



Summer 1963

Strip Mining Legislation

Robert G. Meiners

Recommended Citation

Robert G. Meiners, *Strip Mining Legislation*, 3 Nat. Resources J. 442 (1963).
Available at: <https://digitalrepository.unm.edu/nrj/vol3/iss3/6>

This Article is brought to you for free and open access by the Law Journals at UNM Digital Repository. It has been accepted for inclusion in Natural Resources Journal by an authorized editor of UNM Digital Repository. For more information, please contact amywinter@unm.edu, lsloane@salud.unm.edu, sarahrk@unm.edu.

STRIP MINING LEGISLATION

ROBERT G. MEINERS*

Legislation regulating strip mining operations is of comparatively recent origin. West Virginia was the first state of any significance in terms of strip mining activity to enact such legislation and did so in 1939.¹ Since that time five of the other "big six" strip mining states have followed suit: Indiana in 1941,² Illinois in 1943,³ Pennsylvania in 1945,⁴ Ohio in 1947,⁵ and Kentucky in 1954.⁶ Most of the other fifteen or so states in which strip mining operations are conducted have no regulatory statutes. While such legislation is not, in all six states, confined to coal mining but also includes the mining of clay, limestone and other minerals, coal mining is the most important in terms of total number of stripping operations and total number of tons produced. It is the purpose of this article to discuss the strip mining of coal, the problems which it creates, and the legislation which regulates it.

At this point, a word of clarification is necessary. By strip mining, I refer to the mechanical removal of earth (called the overburden) which lies over a seam of coal and then the scooping out of the coal itself. This operation is conducted above ground and employs no tunnels or shafts. Naturally, this can only be done where the coal deposits lie relatively close to the earth's surface. In 1960 it was estimated that the average thickness of the overburden at all strip mining operations in the United States was forty-six feet.⁷ Naturally, the deeper the coal the more difficult and expensive is the operation until a point of diminishing returns is reached. No recorded strip mine has gone deeper than one hundred feet, and few have gone to eighty feet.⁸

* Associate Professor of Law, University of Pittsburgh.

1. W. Va. Acts 1939, ch. 84; see Note, 47 W. Va. L. Rev. 52 (1940). This law was repealed by W. Va. Acts 1945, ch. 85. For the present West Virginia strip mining law see W. Va. Code Ann. §§ 2461(2)—(10e), 2312(35)—(35g5) (1961, Supp. 1963).

2. Ind. Acts 1941, ch. 68 (amended by Ind. Acts 1951, ch. 129; Ind. Acts 1963, ch. 106); for the present Indiana strip mining law see Ind. Ann. Stat. §§ 46-1501 to -1515 (1952, Supp. 1963).

3. Ill. Laws 1943, vol. 1, p. 912. This law was repealed by Ill. Laws 1949, p. 1588, § 1. For the present Illinois strip mining law see Ill. Ann. Stat. ch. 93, §§ 180.1—13 (Smith-Hurd Supp. 1962).

4. Pa. Laws 1945, p. 1198 (amended by Pa. Laws 1961, p. 1210); for the present Pennsylvania strip mining law see Pa. Stat. Ann. tit. 52, §§ 1396.1—.20 (1954, Supp. 1962) (bituminous coal).

5. Ohio Laws 1947, p. 730 (amended by Ohio Laws 1959, p. 1231); for the present Ohio strip mining law see Ohio Rev. Code §§ 1513.01—.26, .99 (Anderson 1954, Supp. 1962).

6. Ky. Acts 1954, ch. 8 (amended by Ky. Acts 1962, ch. 105); for the present Kentucky strip mining law see Ky. Rev. Stat. Ann. §§ 350.010—.990 (1963).

7. Bureau of Mines, Department of the Interior, 2 Minerals Yearbook 91 (1961).

8. *Ibid.*

Strip mining operations are of two types: contour stripping, and area stripping. The particular type employed is dependent upon the topography of the land. Contour stripping is employed in hilly regions where the coal seam runs along the slope of the hill. First, bulldozers lay out a footing for the power shovels. The shovels are then brought in and scoop off the overburden. The resulting depression is called a "cut." The shovels follow the seam of coal down the cut, scooping off the overburden and depositing it at the outer edge of the cut. The width of the cut varies from thirty to one hundred feet. The shovel then scoops out the coal and loads it into trucks which haul it away. Pieces of equipment called "draglines" closely resemble power shovels and are used interchangeably with power shovels in strip mining.

Area stripping occurs where the land is flat. Here the stripping is continuous over a large area.⁹ Thus, in either operation almost all of the coal is extracted. This compares favorably with underground mining where only forty-five to eighty-five per cent of the coal can be extracted.

In both contour and area stripping, their effect on the surface of the land can be described as follows:

A completed strip mine operation leaves the earth as if furrowed by a large plow which has turned the earth upside down to a depth of ten to seventy feet, leaving a final furrow, 'the pit' on the unmined side of which stands a verticle precipice called the 'highbank.'¹⁰

In terms of total number of tons of coal produced, the above mentioned "big six" states account for approximately eight-five per cent of all bituminous coal produced by the stripping process in the United States. In terms of total number of operations, they account for approximately seventy-eight per cent. Their production is as follows:

BITUMINOUS COAL PRODUCTION BY STRIP MINING
OPERATIONS IN THE UNITED STATES¹¹

State	Number of Strip Mines	Production of Bituminous Coal in Net Tons
Illinois	69	22,670,585
Indiana	47	10,784,967
Kentucky	129	19,672,192
Ohio	265	23,883,289
Pennsylvania	553	20,875,533
West Virginia	140	6,754,001
Total six states	1,203	104,640,567
Total U.S.	1,530	122,629,664

9. TVA, *An Appraisal of Coal Strip Mining* 4 (1963).

10. Moore & Headington, *Agriculture and Land Use as Affected by Strip Mining of Coal in Eastern Ohio* 2 (Dep't of Rural Economics, Ohio State Univ., 1940).

11. Bureau of Mines, *op. cit. supra* note 7, at 59.

These figures represent a considerable increase in both number and tons over the years. Although strip mining can be traced back to approximately 1866, the first year for which reliable statistics can be found is 1914.¹² In that year, 1,281,000 tons of coal were produced by strip mining. The rapid growth of the strip mining industry can be attributed to two major factors: (1) the tremendous increase in demand caused by World Wars I and II, and (2) the steady development of larger and more improved equipment. By 1961 strip mining accounted for more than thirty per cent of all the coal produced in the United States.¹³ Today virtually all steam shovels have been replaced by diesel and electric powered shovels. A new 115 cubic yard diesel shovel, placed in operation in 1963, can strip as much as 140 feet of soil at the rate of three million cubic yards per month.¹⁴

Principally as a result of this increased efficiency in equipment, profits from strip mining have also increased. It has been estimated that the output per man per day in strip mines is more than double the output in underground or "deep" mines. In central Pennsylvania, for example, one man in a deep mine produces approximately 4.68 tons of coal per day, whereas one man in a strip mine produces approximately 11.30 tons per day.¹⁵ This is one of the major reasons why, in Pennsylvania, strip mining of bituminous coal has increased from fifteen per cent of the total production of coal (where it was during World War II) to the present twenty-five per cent of total production.¹⁶

But what of the resulting landscape? After any stripping operation, huge piles of overburden stand row upon row. All existing vegetation is destroyed. Various substances are exposed to the elements and result in the formation of acid pools which lie stagnant and noisome. Soil erosion can then cause these acid pools to drain into streams, polluting them, ruining lower riparian land, and killing fish and game. During a recent debate in the United States Senate, Senator Lausche, who led the fight for the adoption of strip mine legislation while Governor of Ohio, said:

I can only say that if anybody with some sense of esthetic value goes into the strip mining areas and sees what has been done, he can do nothing else but weep at the cruelty of mankind in destroying and butchering the beauty of the land.¹⁷

12. *Ibid.*

13. *Ibid.*

14. TVA, *op. cit. supra* note 9, at 4. A dragline soon to be in operation will have an eighty-five yard bucket and a 275 foot boom.

15. Pa. Joint State Gov't Comm'n Rep., *Pennsylvania Minerals* 8, Table 2 (1955); Pa. Panel of Technical Advisors on Coal Marketing Rep. to Joint State Gov't Comm'n, *Coal in Pennsylvania, Recent Developments and Prospectus* 15, Table 1 (1963).

16. Pa. Joint State Gov't Comm'n Rep., *op. cit. supra* note 15, at 28.

17. 109 Cong. Rec. 3413 (daily ed. March 7, 1963) (remarks of Senator Lausche).

