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# COAL RESOURCE OWNERSHIP: PATTERNS, PROBLEMS, AND SUGGESTED SOLUTIONS†

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Coal is the most abundant and potentially the most valuable mineral energy resource of the United States. The decline in domestic crude oil production, growing shortages of natural gas, and rising prices and reduced availability of foreign oil all point to an increased reliance on coal as an energy source.

Recent projections by an interagency task force suggest that total U.S. annual coal production in 1990 will be at least 1,300 million tons and might be as high as 2,803 million tons, compared to the 1973 actual production of 599 million tons.<sup>1</sup> In view of this prospective accelerated demand for coal, questions of ownership rights in the coal resource take on added importance.

This article briefly traces the historical development of coal ownership patterns in the United States and describes problems stemming from the separation of mineral rights from surface rights and the fractionalization of separated mineral rights. Procedures followed in West Germany and the United Kingdom to handle coal-development problems under systems of separated mineral ownership are examined. Finally, possible changes in contractual, institutional, and legal arrangements to alleviate U.S. coal ownership problems are discussed.

Several questions stem from the separation of coal rights from surface rights, including: (1) What constitutes equitable treatment for both surface and mineral owners when mineral rights have been separated from the surface? (2) What is the most appropriate policy regarding use of federal coal reserves in view of the energy needs of the nation, the wishes of the public for a fair return for the use of publicly owned resources, and the desirability of promoting effective competition in the energy industry? and (3) How can development of coal resources be planned and environmental values be maintained when surface and mineral rights are separated and controlled by a

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†Opinions expressed in this paper are those of the authors and do not necessarily represent the policies of North Dakota State University, the Economic Research Service, or the U.S. Dept. of Agriculture.

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1. Federal Energy Administration, Project Independence Blueprint, Final Task Force Report—Coal 16 (1974).

large number of private individuals, corporations, governmental agencies, and Indian tribes?

Two recent trends in the coal industry have made ownership questions increasingly important—the shift to surface mining and the rapidly increasing production of coal in the Western States.<sup>2</sup> Surface mined coal accounted for about 50 percent of the nation's coal output in 1973, up from 35 percent in 1969. Surface mining not only accentuates the potential conflicts between surface and mineral owners, but also raises environmental concerns.<sup>3</sup> The Western States account for more than 80 percent of the nation's low-sulfur strip-pable coal reserves.<sup>4</sup> Coal output in the Western States more than doubled between 1969 and 1973, and further rapid increases are anticipated.<sup>5</sup> Expansion of coal production in this region will accentuate ownership issues, not only because strip mining is the anticipated mode of extraction, but also because of the widespread separation of surface and mineral rights.

#### MAGNITUDE AND LOCATION OF U.S. COAL RESOURCES

Coal deposits in the United States are grouped into six provinces on the basis of geologic age, location, quality of coal, and geologic structure: The Eastern, Gulf, Interior, Northern Great Plains, Rocky Mountains, and Pacific Coast Provinces (Figure 1).

Remaining coal reserves and total remaining identified coal resources are shown in Table 1. The term "reserves" means quantities of coal, estimated by detailed mapping and closely spaced drilling, that are deemed suitable for extraction within the limits of present mining technology, prices, and costs. "Reserves" are measured and indicated resources in thick and intermediate beds; they include bituminous coal and anthracite in beds 28 inches or more thick and sub-bituminous coal and lignite in beds five feet or more thick. The term "resources" represents all known coal deposits within certain limits of seam thicknesses, grades, and overburden.<sup>6</sup>

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2. For this report, the Western States are defined as the States of Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.

3. An excellent account of the issues surrounding strip mining and its effects is provided by Brooks, *Strip Mine Reclamation and Economic Analysis*, Nat. Res. J. 13-44 (1966).

4. Averitt, *Coal*, in United States Mineral Resources, U.S. Department of the Interior (Geological Survey Prof. Paper 820, 1973).

5. Bureau of Land Management, U.S. Dept. of the Interior, Draft Environmental Impact Statement: Proposed Federal Coal Leasing Program, I-64 and I-66 (DES 74-53 1974).

