderately acidic with low concentrations of alkalinity, iron, manganese, and sulfate.

Highly acidic discharges from abandoned underground mines on the Mercer coal and clay have caused depressed pH and elevated metals concentrations in the tributary streams of Sandy Run, Woodley Draft, Stony Run, an unnamed tributary locally known as Whiskey Run. Surface mining, primarily of the Clarion and Mercer coals, has also occurred in the lower Drury Run Watershed. Evidence of limited surface mining of the Lower Kittanning coal was found. These mines were located on the ridgetops of the lower watersheds and were either partially backfilled and contoured or left abandoned with open pits and high walls. Pit water at a number of the abandoned mines was acidic with elevated metals and sulfate concentrations.

The documented acid mine drainage originating from abandoned underground and surface mines on the occurring coal strata within the Drury Run Watershed indicate that further surface mining within the watershed upstream of the reservoir would place the water supply at risk for degradation through increased acidity and metals concentrations in the stream waters. Because Paddy Run stream water exhibits extremely low buffering capacity, any acid drainage would cause adverse effects on the water supply. Naturally reproducing populations of brook trout and brown trout are found in the unaffected and minimally affected stream lengths of Drury Run Watershed and throughout the Paddy Run Watershed. Acid mine drainage has caused the elimination of a brook trout population in the lower half of Sandy Run. Downstream of Woodley Draft, acid mine drainage precludes the existence of viable fish populations in Drury Run. Where acid mine drainage has affected the stream water quality in Drury Run, no fish life is present, and invertebrate communities are reduced to taxa tolerant or mine drainage influences. Paddy Run contains healthy aquatic invertebrate communities typical of infertile freestone streams and is annually stocked with trout by the PA Fish Commission to provide a recreational fishery. Any changes in the hydrologic system that would cause increases in acidity to either Paddy Run or Drury Run would have significant potential to adversely affect, or possibly eliminate, the native trout populations and the stocked trout fishery.

Laurel Run Watershed

Ellen Pentrack-Ocilka, on behalf of the Committee to Preserve Rager Mountain and several cosponsors (Mountain Laurel Chapter of Trout Unlimited, Cambria County Federation of Sportsmen, Jackson Township Community Rod and Gun Club, West Taylor Hunting and Fishing Club, St. Rochus Parish, Jackson Township, Middle Taylor Township, West Taylor Township, City of Johnstown, Greater Johnstown Water Authority, Cambria County Commissioners and Three Rivers Earth First) submitted a compete areas unsuitable for mining petition on January 22, 1990 for 14.1 square miles of Laurel Run Watershed in Jackson, West Taylor and Middle Taylor Townships, Cambria County. The petitioners alleged that surface coal mining within the Laurel Run Watershed would cause long-term degradation of Laurel Run and its tributaries, adversely affect their uses as stocked trout and native brook trout fisheries and public water supplies, impact wetlands and important cultural and historical sites and exacerbate areas prone to frequent flooding. Allegations concerning cultural and historical sites were not documented by supporting evidence and, therefore, were not addressed in this technical study.

The geologic findings of the technical study indicate that surface mineable reserves of the Brush Creek, Mahoning, Upper and Lower Freeport, Upper, Middle and Lower Kittanning, Clarion and Brookville coals are present in the Laurel Run Watershed. The upper portion of the watershed east of Laurel Run contained extensive reserves of Lower Kittanning coal which have been underground mined. Pottsville Group strata, which normally contain the Mercer coals, are also present; however, the Department could find no information concerning the presence or extent of Mercer coals in Laurel Run Watershed. The Conemaugh and upper Allegheny Group strata were found to contain significant amounts of alkaline material with several limestone and calcareous shale units reported in drilling records. The Middle Kittanning overburden was found to contain little alkaline material with the exception of the Johnstown limestone unit which occurs at the top of this section. The Middle Kittanning coal was characterized by splits and binders which contained little alkaline material with no limestone or calcareous units reported in the drilling records.

Water quality findings of the technical study indicate that Laurel Run is a lightly buffered stream with little capacity to assimilate acidic discharges which may result from mining. The headwaters of Laurel Run and the northwestern tributaries are acidic with low pH and elevated aluminum concentrations. At least three miles of Laurel Run downstream of US Route 22 are periodically affected by aluminum precipitate. The tributaries which originate in the southwestern and eastern portions of the Laurel Run Watershed are alkaline with low concentrations of aluminum. The numbers and diversity of benthic macroinvertebrates in Laurel Run watershed were relatively low. Limiting factors identified were low pH, aluminum precipitate, periodic fluctuations in water quality and lack of suitable habitat. Laurel Run contains a naturally reproducing brook trout population. Native brook trout are also present in Red Run, Wildcat Run and many of the tributaries which originate in Conemaugh and Upper Allegheny strata. Sections of Laurel Run periodically affected by aluminum precipitate had reduced trout populations. Any changes in the hydrologic system that would cause increases in acidity in Laurel Run would have a significant potential to adversely affect, or possibly eliminate, the native trout population. Results of rainfall/runoff analyses indicate that surface mining activities within the Laurel Run Watershed would not significantly increase the danger of flooding in downstream areas. The results of the technical study indicate that the potential effects of blasting on the natural gas storage facility and the potential effects of surface mining activities on wetland areas which were identified within the Laurel Run watershed cannot be evaluated with existing information. The Greater Johnstown Water Authority maintains a public water supply intake on Red Run which serves the village Tanneryville.

