

AT A GLANCE

Act 54 Report on Impacts of Underground Coal Mining

The Pennsylvania Department of Environmental Protection (DEP) has produced its first report on the impact underground coal mining has on buildings, water supplies and streams in 10 western Pennsylvania counties.

Required by 1994 amendments to the state's mine subsidence control law (Act 54), the 187-page report is a preliminary study and should not be used to draw any long-term conclusions about the impact of underground mining.

To compile the report, DEP went directly to the owners of 1,884 properties that could have been affected by underground mining from August 1993 to August 1998.

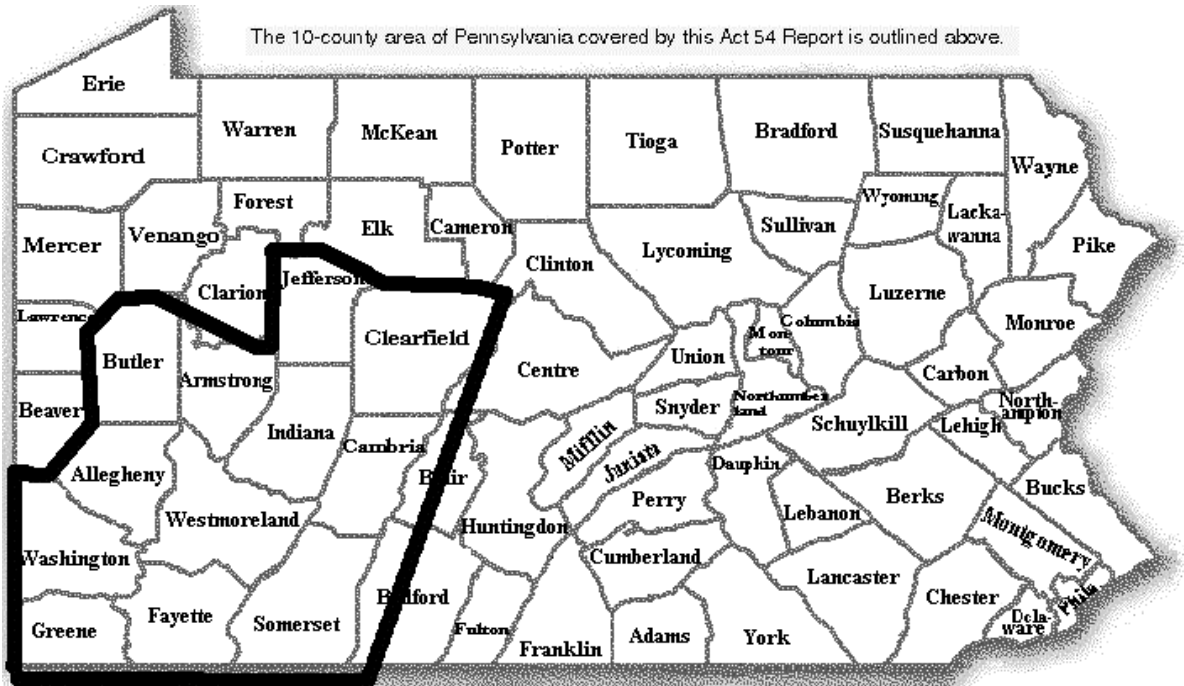
The information landowners reported shows that no damage could be documented from underground mining on two-thirds of the properties in the study area. Of the remaining owners who reported damage, eight have filed complaints with DEP expressing dissatisfaction with the repairs or compensation offered by coal mine operators under the mine subsidence law. Many of the cases where damage has been reported are still pending and are not permanently resolved between the mine operator and the property owner.

DEP plans to issue a supplement to this report later in 1999. The supplement will provide more details on the unresolved cases. More work also will be done to document any permanent impacts to streams and groundwater.

For more information on the Act 54 report, visit the Department of Environmental Protection homepage at www.dep.state.pa.us (choose Subjects/Mineral Resources/Bureau of Mining and Reclamation/Act 54).



The 10-county area of Pennsylvania covered by this Act 54 Report is outlined above.



Background

In coal mining areas of Pennsylvania, surface property owners typically do not own the coal under their properties. The coal is owned separately by coal operators or leased to coal operators who can mine the coal after receiving a permit from DEP.

Status of Reported Damage			
Damage To	Structures	Water Supplies	Cracks, Fissures
Total properties	1884	1884	1884
Owners reporting damage	280 (14.8%)	533 (28.2%)	150 (12.6%)*
Cases resolved satisfactorily	157 (56%)	348 (65.2%)	39 (20%)
Number of cases pending	101 (36%)	160 (30%)	156 (80%)
Unsatisfactory resolutions	22 (7.8%)	25 (4.7%)	0
Claims filed with DEP	4 (1.4%)	4 (0.7%)	0

Under 1994 amendments to the state's Bituminous Mine Subsidence and Land Conservation

*150 property owners reported 195 incidents.

Act — known as Act 54, companies that mine coal underground are responsible for repairing or compensating for damage they cause to structures on the ground surface and to immediately provide temporary water and permanently replace water supplies lost or contaminated due to mining. Operators also must protect perennial streams in areas they undermine.

Primary Structures Reported as Damaged	
Dwellings (including mobile homes)	245
Garages	68
Barns	29
Commercial buildings	7
Churches	1
Total	350

The law specifies the procedures for resolving damage claims between the mine operator and property owner, with DEP becoming involved only when those efforts fail.

The law also requires mine operators to protect public water supplies and prevent material damage to public buildings and facilities from their mining activities. DEP also is required to intervene in cases where homes and

agricultural buildings are likely to experience irreparable damage.