6. *Id.*

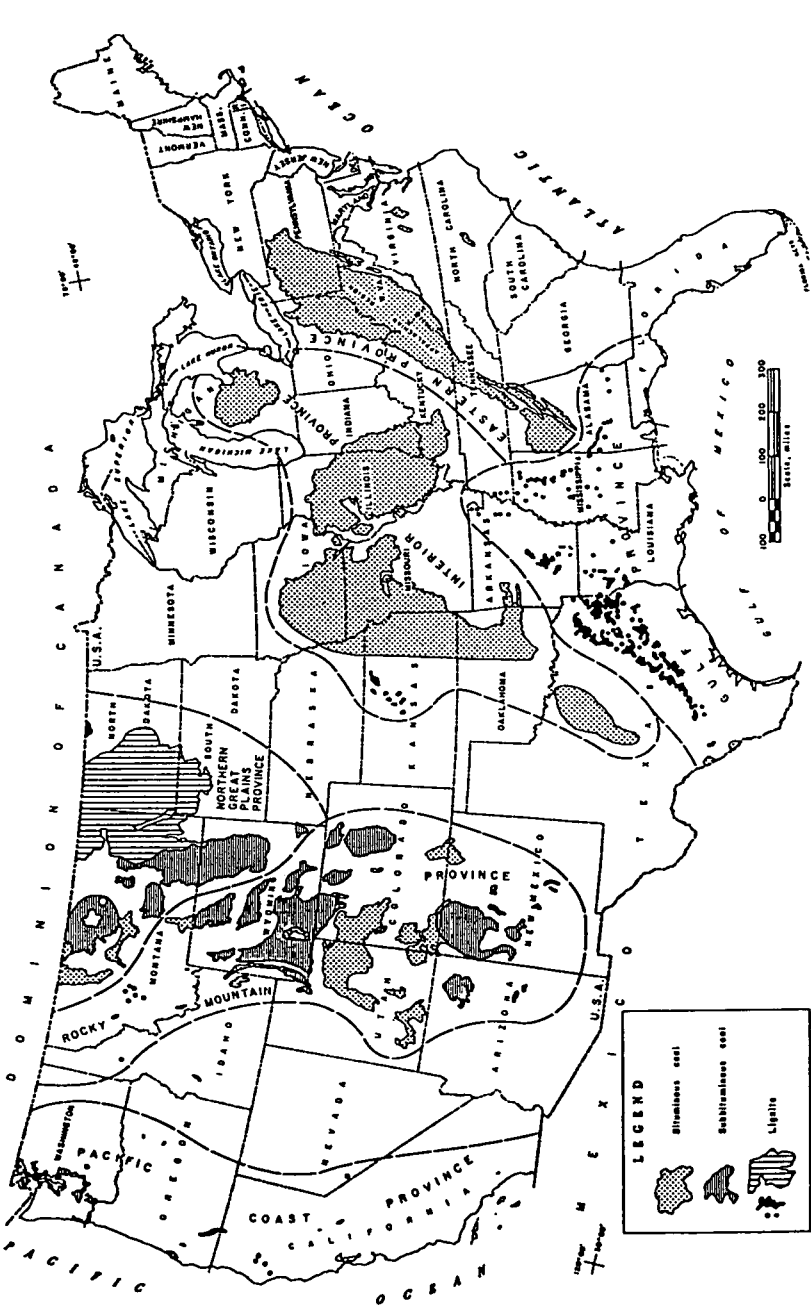


FIGURE 1  
Probable occurrence of coal, by coal provinces. (Adapted from U.S. Geological Survey Coal Map of the United States, 1960.)

TABLE 1  
 Remaining coal reserves and total remaining identified coal  
 resources in the United States, January 1, 1973.

Province	Billions of Short Tons		
	Remaining reserves in the ground, 0-1,000 ft. overburden	Inferred Resources in thin bed, 0- 1,000 ft. over- burden; and iden- tified resources in all beds, 1,000-3,000 ft. overburden	Total remaining identified resources, 0-3,000 ft. of overburden
<i>Eastern Province</i> (Pa., Ohio, W. Va., Md., eastern Ky., Tenn., N.C., Ga., & Ala.)	122	154	276
<i>Interior &amp; Gulf Province</i> (Ill., Ind., western Ky., Iowa, Kansas, Mo., Okla., Ark., & Texas)	109	176	285
<i>Northern Great Plains Province</i> <sup>1</sup> (N. Dak., S. Dak., Mont., Wyo., & Idaho)	106	589	695
<i>Rocky Mountain Province</i> <sup>2</sup> (Colo., Utah, Ariz., & N. Mexico)	37	150	187
<i>Pacific Province</i> (Alaska, Wash., Oreg., & Calif.)	8	129	137
TOTAL	382	1,198	1,580

<sup>1</sup> Includes coal in the western parts of Montana and Wyoming that normally would be considered in the Rocky Mountain Province.