With the rapid growth of stripping operations and the resulting spoilation of larger and larger areas of land came a corresponding increase in demands for legislation to do something about it. After West Virginia led the way in 1939,¹⁸ other states joined the ranks. Today, each of the six major strip mining states has regulatory legislation.

I

STATE LEGISLATION

In those states in which the constitutionality of strip mining legislation has been tested, it has been upheld, usually under the police power. An exception, however, is Illinois. The original Illinois statute, enacted in 1943,¹⁹ was declared unconstitutional by the Illinois Supreme Court in *Northern Illinois Coal Corp. v. Medill*.²⁰ Strangely enough, one defect found in the statute by the court was that it was not sufficiently restrictive. The statute required that all cuts be backfilled except the final one. In rejecting the argument that mosquitoes and bacteria tended to breed in pools of water which resulted from strip mining and thus requiring backfilling to eliminate such pools was a public health measure, the court said:

If the act required the elimination, by draining or filling, of all ponds or pools of water left behind in the strip mining process, it might reasonably be assumed that it was intended for the protection of the public health, but the requirements of the present act do not appear to have a reasonable relation to that purpose.²¹

Thus the 1943 act, to be a valid public health measure, should have been more restrictive and should have required the filling of the final cut. However, the court delivered the *coup de grace* by declaring that the act discriminated against coal strip mine operators.²²

This novel argument of discrimination was used unsuccessfully in attempts to invalidate the Pennsylvania and Maryland statutes which are limited not only to coal mines but, more specifically, to strip coal mines. The draftsmen of the Illinois statute apparently learned their lesson, because the 1961 statute²³ regulating strip mines refers to all strip mines and makes reference in an oblique way to coal, clay, stone, sand, and gravel.

18. W. Va. Acts 1939, ch. 84.

19. Ill. Laws 1943, vol. 1, p. 912.

20. 379 Ill. 98, 72 N.E.2d 844 (1947); see Note, 23 Ind. L.J. 168 (1947).

21. *Northern Ill. Coal Corp. v. Medill*, 379 Ill. 98, 72 N.E.2d 844, 847 (1947).

22. 72 N.E.2d at 848.

23. Ill. Laws 1961, p. 3113; see Ill. Ann. Stat. ch. 93, §§ 180.1—13 (Smith-Hurd Supp. 1962).

The Pennsylvania statute²⁴ was unsuccessfully attacked in *Dufour v. Maize*.²⁵ In addition to the argument used successfully in Illinois in *Northern Illinois Coal* that such an act constitutes an unreasonable classification because it singles out coal stripping from other stripping operations, it was also argued in *Dufour* that the act was an unconstitutional deprivation of property without due process, levied taxes that were not uniform, and bore no relation to the value of the property or the right taxed. Those arguing in favor of the act pointed to the police power and the conservation of natural resources. In upholding the constitutionality of the statute, the Supreme Court of Pennsylvania said, *inter alia*, that this is legislation for a class and thus a "general" and not "special" law, and the classification of open pit mining as distinguished from other mining is founded on real distinctions.²⁶

A. The Six State Statutes: Some General Comments

A basic pattern of similarity is discernable in the strip mining laws enacted by the states of Illinois, Indiana, Kentucky, Ohio, Pennsylvania, and West Virginia. They differ, however, in their value determinations as to what is necessary for the conservation of natural resources in the particular state. The similarities can be seen in the unanimous requirement that before commencing strip mining operations an operator must apply to some state agency for a permit or license and cannot commence operations until it is issued. The information required in these applications ranges from general to detailed. All applications require payment of a fee before the license or permit is issued. Fees vary from those ranging from fifty dollars to one hundred dollars, to a sliding scale fee which may be considerably more. Each license or permit is good for one year.

Closely related to the license is the requirement in all states for the posting, by the operator, of a performance bond. These bonds range from a minimum of \$1,000 to a maximum of \$4,000. Some statutes allow the posting of cash or securities in lieu of a bond.

The two most controversial requirements of all six strip mining laws, back-filling and reclamation, have marked differences. This will be seen more clearly in the discussion below.

Each statute provides for penalties that range from fines of fifty dollars to \$5,000, with one state including an "and/or" jail sentence of three months. Some states' sanctions apply to any violation of the act, and some sanctions apply only to the failure to post bond and secure a license. The significance of

24. Pa. Laws 1945, p. 1198 (amended by Pa. Laws 1961, p. 1210); see Pa. Stat. Ann. tit. 52, §§ 1396.1—20 (1954, Supp. 1962).

25. 358 Pa. 309, 56 A.2d 675 (1948); see Note, 9 U. Pitt. L. Rev. 298 (1948); Annot., 1 A.L.R.2d 563 (1948).

26. *Dufour v. Maize*, 358 Pa. 309, 56 A.2d 675, 677-78 (1948).

these sanctions is that in some states failure to comply with the backfilling and reclamation requirements (which are together the heart of the statutes) subjects the operator to fine and imprisonment as well as forfeiture of his bond. In each state, with one slight exception, failure to comply with the backfilling and reclamation provisions results in forfeiture of the bond.

B. The Six State Statutes in Detail

For comparative purposes, the six strip mining statutes lend themselves to an analysis in the following categories: (a) Who is subject to the act?; (b) What governmental agency administers the act?; (c) Permit or license requirement?; (d) Bond requirement?; (e) Backfilling and/or grading and when?; (f) Reclamation, reforestation, and when?; and (g) Penalties?.

1. Illinois

As previously mentioned, the 1943 Illinois act was declared unconstitutional for singling out coal operators.²⁷ The 1961 act²⁸ is broader and includes all stripping operations, whatever the mineral.²⁹ However, a unique feature of this act is that no operator is subject to it unless the overburden in his operation exceeds a depth of ten feet.³⁰ This is the only state which has such a requirement, and its wisdom seems dubious. Naturally, the deeper the cut the more serious the spoilation of the landscape. However, it is not so much the depth of the cut that causes the problems as do the resulting erosion, destruction of vegetation, and accumulation of acid waters to serve as breeding places for bacteria and mosquitoes and to pollute streams. However, as a practical matter, it may be that in Illinois most or all of the coal seams lie more than ten feet below the overburden, in which case most or all strippers will be subject to the act.

The Department of Conservation administers the act.³¹ This is in keeping with a majority of the other states. In only Pennsylvania does the Department of Mines and Mineral Industries administer the act.³² Since these strip mining acts are aimed primarily at the conservation of our natural resources, it would seem more appropriate to have a conservation-oriented agency in charge of administration and enforcement.

A permit or license is required before operations begin.³³ The application requires information concerning the description of the land, the estimated num-

27. See notes 19-22 *supra* and accompanying text.

28. Ill. Laws 1961, p. 3113; see Ill. Ann. Stat. ch. 93, §§ 180.1—13 (Smith-Hurd Supp. 1962).

29. Ill. Ann. Stat. ch. 93, § 180.3 (Smith-Hurd Supp. 1962).

30. Ill. Ann. Stat. ch. 93, § 180.4 (Smith-Hurd Supp. 1962).

31. Ill. Ann. Stat. ch. 93, § 180.10 (Smith-Hurd Supp. 1962).

32. Pa. Stat. Ann. tit. 52, § 1396.4(b) (Supp. 1962).

33. Ill. Ann. Stat. ch. 93, § 180.5 (Smith-Hurd Supp. 1962).

ber of acres to be affected, and a statement of the right to mine the land.³⁴ There is no minimum fee; rather, a sliding scale fee is charged, ranging from fifty dollars for one acre to \$340 for fifty acres and four dollars additional for each acre over fifty.³⁵ This makes Illinois the potentially least expensive state in which to operate.

Unlike the license fee, there is a minimum amount for bond, and it is \$1,000 plus \$200 for each acre in excess of five acres.³⁶

Areas which are adjacent to public highways must be graded to reduce peaks and ridges to a "rolling topography."³⁷ While at first blush this appears to be better than states like Pennsylvania which allows a forty-five degree angle on backfilled ridges, serious difficulties can arise as to what constitutes a "rolling topography." Without any backfilling, it can be said that a stripped area has a rolling topography if by "rolling" is meant a series of craters and mounds resembling an artist's conception of the surface of the moon. It would seem, therefore, that a heavy burden is placed on the enforcement authorities. Strip mine operators can exert powerful pressures, and it goes without saying that the more backfilling that is required the more this cuts into their profits.