Pequea Twp. Cherry Hill Orchard

William C. Crosswell, on behalf of the Pequea Township Board of Supervisors, submitted a complete areas unsuitable for mining petition on June 11, 1992 for 203 acres, known as Cherry Hill Orchard in Pequea Township, Lancaster County. The petitioners alleged that surface mining within the petition area would be incompatible with local land use plans; would result in the permanent loss of prime agricultural lands; and would lower local groundwater levels, resulting in the loss of water supplies and important wetland and woodland areas.

The study of the petitioner's allegation that mining within the petition area would be incompatible with local land use plans appears to be valid. Pequea Township Zoning Ordinances limit the development of agricultural to areas adjacent to existing residential and commercial development and through the establishment of a mineral recovery zone in the southern portion of the township. The petition area is not within the mineral recovery zone and it is not adjacent to any significant residential or commercial areas. The study of the petitioners' allegations that mining would result in a substantial loss or reduction of long-range productivity of food or fiber products indicates that mining within the petition area could have some effect on agricultural productivity. The petition area contains 194 acres of prime farmland soils or approximately 5.6 percent of the 3,450 acres of prime farmlands in Pequea Township. Lancaster County contains 344,000 acres of prime farmland soils. Because of the volume of mineral removed during non-coal surface mining, restoration of the mined area to an approximate original contour is generally not feasible. The degree to which mining could affect the long-range productivity of the petition area is dependent upon the areal extent and depth of mining and upon the rate at which mining occurs. The study of the petitioners' allegation that mining would lower the groundwater table, thereby affecting private water supplies, wetlands and woodlands, indicates that some reduction in groundwater levels could result from mining within the petition area. Three wetland areas with a total surface area of approximately eight acres occur within the petition area. The extent to which the wetland areas may be impacted by mining requires a specific evaluation of the location, areal extent and depth of mining and an evaluation of the plans required to protect the wetlands. The study found that the petition area coincides with the area contained in the Surface Mine Permit Application submitted to the Department by Hogan, Lepore and Hogan. The permit application seeks authorization to mine the Conestoga Limestone. The petition area contains approximately 50 million tons of surface mineable limestone minerals.

Hosterman's Pit – Stover Cave

Keith Wheeland, on behalf of the Nittany Grotto Chapter of the National Speleological Society, submitted a complete area unsuitable for mining petition on June 22, 1992 for two tracts of land consisting of Hosterman's Pit and Stover Cave (30.5 acres and 2.5 acres) in Haines Township, Centre County. Each petition area was determined by projecting the known areal extent of the caverns and then adding an approximate 50 foot buffer zone to the perimeter, adjusted for the physical irregularities of the caverns. Using these boundaries, the areal extent of the petition areas is approximately 17 acres for Hosterman's Pit and approximately 1.7 acres for the Stover Cave area. The petitioners alleged that surface mining operations would cause the destruction of Hosterman's Pit which is an important geologic feature, eliminate recreational opportunities, destroy important paleontological cave features, and adversely affect habitat for cave dwelling animals. The petitioners also alleged that surface mining activities could adversely affect Stover Cave No. 1 which provides habitat for a rare species of bat. The study found that the petition areas are underlain by several hundred feet of limestone mineral. Although all the limestone can be considered an economic resource, the Valentine limestone, which has a calcium carbonate content exceeding 95%, is the most economically valuable. Mining of limestone within the petition areas would result in the destruction of the caverns.

Squaw Run Watershed

Carl K. Thalgott and Dale Mackey (owners and having interests in properties located within the petition area) submitted an area unsuitable for mining petition on May 24, 1993 for approximately 450 acres of land located in Slippery Rock and Wayne Townships, Lawrence County. The Department determined that the petition was complete and notified the petitioners on June 22, 1993, that the petition was accepted for technical study. The petitioners alleged that private water supply sources within the petition area have been adversely affected by previous surface mining activities which caused degradation of groundwater aquifers and that further surface mining would cause additional losses in quality and quantity of water supplies for which no suitable replacements are available. The petitioners also alleged that Squaw Run supports a delicate ecosystem which contains abundant plant and animal life and that previous surface mining activities have resulted in diminished stream flow, depressed pH and elevated sulfate concentrations. Allegations were also made that further surface mining within the petition area could result in contamination of groundwater aquifers in the petition area by

chemicals which may be present in a solid waste landfill located in the Skunk Run Watershed adjacent to the petition area.

Findings of the technical study indicate that surface mineable coals occur throughout the petition and adjacent areas. Approximately 222 acres within the Squaw Run Watershed, including 16 acres within the petition area, have been mined. No surface mining activities are currently being conducted within the Squaw Run Watershed. Conclusions of the technical study are that wells and springs which derive recharge from aquifers at or above the Middle Kittanning coal seam have high potential to be degraded by surface coal mining. Because the occurrences of trace metals and volatile organic compounds which were detected in private water wells within and adjacent to the Squaw Run Watershed were geographically and geologically randomly distributed among the water wells, a direct association with the solid waste landfill could not be established.