<sup>2</sup> Includes coal in the Denver and Raton Mesa regions of Colorado and New Mexico that normally would be considered in the Northern Great Plains Province.

Source: Bureau of Land Management, Draft of Environmental Impact Statement: Proposed Federal Coal Leasing Program, Vol. 1, DES 74-53, U.S. Department of the Interior, Washington, D.C., p. I-69 (1974).

## OWNERSHIP OF U.S. COAL RESOURCES

Coal resources are held by the federal government, states, Indian tribes, railroad companies, mining and manufacturing corporations, financial institutions, and private individuals. Ownership patterns differ substantially among the various coal provinces, primarily because of past public land policies.

*Early Legislation Affecting Coal Lands*

Individuals and corporations purchasing public lands under the Preemption Act and other public land laws prior to 1864 acquired ownership of the underlying coal deposits.<sup>7</sup> Congress in 1864 provided for sale of coal lands in "suitable legal subdivisions" to the highest bidder at public auctions, with a minimum price of \$20 per acre. Legislation in 1865 continued the \$20 per acre, but restricted coal land sales to bona fide coal miners and set the maximum size of a sale tract at 160 acres.<sup>8</sup>

The Coal Lands Act of 1873, with amendments, governed the disposal of coal deposits on the public domain until 1920. Persons in actual possession of coal mines on public lands were given preference purchase rights. An individual could enter up to 160 acres of vacant and unreserved coal lands, and an association of four or more individuals could enter up to 320 acres. If the association had expended \$5,000 or more in work and improvements, it could enter as much as 640 acres. The minimum price was \$10 per acre if the land was more than 15 miles from a railroad and \$20 per acre if the land was within 15 miles.<sup>9</sup>

Congress made numerous land grants to states and companies between 1850 and 1871 to assist the financing of railroad lines. The largest grants were to the Union Pacific, Central Pacific, Atchison Topeka and Santa Fe, Northern Pacific, and Burlington lines. The Northern Pacific received a 400-foot right-of-way from Duluth to Tacoma and Portland (2,128 miles) and the odd-numbered sections in a checkerboard fashion for a distance of 20 miles on either side of the right-of-way through the states of Minnesota and Oregon, and for a distance of 40 miles on either side of the right-of-way through the territories of North Dakota, Montana, Idaho, and Washington. The company could select lands in lieu of lands previously reserved or homesteaded within an indemnity area of 10 additional miles beyond

7. Mineral lands were excluded from entry under the General Preemption Act of 1841. However, coal was not classified as a mineral (because of its vegetative origin) by the Land Department.

8. P. Gates & R. Swenson, *History of Public Land Law Development* 724 (1968).

9. *Id.* at 724.

the 20-mile and 40-mile primary grant areas on either side of the right-of-way. The indemnity area was extended an additional 10 miles in 1870. The Northern Pacific received a total of 39,021,683 acres, including 23 percent of the total area of North Dakota and 15 percent of the total area of Montana.<sup>10</sup> Most of these lands were sold to settlers and land-settlement companies, but the company reserved the coal rights in a large part of this acreage.<sup>11</sup> As a result, the Northern Pacific and its successor, the Burlington Northern, became the nation's largest corporate owner of coal resources.

The Union Pacific and Santa Fe Railroads received grants of odd numbered sections for a distance of 20 miles on both sides of their rights-of-way. These grants led to major coal holdings by the Union Pacific in southern Wyoming, while the Santa Fe acquired coal lands in the San Juan Basin of New Mexico. Subsequently, the railroads made many exchanges of land and minerals with settlers, states, and the federal government. Because of these exchanges and sales the current pattern of coal ownership by the western railroads differ substantially from the original land grants, but the holdings of the western railroads as a group, in both the Rocky Mountain and the Northern Great Plains Coal Provinces, are second only to those of the federal government.