In final cuts, earth dams are required to be constructed if, in so doing, adjoining property is not damaged or other mining operations are not jeopardized.³⁸ In areas to be seeded to pasture, peaks and ridges must be stricken off to a width of ten feet.³⁹ In areas to be used for crops, peaks and ridges must be stricken off and valleys filled so that farm machinery will be able to operate.⁴⁰

The reclamation provision is another unique feature in the Illinois act. It is the strip mine operator (who may or may not own the surface of the land) who determines the type of reclamation to be accomplished. He may select "forest, pasture, crop, horticultural, homesite, recreational, industrial or other . . ." ⁴¹ Query, what does "other" include? What is to prevent him from selecting the least expensive, regardless of what is best suited to the land? No planting is required in areas which are used for the deposit or disposal of refuse (and these may be considerable). Also, no planting is required where the chemical and physical characteristics are such as to inhibit plant growth.⁴² This

34. *Ibid.*

35. *Ibid.*

36. Ill. Ann. Stat. ch. 93, § 180.8 (Smith-Hurd Supp. 1962).

37. Ill. Ann. Stat. ch. 93, § 180.6(a) (Smith-Hurd Supp. 1962).

38. Ill. Ann. Stat. ch. 93, § 180.6 (Smith-Hurd Supp. 1962).

39. *Ibid.*

40. *Ibid.*

41. *Ibid.*

42. *Ibid.*

would seem to be a reasonable requirement only if it is assumed that nothing could be done to make such areas susceptible to plant growth. However, by a careful managing and spreading of the topsoil combined with the application of lime and fertilizer, it may be possible that most, if not all, of the area could be reclaimed. It would appear that the Illinois statute has serious shortcomings in regard to reclamation.

As for the time within which this must be accomplished, the statute allows three years from the date of the proposed reclamation plan.⁴³ This would appear to be overly long. Valuable years of growing time are thus lost. Most of the other states have shorter time requirements, one year being the most common.

The statute also provides that the operator may substitute other land previously mined but not reclaimed, *i.e.*, land which has been strip mined before the effective date of the statute. The only qualification to this requirement is that the number of substituted acres must equal the number of acres in the strip mining operation.⁴⁴ This poses several problems. No consideration is given to the ease or difficulty of reclaiming the other substituted land. If reclamation on the substituted land may be done more easily and cheaply by the operator than on the tract which he has just strip mined, is there any doubt which tract he will elect to reclaim? Also, it may be that the tract presently mined constitutes a more serious health hazard and monumental eyesore than the substituted tract. Nevertheless, it is the operator alone who makes the determination. If the right of substitution is to be provided for in the statute, it would be much better to make the right dependent on criteria other than an equal number of acres. The Director of the Illinois Department of Conservation should be allowed to exercise his administrative discretion to guard against possible abuses.

And what about the landowner? Very few strip mine operators own the land on which they are conducting operations. The custom is to operate on a royalty basis under a lease. If the operator happens to own land which he has previously stripped, is there any doubt that he will elect to substitute that land for the present tract which he does not own and which now lies devastated?

The penalty of a fine from fifty dollars to \$1,000 is limited to violation of only one provision of the act;⁴⁵ this penalty can be imposed only for failure to secure a permit before engaging in operations.⁴⁶ This compares unfavorably with states like Indiana and Kentucky which make violations of any of the provisions of their statutes subject to penalties.

43. *Ibid.*

44. *Ibid.*

45. Ill. Ann. Stat. ch. 93, § 180.13 (Smith-Hurd Supp. 1962).

46. *Ibid.*

2. Indiana

The Indiana act⁴⁷ was amended in 1963,⁴⁸ and the amendment broadens the coverage considerably. Prior to 1963, only operators who mined 2,500 tons or more in any twelve successive months period were subject to the act.⁴⁹ The 1963 amendment rejected this tonnage basis for the term "commercial strip mining."⁵⁰ Thus, even the smallest operators are now subject to the act. This is a definite improvement. The unfortunate aspect of the pre-1963 minimum tonnage requirement was that it is not necessarily the large operator with whom we are most concerned. The small fly-by-night operator, who was here today and gone tomorrow, could have irreparably damaged the land without fear of governmental sanctions under the earlier provisions.

The Indiana Department of Conservation administers the act.⁵¹

A permit is required before commencing strip mining operations.⁵² The fee for this permit is based on a sliding scale, the minimum being one hundred dollars for less than ten acres and the maximum being \$300 for fifty acres and two dollars per acre for each acre thereafter.⁵³ The permit is good for one year.⁵⁴

The 1963 amendment lowered the performance bond requirement from \$1,000 plus \$200 per acre for each acre in excess of five,⁵⁵ to \$1,000 plus one hundred dollars per acre for each acre in excess of five.⁵⁶ This change has some dangerous implications. If, for example, a strip mine operator fails or refuses to perform the required land reclamation, the Director of the Department of Conservation is then authorized to have the work performed and may secure reimbursement from the surety.⁵⁷ Lowering the amount of the bond from \$200 to one hundred dollars per acre gives the Department of Conservation that much less to work with, should it be required to do the work. Also, by lowering the amount of the bond, the Legislature might possibly be encouraging operators to forfeit rather than reclaim the land, especially when the reclamation cost would exceed the amount of the bond.

47. Ind. Acts 1941, ch. 68, (amended by Ind. Acts 1951, ch. 129).

48. Ind. Acts 1963, ch. 106; see Ind. Ann. Stat. §§ 46-1501 to -1515 (1952, Supp. 1963).

49. Ind. Acts 1941, ch. 68, § 2 (amended by Ind. Acts 1951, ch. 129, § 1).

50. Ind. Ann. Stat. § 46-1502 (Supp. 1963).

51. Ind. Ann. Stat. §§ 46-1502, -1504, -1505 (Supp. 1963).

52. Ind. Ann. Stat. § 46-1504 (Supp. 1963).

53. *Ibid.*

The 1963 Amendment did not change the minimum fee. However, it did change the former maximum fee of \$500 for one hundred acres or more. See Ind. Acts 1941, ch. 68, § 4 (amended by Ind. Acts 1951, ch. 129, § 3).

54. Ind. Ann. Stat. § 46-1504 (Supp. 1963).

55. Ind. Acts 1941, ch. 68, § 7 (amended by Ind. Acts 1951, ch. 129, § 6).

56. Ind. Ann. Stat. § 46-1507 (Supp. 1963).

57. *Ibid.*

Peaks and ridges adjacent to public highways must be graded to a "rolling topography,"⁵⁸ whatever that term means. This is the same phrase used in the Illinois statute⁵⁹ and is subject to the same criticism. In all areas which are to be afforested, the operator must strike off ridges to a width of at least ten feet at the top and grade peaks to a minimum of fifteen feet at the top.⁶⁰ This is similar to the pre-1963 grading requirements⁶¹ but is an improvement in terminology. No longer does the grading requirement speak in terms of leveling off "unsightly" ridges.⁶² The 1963 amendment thus eliminates the possibility of different interpretations being placed on "unsightliness" because of differing individual aesthetic value judgments.

Acid forming materials left in the cut must be covered to a depth of not less than two feet, and areas to be planted must be worked in such a way that farm machinery can operate.⁶³ The former is a new requirement and has much to recommend it. This will be discussed in more detail in connection with water pollution.⁶⁴ The latter requirement was carried forward from the pre-1963 act.⁶⁵ On all affected land which is to be afforested, the operator is required to construct fire lanes or access roads.⁶⁶

An unfortunate change made by the 1963 amendment is the elimination of the former requirement that the operator could not remove his machinery until he had complied with the grading requirements.⁶⁷ Thus, if the operator needed his equipment for another job, he would have graded the land rather quickly in order to get his machinery off the site. The quicker the grading, the less exposure of sulfur and other acid causing materials. The 1963 amendment is completely devoid of any time requirement for grading or coverage of acid forming materials.

The operator decides upon the method by which the land is to be replanted.⁶⁸ The alternative methods are seed, plants, trees, shrubs, or grasses.⁶⁹ Substitution of an equal number of previously stripped acres is permitted.⁷⁰

Another unfortunate provision contained in the 1963 amendment is the use

58. Ind. Ann. Stat. § 46-1505(b) (Supp. 1963).

59. Ill. Ann. Stat. ch. 93, § 180.6(a) (Smith-Hurd Supp. 1962); see note 37 *supra* and accompanying text.

60. Ind. Ann. Stat. § 46-1505(b) (Supp. 1963).

61. Ind. Acts 1941, ch. 68, § 5(b) (amended by Ind. Acts 1951, ch. 129, § 4).

62. *Ibid.* See also Ind. Ann. Stat. § 46-1505 (Supp. 1963).