Prior to the 1994 amendments, only certain structures built before 1966 had to be protected from the affects of underground mining and there was no requirement to replace lost water supplies.

Over the last five years, 39,000 acres (61 square miles) of surface lands with about 91 miles of streams were undermined by coal operators in the study area.

Other Structures Reported as Damaged	
Driveways	39
Sheds and other buildings	28
Patios, decks, porches, pavilions	27
Sidewalks	26
Septic Systems	21
Fences	15
Swimming Pools	14
Retaining Walls	8
Silos	4
Ponds	1
Totals	183

About 65 percent of the study area was mined using longwall mining techniques. Longwall mining removes most of the coal in large underground tracts called panels, much like removing icing between layers of a cake. This technique causes the overlying rock to sag resulting in subsidence at the ground surface. The timing and extent of this subsidence is predictable. Knowing when and where subsidence occurs allows mine operators and surface owners to take steps to avoid damage to surface structures and speeds the recovery of water tables and streams.

Old room and pillar mining techniques — where coal is left in the seam to support the roof of

the underground mine — often leads to unpredictable subsidence and damage to surface structures years or even decades after mining has ceased.

The basic information in the report was gathered and verified from a variety of sources, including surveys of property owners and mine operators, and claims and complaints filed with DEP and coal operators. In addition, extensive efforts were made through the news media to invite the public to report damage using a toll-free number.

Results

Of the 1,884 properties undermined in the study area between August 1993 and August 1998, the owners of 280 (14.8 percent) reported damage to structures, 533 (28.2 percent) reported loss or contamination of water supplies and 150 reported 195 incidents of damage (10.3 percent) to the land surface in the form of cracks or fissures during the five-year study period.

Of the cases where structural damage was reported, 157 (14.8 percent) were resolved satisfactorily, 101 (36 percent) are pending between the mine operator and property owner under the procedures in the law, 22 (7.8 percent) were resolved in a manner considered unsatisfactory by the property owner and all but four took no further action, and in those four cases (1.4 percent) the property owners filed a complaint with DEP.

In the case of loss or damage to water supplies, 348 (65.2 percent) of the cases were resolved, 160 (30 percent) are still pending between the mine operator and surface owner, 25 (4.7 percent) of the cases were resolved in unsatisfactory ways and all but four took no further action and, in those four (0.7 percent) cases, owners filed complaints with DEP.

Although cases involving structural and water supply damage are pending, mine operators are complying with the state mine subsidence law, providing temporary water supplies as required, and, when relocation is necessary, paying the expenses. DEP has the authority to investigate and act on cases where emergency situations arise or where operators do not live up to their obligations under the law.

The 150 property owners who reported damage to surface land identified a total of 195 incidents. Of the 195 reported cases, 39 (20 percent) have been resolved and 156 (80 percent) are still pending between the property owner and mine operator.

Sixteen incidents of stream damage were reported by property owners. However, many could not be confirmed and are undergoing additional investigation for the supplemental report to be issued.

To determine whether public facilities were impacted by underground mining during this period, DEP surveyed municipalities, water and

Stats At a Glance - 1993-1998	
Surface Lands Undermined	39,000 acres (61 sq. miles)
Stream Areas Undermined	91 miles of streams
Road Miles Undermined	285 miles
Road Miles Damaged	4 miles
Road Miles Repaired	All but 0.2 mile
Natural Gas Pipelines Undermined	14 miles
Natural Gas Customers with Temporary Service Interruptions	68 served by transmission lines 55 served by distribution lines

Basic Statistics for Study Area	
Total Underground mine permit area	335,360 acres (524 sq. miles)
Total area undermined in last 5 years	39,000 acres (61 sq. miles)
Average annual area undermined	7,770 acres (12 sq. miles)
Average area longwall mined	4,920 acres (7.6 sq. miles)
Average area room-pillar mined	2,850 acres (4.4 sq. miles)
Total miles of streams in permit area	784 miles
Miles in areas mined 1993-98	91 miles
Total miles of gas transmission lines in area	106 miles
Miles in areas mined 1993-98	10.4 miles
Miles of gas distribution lines impacted in areas mined 1993-98	3.8 miles
1998 Bituminous Underground Mine Production	61,284,503 tons
1998 Bituminous Surface Mine Production	16,576,266 tons

sewer authorities and the Department of Transportation. There were, for example, about 285 miles of roads undermined in the study area.

Of the 188 organizations surveyed, 10 reported damage during the five-year study period. These reports mostly concerned damage to roads. Four miles of road were reportedly damaged by mining. All but 0.2 mile of damaged road has been repaired.

DEP also surveyed the 11 companies that own natural gas transmission and distribution pipelines in the study area. More than 14 miles of gas pipelines were undermined in the study area with no reports of significant damage. However, 68 customers of transmission lines and 55 customers of distribution lines were temporarily without service during the five-year study period. In these cases, other service was provided as a substitute.

One thing this report clearly shows is that DEP needs to educate surface property owners about their rights under the mining law. DEP plans to work with local governments, citizen groups, the media and members of the General Assembly in these areas to do more to educate the public about their rights.



For More Information

The entire report and maps from DEP's geographic information system showing where underground coal mining is occurring in the 10-county study area are available by visiting DEP through the Pennsylvania homepage at www.dep.state.pa.us or directly at <http://www.dep.state.pa.us/dep/deputate/minres/BMR/act54/index.html>.

Printed copies of the complete report can be obtained by writing Harold Miller at the Department of Environmental Protection, Bureau of Mining and Reclamation, Rachel Carson State Office Building, P.O. Box 8461, Harrisburg, PA 17105-8461, by calling 717-783-8845, or by sending an e-mail with your postal address to: miller.harold@dep.state.pa.us