Federal mineral lands policy changed during 1900 to 1910 as the Theodore Roosevelt administration moved to limit the indiscriminate disposal of public lands. The U.S. Geological Survey classified substantial tracts of land as valuable for coal, and 66 million acres of these lands were withdrawn from entry under the non-mineral land laws between July 26 and November 12, 1906. These lands were located in Colorado, Montana, North Dakota, Oregon, Utah, Washington, and Wyoming and the territories of Alaska and New Mexico. These withdrawals cancelled the entries of settlers who had entered such lands previously under non-mineral land laws. This inequitable situation was corrected by the Act of March 3, 1909, which gave good faith entrymen the right to receive patents to the lands, with the coal being reserved to the United States.<sup>12</sup> Congress in 1910 authorized entry under homestead and desertland laws of lands withdrawn or classified as coal lands, with the coal rights reserved to the United States. The federal coal deposits could be leased for mining, but the mineral lessees were required to pay the surface owners for damages sustained as a result of exploration and mining operations.

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10. *Id.* at 374-375.

11. Controneo, *Reserving the Subsurface: The Mineral Lands Policy of the Northern Pacific Railway, 1900-1954*, 40 N. D. Hist. 16 (No. 3, 1973).

12. P. Gates & R. Swenson, *supra* note 8, at 726-729.

Similar provisions were included in the Enlarged Stock Raising Homestead Act of December 29, 1916.

Procedures for disposal of federal coal lands were altered substantially by the Mineral Leasing Act of 1920, which superceded the Coal Lands Act of 1873. Sale of coal lands was abolished, and the Secretary of the Interior was authorized to award prospecting permits and leases. This leasing system is still in force.

### *Present Ownership Patterns in the United States*

Most coal lands in the Eastern, Interior, and Gulf Coast Provinces were patented into private ownership prior to the Act of 1864, and the subsurface estate went with the surface.<sup>13</sup> Subsequently, the mineral rights to large acreages of eastern coal lands were acquired by mining corporations and railroads. Coal hauling railroads that leased coal lands through subsidiaries are among the largest coal owners in West Virginia.<sup>14</sup>

Coal mining in the eastern coal areas historically has been done by operators who do now own the surface, but acquired the coal rights by mineral deed or mineral lease. This situation prevails because most coal mining prior to World War II was underground, necessitating control of the surface only to the extent required for shafts, access roads, and other necessary facilities. This control could be obtained through express or implied rights in the mineral deeds or leases.<sup>15</sup> Even where strip mining was contemplated, purchase of the surface was not common until recently because mineral deeds often were construed to give strip mining rights. If the surface owner's consent had to be obtained, a royalty payment often could be negotiated.<sup>16</sup>

In the Pacific, Rocky Mountain, and Northern Great Plains Coal Provinces large amounts of coal are owned by the federal government, Indian tribes, state governments, and the railroads. Federal ownership is particularly important in the Rocky Mountain and Northern Great Plains Provinces. In the Montana and Wyoming portions of the Northern Great Plains Province, for example, the federal government owns about three-fourths of the coal, although much of the surface is privately owned.<sup>17</sup>

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13. Exceptions include significant Indian coal holdings in Oklahoma and limited federal coal reservations in Oklahoma and Alabama.

14. For a detailed discussion of coal ownership in West Virginia, see J. McAteer, *Coal Mine Health and Safety: The Case of West Virginia* 140-180 (1973).

15. University of Maryland Law School for the Environmental Protection Agency, *Legal Problems of Coal Mine Reclamation* 57-59 (1972).

16. *Id.* at 57-59.

17. National Academy of Science, *Rehabilitation Potential of Western Coal Lands* 105-7 and 120-24 (1974).



Indian tribes are major owners of coal resources in several Western States; about 13.5 million of the 50 million acres of Indian land in the United States contain coal deposits.<sup>18</sup> The Omnibus Tribal Leasing Act of 1938 allows Indians to lease coal rights to private individuals or corporations, subject to the regulations and approval of the Department of the Interior.

Indian coal ownership is especially significant in the Southwest and the Northern Great Plains. All of Arizona's coal deposits and approximately 40 percent of New Mexico's coal deposits are on Indian reservations. The Navajo Mine in New Mexico, the nation's largest coal mine, is producing low sulfur coal for the Four Corners Power Plant under a lease with the Navajo Tribe, and the Black Mesa Mine in Arizona is on the Hopi Reservation. The Crow and Northern Cheyenne Reservations in south central Montana contain some of the largest strippable coal deposits in that state and are the focus of a great deal of development interest.