63. Ind. Ann. Stat. §§ 46-1505(d), (g) (Supp. 1963).

64. See text at 461-63, *infra*.

65. Ind. Acts 1941, ch. 68, § 5 (amended by Ind. Acts 1951, ch. 129, § 4(e)).

66. Ind. Ann. Stat. § 46-1505(e) (Supp. 1963).

67. Ind. Acts 1941, ch. 68, § 5(c) (amended by Ind. Acts 1951, ch. 129, § 4).

68. Ind. Ann. Stat. § 46-1505(h) (Supp. 1963).

69. *Ibid.*

70. *Ibid.*

of language similar to that which appears in the Illinois statute⁷¹ making it possible for no planting at all to be done. No planting is required on any land which the operator has used for the deposit or disposal of refuse.⁷² There is no limitation in the statute on the size of the area which may be used for the deposit or disposal of refuse. Thus, it is at least theoretically possible for an operator to dump a small layer of refuse over the entire area and plant nothing.

However, if the operator does plant, the planting must be done in the following planting season.⁷³ Thus, in specifying that the planting must be done during a "planting season" rather than allowing it to be done at any time during the year, whatever is planted has a much better chance of survival. Studies have shown, for example, that the best time of year for planting trees on strip mined land in the central states is in late winter and early spring. Fall planting, on the other hand, usually results in much loss from frost-heaving.⁷⁴

The violation of any provision of the act subjects the violator upon conviction to a fine of from \$1,000 to \$5,000.⁷⁵

3. Kentucky

The first Kentucky strip mining legislation was enacted in 1954.⁷⁶ However, new legislation was passed and went into effect in 1962.⁷⁷

As was formerly the case in Indiana,⁷⁸ the Kentucky law speaks in terms of a tonnage requirement—one hundred tons within twelve successive months.⁷⁹ However, the Kentucky law has another standard. It includes any strip mine operator who disturbs more than one-fourth of an acre of land.⁸⁰ This would seem to be almost as preferable as the more simple designation of "all" operators, because operations involving less than a quarter of an acre would be extremely rare. Nevertheless, any operator stripping less than one hundred tons on less than a quarter of an acre is exempt. This one hundred ton requirement is an improvement over the original act which set 250 tons as the basic requirement.

71. Ill. Ann. Stat. ch. 93, § 180.6 (Smith-Hurd Supp. 1962); see note 42 *supra* and accompanying text.

72. Ind. Ann. Stat. § 46-1505(i) (Supp. 1963).

73. *Ibid.*

74. USDA, Forest Service, *Forestation of Strip-mined Land in the Central States* 50 (Agriculture Handbook No. 166, 1960).

75. Ind. Ann. Stat. § 46-1512 (1952).

76. Ky. Acts 1954, ch. 8.

77. Ky. Acts 1962, ch. 105; see Ky. Rev. Stat. Ann. §§ 350.010—990 (1963). See also Note, 50 Ky. L.J. 524 (1962).

78. Ind. Acts 1941, ch. 68, § 2 (amended by Ind. Acts 1951, ch. 129, § 1). See note 49 *supra* and accompanying text.

79. Ky. Rev. Stat. Ann. § 350.010(5) (1963).

80. *Ibid.*

The Strip Mining and Reclamation Commission of the Kentucky Department of Conservation administers the provisions of the act.⁸¹

A permit is required prior to commencement of operations,⁸² and the information required in the application is more exhaustive than in some of the other states. The operator must state the location, the names of the surface owners and coal owners, the source of his right to enter and mine, his address, and any other permits to strip mine that he has been issued.⁸³ Unfortunately, there does not appear to be any discretion on the part of the issuing authority to deny a permit on the basis of previous violations as discovered in the application information. The license fee is fifty dollars plus fifteen dollars for each acre affected.⁸⁴

The minimum performance bond is \$1,000 with an additional one hundred dollars to \$250 per acre as set by the Commission.⁸⁵ Giving the Commission such discretion has merit in that the Commissioner could set the higher figure in situations where, for example, the depth of the proposed cuts is such that the operator may profit more by forfeiting his bond rather than by backfilling. An increase to the maximum amount might reduce the attractiveness of bond forfeiture. Also, the Commission, in its discretion, can reduce the amount of the bond to an amount less than the minimum for any particular operator.⁸⁶ This exception has merit if the Commission's discretion is used to reward operators who have proven themselves to be responsible by living up to the spirit and letter of the law in past operations. By reducing the amount of the bond and thus increasing the working capital of responsible operators, the Commission can provide an inducement for other operators to perform more satisfactorily the backfilling and reclamation functions. However, strip mine operators can constitute a powerful lobbying group, and their concerted pressure on the Commission might result in the exception becoming the general rule.

Another meritorious feature of the Kentucky legislation is that all license fees and bond forfeitures go into the Strip Mine Reclamation Fund and are earmarked for that particular strip mined land, rather than going into the state's general treasury.⁸⁷

Operators must cover the face of any exposed coal and, where practicable, all toxic materials, roof coal, and pyritic coal or shale.⁸⁸ They must impound,

81. Ky. Rev. Stat. Ann. §§ 350.028, .050 (1963).

82. Ky. Rev. Stat. Ann. § 350.060(1) (1963).

83. Ky. Rev. Stat. Ann. § 350.060(2) (1963).

84. Ky. Rev. Stat. Ann. § 350.060(4) (1963).

85. *Ibid.*

86. *Ibid.*

87. Ky. Rev. Stat. Ann. § 350.140 (1963).

88. Ky. Rev. Stat. Ann. § 350.090(1) (a) (1963).

drain, or treat all runoff waters to reduce soil erosion, damage to agricultural lands, and pollution of streams.⁸⁹ They must remove or bury all lumber, metal, or other refuse resulting from the strip mining operation.⁹⁰ Finally, they must grade the overburden, where practicable.⁹¹ In general, this would seem to be a good, workable program. It must be commenced as soon as possible after the beginning of the operation and completed when feasible.⁹² If accompanied by strict and vigorous enforcement by the Commission, this would be an excellent statutory backfilling and grading provision.

Although the operator is required to prepare and carry out a reclamation plan,⁹³ the act is rather vague and uncertain in this regard. The major emphasis appears to be on backfilling and grading rather than on reclamation. There is a vague reference to the requirement of "suitable vegetative cover."⁹⁴

A fine of \$500 to \$1,500 is provided for each wilful violation of any provision of the act, and each day constitutes a separate offense.⁹⁵ This is a better penalty provision than found in the statutes of those states which limit the penalties to license and bond violations. Thus, a wilful backfilling violation would appear to lead to more than just forfeiture of the bond—it would also include a fine. An "and/or" jail sentence would make this a better sanction. Another meritorious feature of the Kentucky act is that it specifically authorizes the Attorney General to seek an injunction for any threatened violation of the act.⁹⁶

4. Ohio

The Ohio statute⁹⁷ speaks in terms of a tonnage requirement—250 tons or more within twelve successive months from any one operation.⁹⁸ While this requirement is worse than the Kentucky statute's one hundred tons,⁹⁹ it is better than the pre-1963 Indiana statute's 2,500 tons requirement.¹⁰⁰

The Division of Reclamation within the Ohio Department of Natural Resources administers the act.¹⁰¹

A permit is required before commencing operations, and the fee is only

89. Ky. Rev. Stat. Ann. § 350.090(1) (c) (1963).

90. Ky. Rev. Stat. Ann. § 350.090(1) (d) (1963).

91. Ky. Rev. Stat. Ann. § 350.090(1) (e) (1963).

92. Ky. Rev. Stat. Ann. § 350.100(1) (1963).

93. Ky. Rev. Stat. Ann. § 350.090(1) (1963).

94. Ky. Rev. Stat. Ann. § 350.090(1) (e) (1963).

95. Ky. Rev. Stat. Ann. § 350.990(3) (1963).

96. Ky. Rev. Stat. Ann. § 350.990(2) (1963).

97. Ohio Rev. Code §§ 1513.01—.26, .99 (Anderson 1954, Supp. 1962).

98. Ohio Rev. Code § 1513.01 (F) (Anderson Supp. 1962).

99. Ky. Rev. Stat. Ann. § 350.010(5) (1963). See note 79 *supra* and accompanying text.

100. Ind. Acts 1941, ch. 68, § 2 (amended by Ind. Acts 1951, ch. 129, § 1). See note 49 *supra* and accompanying text.

101. Ohio Rev. Code §§ 1513.02, .04 (Anderson Supp. 1962).

fifty dollars plus ten dollars per acre of land intended to be strip mined.¹⁰² The permit is good for one year.¹⁰³