#### ISSUES ARISING FROM PRESENT U.S. OWNERSHIP PATTERNS

The complicated pattern of private and public ownership of coal rights in the United States, together with separation of mineral rights from surface rights and fractionalization of these separated mineral rights among several owners, have given rise to several ownership issues: (1) Conflicts between coal lessees and surface owners over use of the same land; (2) conflicts between coal lessees and agricultural renters and grazing permittees; (3) conflicts between coal lessees and mineral owners regarding timing of strip mining; and (4) the problem of "lost" or unknown mineral owners.

##### *Coal Lessees v. Surface Owners*

Conflicts between the surface owner and the mining lessee are unavoidable because strip mining is incompatible with practically all other surface uses during mining and subsequent reclamation activities. During this period, which may last from five to ten years, the surface owner foregoes any use of the land surface needed by the mineral lessee. If the surface owner does not own at least part of the mineral rights, he does not participate in the mining-lease negotiations and cannot insist on clauses in the lease that would protect his surface interest.

The instrument that originally established a separate mineral estate usually gives the mineral owner and his lessee the right to enter upon

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18. Cannon, *Leased and Lost: A Study of Public and Indian Coal Leasing in the West* 30 (1974).

the land for exploration purposes and to use as much of the surface as is reasonably necessary for mining operations, access roads, storage space for spoils, and marketing facilities for the coal. Even if these surface uses are not mentioned, courts generally have construed the instrument to include them as necessary to the enjoyment of the mineral estate.

Much of the law defining relations between mineral lessees and surface owners comes from cases involving oil and gas. Generally, the rules developed tend to favor the mineral lessee as against the surface owner. Surface damages resulting from exploration for, and production of, oil and gas normally are very small compared to surface damages resulting from strip mining. Legal principles developed for oil and gas frequently seem harsh and inequitable when applied in situations involving strip mining.

Coal leases are drawn for long primary terms, such as 20 or 30 years, and as long thereafter as coal is produced. Even in the absence of production, most leases are subject to renewal for additional periods at the option of the coal lessee. The surface owner usually has no way of knowing when actual mining operations will start on his land—next year, 10 or 20 years in the future, or never. Even after the mine is opened the surface owner may not know from one year to the next how much acreage he will have to surrender to the coal lessee nor for how long a period. Moreover, under present technology for spoil-bank reclamation, the surface owner does not know what the productivity of the land will be when it is returned to him. These uncertainties make it difficult for the surface owner to plan his farming or ranching operations. As a result, he may suffer a decrease in operating efficiency and net farm income in addition to loss of income resulting from reduced acreage.

### *Coal Operator v. Agricultural Lessee*

The conflicts between the coal lessee and the agricultural renter or grazing permittee are similar to those described for the surface owner. The renter or permittee experiences the same difficulties in planning his farming or ranching operations. Once mining is started he faces the same problem of surrendering additional land, year after year, to the coal company. Substantial mining operations can be expected to intensify competition for agricultural land as farmers and ranchers seek replacement tracts.

The surface owner, as will be shown later, may be entitled to compensation for damages sustained because of mining operations. He also may have available certain contractual and institutional

adjustments that will help him reduce his losses. However, such remedies are seldom available to agricultural renters and grazing permittees. These operators probably will be entitled to some reduction in annual rentals and grazing fees, but this will be small recompense if they are left with hopelessly inadequate operating units.

### *Coal Lessee v. Mineral Owner*

The conflicts between the coal company and the mineral owner are much less serious than those described above for the surface owners and agricultural renters. The source of conflict most often mentioned by mineral owners (including those who also own the surface) is the wide year-to-year fluctuations in the amount of coal mined on any given tract. This means wide fluctuations in the amount of royalties received quarterly from the coal company, which in turn may cause income tax and finance problems for mineral owners. In the typical situation the mineral owner, after one or two years of large royalty payments, will make financial commitments, such as starting one of his children in college, that he cannot continue in years of low royalty income. Some coal companies are cognizant of this problem and try to even out the production on some ownership tracts, but this can result in decreased efficiency of mining operations.

### *Unknown and Unlocated Mineral Owners*

Drilling for oil and gas frequently stimulates the separation of privately owned mineral rights from surface rights on surrounding lands and the fractionalization of these separated mineral rights among numerous buyers. Hope of speculative gain in the event that oil or gas is discovered encourages people to buy separated mineral rights; anticipation of future development induces land sellers to reserve part or all of the mineral rights in tracts they sell.

So far the prospect for coal mining has not stimulated speculative buying and selling of mineral rights to the extent that wildcat drilling has done. The coal industry, however, is affected by past speculation in mineral rights because the granting clauses in many mineral deeds and mineral reservation clauses explicitly or implicitly include rights to coal as well as rights to oil and gas.