A performance bond is required, the minimum being \$1,000 computed on the basis of \$220 per acre affected by the permit.¹⁰⁴ A cash deposit is acceptable in lieu of a bond.¹⁰⁵

The problem of determining what constitutes a "rolling topography"¹⁰⁶ is encountered as under the Illinois¹⁰⁷ and Indiana statutes.¹⁰⁸ In the Ohio statute an additional qualification is found by the addition of the word "gently."¹⁰⁹ How much a "gently" rolling topography differs from a "rolling" topography is a neat question. Whatever it means, such is the requirement in Ohio. In addition, isolated peaks must be graded to a level surface of at least twenty feet wide, loose refuse on the bottom of the last cut must be graded, and earth dams must be constructed.¹¹⁰

One short sentence on reclamation in the statute states that the operator is to plant trees, shrubs, legumes, or grasses on the parts of the area where revegetation is possible.¹¹¹ Possible in whose judgment? Possible in the sense that what is planted will grow, or possible in the sense that planting will not be overly difficult? A more detailed requirement is necessary. The time limit for reclamation, if any, is two years.¹¹²

Commenting on the effectiveness of the Ohio law, Senator Lausche, who, when governor, led the fight for its passage, said:

Mr. President, during my administration as Governor of Ohio, after many unsuccessful attempts, there was finally enacted a strip mine reclamation law requiring strip mine operators to restore the usefulness of the land by a degree of leveling of the spoil banks and planting of them in grasses and trees. While this law has been helpful in land restoration, *I have always felt that it should have required more strict conservation measures. Faced with almost insurmountable opposition, it was the best that I could get.*¹¹³

102. Ohio Rev. Code § 1513.07 (Anderson Supp. 1962).

103. *Ibid.*

104. Ohio Rev. Code § 1513.07 (Anderson Supp. 1962).

105. *Ibid.*

106. Ohio Rev. Code § 1513.16(A) (Anderson Supp. 1962).

107. Ill. Ann. Stat. ch. 93, § 180.6(a) (Smith-Hurd Supp. 1962). See note 37 *supra* and accompanying text.

108. Ind. Ann. Stat. § 46-1505(b) (Supp. 1963). See note 58 *supra* and accompanying text.

109. Ohio Rev. Code § 1513.16(A) (Anderson Supp. 1962).

110. Ohio Rev. Code §§ 1513.16(A), (C), (D) (Anderson Supp. 1962).

111. Ohio Rev. Code § 1513.16(E) (Anderson Supp. 1962).

112. Ohio Rev. Code § 1513.16 (Anderson Supp. 1962).

113. 109 Cong. Rec. 3412 (daily ed. March 7, 1963) (remarks of Senator Lausche). (Emphasis added.)

The Division of Reclamation is authorized to acquire, by purchase or gift, lands which otherwise would not be reclaimed,¹¹⁴ and may reclaim it at public expense. The money expended for such reclamation would come from a fund derived from performance bond forfeitures.¹¹⁵ However, the Ohio General Assembly must appropriate money for this purpose.¹¹⁶ This does not seem to be as effective as permitting the Division to reclaim land as money becomes available from bond forfeitures with no requirement that the General Assembly appropriate bond forfeiture money from time to time.

The penalties range from a minimum fine of \$300 to a more adequate \$1,000 fine.¹¹⁷ However, no jail sentences are imposed. Also, the fine is restricted to mining without a license—it is not applicable to all violations of the strip mining laws.

5. Pennsylvania

Pennsylvania is unique in that it has two statutes, one for bituminous coal strip mining¹¹⁸ and one for anthracite coal strip mining.¹¹⁹ In terms of tonnage and number of operations, the statute relating to bituminous coal is by far the more important of the two.

Bituminous Coal Strip Mining

All bituminous strip mine operators are covered by the act.¹²⁰

Unlike most of the other states, the Pennsylvania Department of Mines and Mineral Industries administers the act.¹²¹ Recent proposed amendments reflect the view that a more conservation-minded agency should be charged with the administrative duties.¹²²

A permit is required and costs one hundred dollars regardless of the scope of the operation.¹²³ It is good for one year.¹²⁴

The minimum performance bond is \$4,000, computed on the basis of \$400 per acre, and a cash deposit is acceptable in lieu of a bond.¹²⁵

Within one year after the operation is completed or abandoned, the operator must cover all exposed coal—beginning five feet above the top of the coal and

114. Ohio Rev. Code § 1513.20 (Anderson Supp. 1962).

115. Ohio Rev. Code § 1513.18 (Anderson Supp. 1962).

116. *Ibid.*

117. Ohio Rev. Code § 1513.99 (Anderson Supp. 1962).

118. Pa. Stat. Ann. tit. 52, §§ 1396.1—20 (1954, Supp. 1962).

119. Pa. Stat. Ann. tit. 52, §§ 681.1—22 (1954, Supp. 1962).

120. Pa. Stat. Ann. tit. 52, § 1396.3 (1954).

121. Pa. Stat. Ann. tit. 52, § 1396.4b (Supp. 1962).

122. See notes 184-86 *infra* and accompanying text.

123. Pa. Stat. Ann. tit. 52, § 1396.4 (Supp. 1962).

124. *Ibid.*

125. *Ibid.*

extending to the bottom of the pit at an angle not to exceed forty-five degrees.¹²⁶ Even in the absence of exposed coal, if the land prior to stripping was used for the growing of farm crops or where the operation is within 750 feet of any group of five dwellings or certain other structures, the backfill must begin at the top of the high wall and be sloped to the bottom of the pit at an angle not to exceed forty-five degrees.¹²⁷ In other areas the angle may be a steep seventy degrees.¹²⁸ Peaks and ridges must be rounded off to an extent that will permit the planting of trees, grasses, or shrubs.¹²⁹

Although the reclamation provisions of the statute require the operator, within three years after completion or abandonment of the project, to plant trees, grass, or shrubs, a serious shortcoming is seen in the fact that the statute also allows an operator to elect to do no reclamation at all and pay the Secretary of Mines sixty dollars per acre.¹³⁰ How realistic is this provision? If it would cost the operator more than sixty dollars per acre, and thus be economically beneficial for him to pay rather than reclaim, it follows that it will cost the state more than sixty dollars per acre to do the job. Where will this additional money come from? With an unemployment rate equal to, and in some Pennsylvania counties greater than, the national average and with tax revenues so poor that the Governor recently proposed raising the state sales tax from its present four to four and one-half per cent (which would make Pennsylvania's the highest rate in the nation), the prospects of additional state money to subsidize backfilling would not appear to be overly bright.

Penalties are limited primarily to violations of the permit or bond requirements.¹³¹ They do not apply to "any" violation of the act. They do, however, include jail terms up to three months in addition to a fine of \$500 to \$5,000.¹³²

Anthracite Coal Strip Mining

Here the only significant differences from the bituminous coal strip mining legislation are (1) in the performance bond¹³³ and permit¹³⁴ requirements which are higher than for bituminous coal operations,¹³⁵ and (2) in the back-

126. Pa. Stat. Ann. tit. 52, § 1396.10 (Supp. 1962).

127. *Ibid.*

128. *Ibid.*

129. *Ibid.*

130. Pa. Stat. Ann. tit. 52, § 1396.11 (Supp. 1962).

131. Pa. Stat. Ann. tit. 52, § 1396.16 (Supp. 1962).

132. *Ibid.*

133. Pa. Stat. Ann. tit. 52, §§ 681.4(A), .6 (Supp. 1962).

134. Pa. Stat. Ann. tit. 52, § 681.4(A) (Supp. 1962).

135. See notes 123-25 *supra* and accompanying text.

filling requirements which are forty degrees¹³⁶ rather than forty-five.¹³⁷ The most serious shortcoming in the statute is the fact that the Secretary of Mines must first make a finding of fact that reclamation in the area is "reasonable, practicable and likely to succeed"¹³⁸ before the operator is required to perform. The time limit for backfilling is the same as under the bituminous coal statute, one year, and the operator may also elect to plant nothing and pay the state sixty dollars per acre.¹³⁹

6. West Virginia

As has been previously mentioned, West Virginia pioneered the field of strip mining control with its 1939 act.¹⁴⁰ But the 1961 act,¹⁴¹ amended in 1963,¹⁴² currently controls strip mining operations.

The legislation regulates all West Virginia strip mining operations.¹⁴³

The Department of Natural Resources administers the law.¹⁴⁴

A permit must be secured before commencement of operations, and it is good for one year.¹⁴⁵ Registration costs one hundred dollars, and the renewal fee is ten dollars.¹⁴⁶ An interesting feature of the 1963 amendments is the additional requirement of paying a special reclamation fee of thirty dollars for each acre of land to be strip mined.¹⁴⁷ This requirement resulted from a legislative pronouncement that strip mined lands in West Virginia have not been properly reclaimed, and it will cost \$900,000 to reclaim them.¹⁴⁸ All money collected under this new special reclamation fee, as well as all permit and registration fees, is earmarked for this purpose.¹⁴⁹ This is a sad but interesting comment on strip mine operators and the effectiveness of the past statutes. Despite the fact that West Virginia was the first state to enact strip mine control legislation, in 1939,¹⁵⁰ and also despite the fact that its control statutes through the years appeared on their face to be effective, nevertheless, \$900,000 worth of land must now be reclaimed at the state's expense.

136. Pa. Stat. Ann. tit. 52, § 681.11 (Supp. 1962).

137. See notes 126-27 *supra* and accompanying text.

138. Pa. Stat. Ann. tit. 52, § 681.14 (Supp. 1962).

139. *Ibid.* See notes 130 *supra* and accompanying text.

140. W. Va. Acts 1939, ch. 8; see Note, 47 W. Va. L. Rev. 52 (1940). This law was repealed by W. Va. Acts 1945, ch. 85.

141. W. Va. Acts 1961, ch. 80.

142. W. Va. Acts 1963, ch. 139; see W. Va. Code Ann. §§ 2312(35)—(35g5), 2461(2)—(10e) (1961, Supp. 1963).

143. W. Va. Code Ann. § 2461(2) (1961).

144. W. Va. Code Ann. §§ 2312(35a), 2461(2) (1961, Supp. 1963).

145. W. Va. Code Ann. § 2461(4) (1961).

146. *Ibid.*

147. W. Va. Code Ann. § 2461(5) (Supp. 1963).

148. W. Va. Code Ann. § 2312(35g) (Supp. 1963).

149. *Ibid.*

150. See note 140 *supra*.

A performance bond is required, and the minimum is \$1,000 computed on the basis of \$150 per acre.¹⁵¹ The most interesting provision in the bond requirement statute is that the issuing authority cannot grant a permit to begin operations to any operator who previously has had a bond forfeited or a permit revoked.¹⁵² Such defaulting operator must either reclaim at his own expense the land involved in the past violation or pay the Director of the Department of Natural Resources such sum as the Director finds necessary to adequately reclaim the land.¹⁵³ This would appear to be an excellent method to curb the abusive practice of strip mine operators forfeiting their bonds when the bonds are less than the actual cost of reclamation.

The 1963 amendments contain somewhat more extensive grading requirements than did the former statutes. The Director is now required to promulgate rules and regulations for grading stripped land in accordance with, but not limited to, certain enumerated principles of reclamation.¹⁵⁴ These principles include grading the surface to a rolling topography, striking off isolated peaks to a width of not less than fifteen feet, covering the bottom of the final cut, removing certain rocks, and sealing off underground mine openings.¹⁵⁵

The 1963 amendments contain, in general, the same reclamation provisions as existed previously. The operator must plant trees, shrubs, grasses, or vines within a reasonable length of time, or he must offer to deposit enough money to pay someone else to do this work.¹⁵⁶ The cost estimate, should he elect to pay someone else, is not his own; it is that of the Soil Conservation District.¹⁵⁷

A fine of \$1,000 may be imposed, but it is limited to operating without a permit rather than for a violation of any provisions of the act.¹⁵⁸ The West Virginia statute is unique in that it imposes penalties against the surface owner.¹⁵⁹ Responsibilities of the landowner are discussed more fully in a subsequent section of this article.¹⁶⁰

II

FEDERAL LEGISLATION

The federal government has accomplished little in the area of strip mining control. The most recent attempt to involve the federal government in this

151. W. Va. Code Ann. § 2461(7) (Supp. 1963).

152. W. Va. Code Ann. § 2461(4) (Supp. 1963).

153. *Ibid.*

154. W. Va. Code Ann. § 2312(35c) (Supp. 1963).

155. *Ibid.*

156. *Ibid.*

157. *Ibid.*

158. W. Va. Code Ann. § 2461(10d) (Supp. 1963).

159. *Ibid.*

160. See text at 466-68, *infra*.

area was not an attempt at legislation, but was an attempt to authorize a study. Even this was met with opposition from the coal industry. Senator Lausche of Ohio has been one of the leaders for control, just as he led the fight at the state level during his years as Governor of Ohio. In the Eighty-Seventh Congress, he introduced a bill¹⁶¹ to authorize a study of strip mining operations in the United States. The study was to be conducted by the Secretary of the Interior. The study would have included the nature and extent of strip mining operations in the United States, the ownership of real property involved in strip mining, safety factors, hazards to public health and safety, the effect of strip mining operations on highway programs, the effect on scenic features, fish and wildlife, and, finally, the public benefits which might result from appropriate development and use of areas subject to such operations. Three nearly identical bills were introduced in the House of Representatives.¹⁶² They met with the approval of the Secretary of the Interior,¹⁶³ the Secretary of Agriculture,¹⁶⁴ and the Director of the Bureau of the Budget.¹⁶⁵ The three House bills did not meet with the approval of the coal industry. Various representatives of this industry appeared before House committees to voice their opposition. The reason most often stated for their opposition to the study was that the expenditure of the (relatively small by present standards) sum of \$650,000 to \$900,000 was a needless spending of the taxpayers' money.¹⁶⁶ It is indeed commendable to see the coal industry so concerned about federal spending. However, during this testimony one representative of the coal industry said:

Industry is properly concerned over the dangers inherent in all efforts at regulation *or study* by any governmental agency; there is always the danger that such efforts, however well-meaning, may result in ill-considered action which could impose economic hardships on industries which, due to the limitations of their number and size, have only a limited ability to defend themselves.¹⁶⁷

161. S. 3304, 87th Cong., 2d Sess. (1962).

162. H.R. 497, 87th Cong., 2d Sess. (1962); H.R. 3088, 87th Cong., 2d Sess. (1962); H.R. 9480, 87th Cong., 2d Sess. (1962).

163. Letter from Secretary Udall to Congressman Aspinwall, April 6, 1962.

164. Letter from Secretary Freeman to Congressman Aspinwall, April 20, 1962.

165. 109 Cong. Rec. 3412 (daily ed. March 7, 1963) (remarks of Senator Lausche).

166. Statement of L. E. Sawyer, Mid-Western Coal Producers Institute, *Hearings on H.R. 497, H.R. 3088, H.R. 9480, Before a Subcommittee of the House Committee on Interior and Insular Affairs*, 87th Cong., 2d Sess. (1962); Statement of Fred B. Bullard, Ky. Coal Ass'n, *Hearings on H.R. 497, H.R. 3088, H.R. 9480, Before a Subcommittee of the House Committee on Interior and Insular Affairs*, 87th Cong. 2d Sess. (1962); Statement on Behalf of the Nat'l Coal Ass'n, *Hearings on S. 3304, Before a Subcommittee of the Senate Committee on Interior and Insular Affairs*, 87th Cong., 2d Sess. (1962).

167. Statement of Fred B. Bullard, *supra* note 166. (Emphasis added.)

Does the coal industry have only a limited ability to defend itself? Senator Lausche has made an interesting comment in this regard:

May I say that 12 years ago I led the fight for the adoption of a law in Ohio. I succeeded in getting a law passed which I never believed was adequate. *The power of the coal operators was so great that I could not get a satisfactory law.*¹⁶⁸

Another interesting difference in viewpoint can be seen in the statement made by a representative of the coal industry, speaking of the lakes in Indiana in the strip coal mined areas:

The water in the final cut lakes is the cleanest water available for public recreation in the State. It not only furnishes the best blue gill and bass fishing in the state but provides thousands of acres of water for boating, bathing and water sports.¹⁶⁹

On the other hand, Senator Robertson of Virginia has said:

Strip mining is done to a great extent in the mountain areas where there is clear water both for domestic use and for recreation. Wherever strip mining has taken place, the water thereafter cannot be used for any purpose, including trout fishing.¹⁷⁰

Perhaps trout are not as hardy as bluegill and bass. In any event, nothing came of the attempts in the Eighty-Seventh Congress to initiate the study. Each bill died in committee. Undaunted by this setback, Senator Lausche introduced a similar measure in the Eighty-Eighth Congress,¹⁷¹ but it seems a foregone conclusion that nothing will come of it.

III

WATER POLLUTION

Water pollution resulting from strip mining operations is essentially a problem of chemistry. Coal has sulfur in various forms associated with it. During stripping operations these sulfuritic materials are uncovered and exposed to air and moisture. These three elements—sulfur, air, and moisture—in com-

168. 109 Cong. Rec. 3413 (daily ed. March 7, 1963) (remarks of Senator Lausche). (Emphasis added.)

169. Statement of L. E. Sawyer, *supra* note 166.

170. 109 Cong. Rec. 3413 (daily ed. March 7, 1963) (remarks of Senator Robertson).

171. S. 1013, 88th Cong. 1st Sess. (1963).

bination oxidize and produce sulfuric acid. When this sulfuric acid drains into a stream it can render the stream unfit as a source of home or industrial water as well as for agricultural and wildlife use.¹⁷² Nor is a large amount of acid needed before a stream can feel its effects. The entry of just one "slug" of acid water into a running stream means that any one section of the stream will be acid for an hour or so. Since this acid moves relentlessly down the stream, its impact will be felt at all points below the point of entry. One hour of acid water is sufficient to kill some of the different forms of life found in the water. The reestablishment of these different life forms is a slow process. Life that is killed in one hour may take as long as thirty months for complete restoration. One study that was made of this problem has reported that "the passage of a slug of acid water along a stream for only one day in each year, would make it impossible for that stream ever to rear its normal aquatic life."¹⁷³

Such is the problem; what is the solution? Based on a five-year research program which included laboratory study and field testing, the conclusion has been reached that there is no practical method for removing the polluttional properties of acid water once the acid has been allowed to form.¹⁷⁴ The solution, therefore, is found in preventing the formation of this acid. How can this be done? One answer is to require the strip mining operator to separate all acid-forming refuse materials from the other spoil and then spread them along the bottom of the pit close to the base of the spoil pile along the low-wall side of the cut. These must then be promptly covered by clean overburden. The top must then be graded so that water will run off rather than soak into the backfill to reach the acid-forming refuse. All surface water which might otherwise drain into the pit must be intercepted and discharged into water courses outside the stripping operation.¹⁷⁵ In any such operation, time is of the essence because the longer this acid-producing material lies exposed, the greater will be its breakdown, the more surface will be exposed to air and water, and the more acid will be formed.¹⁷⁶ Such procedures will add to the cost of the operation, and without legislation requiring that such measures be taken it is doubtful that more than a handful of operators would voluntarily undertake them.

172. Sanitary Water Board, Pa. Health Dep't, Control of Acid Drainage from Coal Mines 5 (1958).

For a recent and detailed discussion of water pollution, see Stein, *Problems and Programs in Water Pollution*, 2 *Natural Resources J.* 388 (1962).

173. Beal, *Common Fallacies About Acid Mine Water* 4 (Sanitary Water Board, Pa. Health Dep't, 1953).

174. Sanitary Water Board, Pa. Health Dep't, *Experimental Rules and Regulations for the Operation and Maintenance of Strip Mines* 4 (1952).

175. *Id.*, art. 700, §§ 5, 6.

176. Klingensmith, *Technical Aspects of Control of Drainage from Active Mines*, Proceedings of the National Symposium on the Control of Coal Mine Drainage 38 (1962).

Pennsylvania requires the taking of the above anti-pollution measures. In addition to its two strip mining control acts,¹⁷⁷ Pennsylvania has created the Sanitary Water Board within the Department of Health. This board is charged with policing the pollution of waters from all industrial wastes.¹⁷⁸ One section of the statute under which the Board operates provides that before any coal mining operations may be started, a plan of proposed drainage and waste disposal must be submitted to, and approved by, the Board.¹⁷⁹ The Board then issues a license for a fee of twenty-five dollars. The Board also has promulgated rules and regulations, and these embody the measures discussed above.¹⁸⁰

While clearly a step in the right direction, the operations of the Sanitary Water Board are not without shortcomings. The statute under which the Board has jurisdiction applies only to "clean waters."¹⁸¹ Unfortunately, approximately one-half of Pennsylvania's streams have been polluted previously and are thus exempt.¹⁸²

What are these polluted streams like? In the words of an Assistant Secretary of the United States Department of Health, Education and Welfare, who grew up in the Pennsylvania coal region, "I was twelve years old before I learned that creeks flowed in some colors other than black and orange."¹⁸³ To really do the job the Pennsylvania act should be aimed not only at the prevention of future pollution of streams by acid mine drainage—it should also be aimed at cleaning up those streams which are presently polluted.

IV

PENDING LEGISLATION: A LOOK INTO THE FUTURE

For almost twenty years, conservation groups such as the Pennsylvania Federation of Sportsmen's Clubs have been clamoring for a law requiring strippers to backfill the stripped land to its original contour. In the pre-November 1962 election campaign, candidate (now governor) William W. Scranton pledged his support for a strong strip mining law which would include backfilling to contour as one of its requirements. Shortly after the

177. Pa. Stat. Ann. tit. 52, §§ 1396.1—.20 (1954, Supp. 1962) (bituminous coal); Pa. Stat. Ann. tit. 52, §§ 681.1—.22 (1954, Supp. 1962) (anthracite coal).

178. Pa. Stat. Ann. tit. 35, § 691.302 (1949).

179. Pa. Stat. Ann. tit. 35, § 691.313 (1949). This statute was held applicable to strip mines in *Commonwealth ex rel. Chidsey v. Black*, 363 Pa. 231, 69 A.2d 376 (1949).

180. See note 175 *supra* and accompanying text.

181. Pa. Stat. Ann. tit. 35, § 691.310 (1949).

182. TVA, *An Appraisal of Coal Strip Mining* 6 (1963).

183. Address by Assistant Secretary James M. Quigley, *Proceedings of the National Symposium on the Control of Coal Mine Drainage* 8 (1962).

election, a bipartisan group of legislators introduced two identical bills, one in the House¹⁸⁴ and one in the Senate,¹⁸⁵ which would include such a backfilling requirement. The Administration sponsored a bill that would allow backfilling to contour as one of its requirements but would not require it in all cases.¹⁸⁶ A brief comparison of these two different proposals follows.

A. Backfilling

While both the bipartisan and the administration bills contain provisions concerning backfilling to contour, neither is entirely satisfactory. The bipartisan bill contains a serious shortcoming in that the landowner can exempt the operator from this requirement by giving his written consent. Based on this consent, the Pennsylvania Department of Mines can then waive not only the backfilling but also the planting requirements.

The administration bill sets up backfilling to contour, but only as one possible standard. It is the maximum that can be required of the operator. The minimum that can be required of him is the backfilling that is required under the present law (the forty-five degree requirement).¹⁸⁷ It would be up to the Land Reclamation Board to decide in each case whether the operator must approximate the maximum or minimum requirements, or something in between. In defense of the administration bill, the Governor has pointed out that it does have a minimum requirement. The bipartisan measure, on the other hand, does not. Therefore, it is possible under the bipartisan bill that if, due to the exception mentioned above, backfilling to contour is not required then no backfilling at all may result.

Whether or not backfilling to contour is the answer to most of the problems presented by strip mining is something that will be debated for years. Understandably, the coal operators oppose it, because it adds to their costs. One estimate has been made that such backfilling costs approximately \$0.04 per cubic yard.¹⁸⁸ Of course, if the operator owns the land, this will be somewhat offset by the enhanced value of the property that will result from such complete backfilling. For the same reason, in the case of the property-owning lessor, he should be willing to take a smaller royalty from the operator in exchange for the operator's obligation to backfill completely.

184. H. 362, Pa. Gen. Assembly, 1963 Sess.

185. S. 176, Pa. Gen. Assembly, 1963 Sess.

186. H. 434, Pa. Gen. Assembly, 1963 Sess.

[Ed. note: The Administration's bill, with a few minor changes, was enacted by the General Assembly and became effective January 1, 1964. See Pa. Laws 1963, No. 133.]

187. Pa. Stat. Ann. tit. 52, § 1396.10 (Supp. 1962); see note 126 *supra* and accompanying text.

188. Kontakos, *Restoration of Areas Affected by Coal Mining*, Proceedings of the National Symposium on the Control of Coal Mine Drainage 48 (1962).

It is difficult to evaluate the assertions of the conservationists that backfilling to contour will eliminate most of the problems that result from strip mining because, by virtue of the costs of such backfilling, not enough of it has been done to serve as a proper basis for evaluation. There are, however, some indications that backfilling to contour is an extremely important factor in the prevention of stream pollution. The Pennsylvania Sanitary Water Board has had success in preventing such pollution in a series of experimental stripping operations in which backfilling to contour was required.¹⁸⁹ Another study suggests that this is one answer to the problem of pollution.¹⁹⁰

B. Bonds

The bipartisan bill would raise the present performance bond requirement to \$600 per acre with a minimum of \$6,000, while the administration bill raises it to \$500 per acre with a minimum of \$5,000. The bipartisan bill also contains a provision by which the administering authority could refuse to allow any stripping if, in its opinion, the cost of reclamation would exceed the limits of the bond. The administration bill contains no similar provision.

Perhaps entirely too much emphasis is being placed by all of us on the bonding provisions of a strip mining law. The conservationists have argued that drastically increasing the amount of the bond will solve many of the evils resulting from stripping. One writer has suggested that this is but an oversimplification of the problem, because no matter how high a bond is, it will avail little if it is refunded to the operator after backfilling and planting, regardless of whether or not the plants grow.¹⁹¹ This is not to say that the operator should be an insurer of plant and tree growth. However, it is likely that he will be more careful in his backfilling and planting and thus give the plantings a better chance for survival, if he knows that he will be held to some standard of care. The administration bill is a small step in this direction by requiring not only a certification by the Land Reclamation Board that the area had been planted according to an approved plan, but also by requiring certification that the planting had been done in a "workmanlike manner."

C. Time

The sooner the sulfuritic materials are covered, the less is the acid that will be formed. Recent experimental operations requiring backfilling so closely be-

189. Beal, *op. cit. supra* note 173, at 10; Sanitary Water Board, Pa. Health Dep't, Experimental Rules and Regulations for the Operation and Maintenance of Strip Mines 10 (1952).

190. Heasley, *Ecological Studies of Twelve Strip Mine Ponds in Clarion County, Pennsylvania* (Unpublished Thesis, Univ. of Pittsburgh, 1950).

191. Netting, *Preventing Land Cancer*, Pennsylvania Angler 9 (March, 1963).

hind the removal of coal that at no time was there a non-backfilled cut more than 500 feet in length have had success.¹⁹²

The bipartisan bill requires backfilling to be completed within six months after the coal has been removed, with the added proviso that, where reasonable and practicable, backfilling is required as the strip mining progresses. The administration bill contains these two provisions plus a third; the operator cannot move his equipment from the job until the backfilling is completed.

D. Stream Pollution

Both bills include pollution control features which vastly improve existing legislation. However, the bipartisan measure is by far the more strict in this regard. It carries stream pollution penalties which include license revocation, forfeiture of all bonds, \$5,000 to \$10,000 fines and/or six months in jail, and subjects the operator to a claim for damages by the state equal in amount to the value of any fish and plant life destroyed. Such provisions seem certain to instill in the operator a sense of responsibility toward preventing stream pollution. The administration measure only provides for a fine and/or three months in jail.

E. Eminent Domain

The bipartisan bill contains a provision whereby the right of eminent domain may be exercised upon land stripped prior to the date of the bill's enactment. The state would then reclaim the land, paying the cost of such reclamation out of a fund provided by bond forfeitures, fines, etc. The administration bill contains no such provision. Perhaps the right to take such land already exists under the state's power of eminent domain. Even so, it would seem that securing the necessary funds out of the state treasury to accomplish this would be improbable. Therefore, the procedure in the bipartisan bill does not appear to have merit.

F. Landowner's Personal Responsibility

One of the most interesting and controversial aspects of the bipartisan bill, and one which is completely absent in the administration measure, is that making the property owner jointly liable with the coal stripper. Such a provision has obvious merit. As was seen above, West Virginia does this to a limited extent.¹⁹³ Not all of the blame for the adverse conditions which have

192. Sanitary Water Board, Pa. Health Dep't, Experimental Rules and Regulations for the Operation and Maintenance of Strip Mines 9 (1952).

193. W. Va. Code Ann. § 2461(10d) (Supp. 1963); see note 159 *supra* and accompanying text.

resulted from coal stripping can be placed upon the operators. One writer has said:

My conscience impels me, however, to place a goodly measure of blame for the eyesores of our countryside upon a group that has rarely been castigated—the landowners who have leased properties for stripping. Operators lusting for a quick profit regardless of surface desecration have found landowners equally money-craving and more intent upon maximum coal royalties than upon restoration.¹⁹⁴

A study of one particular area has led to the conclusion that

there is utter unconcern among those who leased land to the coal stripper as to what will be done to their land. . . . As to possible reclamation of the land either in crops, forests, recreational use or game reserves, an attitude of 'let the future take care of itself' prevails.¹⁹⁵

There seems to be no good reason for not making the landowner jointly liable with the operator. Can the landowner not insist upon covenants in his mineral lease and also require the operator to post a bond? In one of the few cases on this point, the Supreme Court of Oregon has enforced such a covenant. *McDonough v. Southern Ore. Mining Co.*¹⁹⁶ involved an appeal from a lower court's decree in favor of the landowners in their suit to compel restoration of their property after the completion of mining operations conducted by defendant lessee. Although the operation was dredging for gold rather than strip mining, the result to the surface of the land is much the same in both operations. In dredger mining the topsoil is scooped aside to expose the gold-bearing gravel. After the gold has been removed from the gravel, the gravel is then dumped back into the cut, leaving a series of mounds or hummocks called "tailings." In the lease involved in *McDonough*, defendant operator covenanted to

reclaim any part of the . . . property . . . by levelling the tailings, and then by redistributing any top soil previously set aside for that purpose by the Lessee. Tailings on all ground not agricultural shall be smoothed down by the Lessee.¹⁹⁷

194. Netting, *op. cit. supra* note 191, at 6.

195. May, *Butler County, Pennsylvania, An Example of a Strip Mined Area* (Unpublished Thesis, Univ. of Pittsburgh, 1950).

196. 177 Ore. 136, 159 P.2d 829 (1945). See Annot., 164 A.L.R. 788 (1945); Annot., 1 A.L.R.2d 575 (1948).

197. *McDonough v. Southern Ore. Mining Co.*, 177 Ore. 136, 159 P.2d 829, 831 (1945).

The lower court ordered specific performance, and if defendant failed to comply with the order, then he would suffer judgment in the sum of \$1,500—the estimated cost of having the work done by someone else (which probably exceeded the value of the land). Nevertheless, the Oregon Supreme Court affirmed.¹⁹⁸

G. Interest in Other States

Interest in these two bills is not confined to Pennsylvania. Some interest has been expressed in the bipartisan bill by an Ohio state senator.¹⁹⁹ As already mentioned²⁰⁰ Senator Lausche was not entirely pleased with the Ohio law when it was passed during his administration. On the other hand, a representative of the coal industry has said that the Ohio statute "has proven to be one of the most satisfactory and least controversial in the country."²⁰¹

In all fairness, it should be pointed out that some members of the coal industry have been leaders in the field of conservation. One such member, James F. Hillman, was recently cited by a national television program for his leadership in this field. Mr. Hillman is president of a coal company. As president he recognized a moral obligation to restore stripped land and made this an operating principle three years before the state in which he operates passed any sort of strip mining legislation. We hear more about other members of the coal industry, because it is an unfortunate truth that stories about those who destroy the land are more newsworthy than stories about those who conserve it.

CONCLUSION

Since we are all trustees of the land and must pass it along to future generations, it is the task of each of us to come to grips with the problems presented by strip mining. Restrictive legislation, aimed only at putting the strip mine operators out of business, is not the answer.²⁰² One writer has so eloquently said:

Responsible landowners and conscientious operators, sportsmen and nature-lovers, lawmakers and public officials must join forces to leave our land as a goodly legacy for posterity. James F. Hillman and

198. 159 P.2d at 838.

199. *Ohio May Copy State Strip Bill*, Pittsburgh Press, March 11, 1963.

200. See note 113 *supra* and accompanying text.

201. Ireland, *Getting Cooperative Action From the Coal Industry on Water Pollution Control*, Proceedings of the National Symposium on the Control of Coal Mine Drainage 6 (1962).

202. Few arguments have been written on behalf of the strip mine operators. For a discussion of some of the arguments that could be made, see Dixon, *Report of the Mineral Law Section*, 34 Pa. Bar Ass'n Q. 456 (1963).

others have proved that strip mining can be profitable yet end in beauty and promise. . . . The Frankensteinian draglines can write our epitaph acre by acre, or they can build our future by re-creating a landscape we may walk without shame.²⁰³

I hope that I have succeeded in focusing attention upon this problem and perhaps, in so doing, have suggested a few answers.

203. Netting, *op. cit. supra* note 191.