Separation and fractionalization of mineral rights creates difficulties for coal lease brokers and coal company landmen in their attempts to solidly block up an area for large proposed coal mines. Surface owners usually are easy to locate because county property

tax records in most states show the name and address of each landowner, but up-to-date information on names and addresses of mineral owners is seldom readily available. The problem of locating all mineral owners becomes more complex with the passage of time as mineral owners die, leaving heirs and legatees scattered from border to border and coast to coast. Many of these may not be aware that they own undivided mineral interests in land hundreds of miles away.

These fractionalized mineral interests, owned by unknown owners and unlocated known owners, cloud the title to the mineral estate. The title must be cleared before mining of such tracts can begin. The alternative is to leave these tracts as unmined "islands" within the strip-mined area. Either course of action will likely increase costs of mining operations, which will increase energy costs for consumers.

#### PLANNING COAL DEVELOPMENT AND SPOIL-BANK RECLAMATION IN WEST GERMANY AND UNITED KINGDOM

The national or regional governments in most countries of the world own the mineral estate, while the surface estate is held by numerous individuals and corporate entities under various tenure arrangements. Mining operators in these countries obtain rights to mine from the national or regional governments.<sup>19</sup> The experience of two countries—West Germany and the United Kingdom—in coping with the complex problems associated with strip mining and spoil-bank reclamation where subsurface and surface titles are separated suggest some institutional arrangements that might be adapted for use in the western United States, where coal production by strip mining is increasing rapidly under a similar ownership situation.

##### *The German System of Coal Resource Management*

The Federal Republic of Germany provides an example of complete separation of surface and subsurface rights, with the mineral rights owned by the states rather than by the national government. This country produced 108 million tons of brown coal (lignite) in 1970, all from open pit mines.<sup>20</sup> Brown coal production is concentrated in the State of North Rhine Westphalia, where the state government has

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19. Ely, Summary of Mining and Petroleum Laws of the World 4 (U.S. Dep't. of the Interior, Bureau of Mines Information Circular 8017, 1961).

20. A thorough discussion of the German situation is provided by Nephew, *Brown Coal Surface Mining and Land Restoration in Germany: An Example of Enlightened Land Stewardship* in Regulation of Surface Mining, Hearings before Subcomm. on the Environment and Subcomm. on Mines and Mining of the House Comm. on Interior and Insular Affairs, 93rd Cong., 1st Sess., Serial 91-11, Part II, 1296-1303 (1973).

adopted stringent regulations from reclamation of mined land. The state's authority to impose these controls derives from a federal law reserving most mineral rights to the states. A 1950 act of the state legislature created the Brown Coal Committee to develop detailed plans for exploiting the coal resources of the state. The basic responsibility of the Brown Coal Committee is to safeguard land areas being mined from long term damage. The responsibility of the Committee goes beyond preventing the creation of derelict land areas. It also endeavors to restore the land in harmony with social, cultural, and industrial interests in the rest of the region.

The Committee's membership represents the interest groups affected by mining operations—state, county, and city governments, agriculture, the mining industry, other industries, the mining unions, the State Mining Office, and conservation groups. The primary function of the Committee is to review proposals for extending mining operations into new areas. The mining company begins the process by submitting detailed mining and reclamation plans for new, unopened land areas. The Committee examines the proposal and hears testimony from qualified experts, government officials, and persons who would be affected by the mining. Based on this information the Committee may accept, modify, or reject the company proposal.

After Committee approval has been obtained public hearings are held, and reactions to the plan are solicited. The mining plan, together with a record of all testimony, is submitted to the chief of the State Land Planning Commission for final approval. After final adoption of the plan the State Mining Office is responsible for ensuring that the mining and land restoration activities are in compliance with its provisions. Since the regulatory agency is represented on the Committee, it is fully aware of the intent of the plan.

Germany's brown coal mines operate on a very large scale. For instance, the Fortuna-Garsdorf mine is the largest material-handling operation in the world; it produced 36.2 million tons of brown coal in 1970.<sup>21</sup> Because of the magnitude of the operations, the mining and reclamation plans provide for evacuation and relocation of villages and open-country residences. Land use patterns are proposed in the plan, including the complete water drainage system and designation of lands to be restored for forestry and agriculture. Modern principles of city planning are used in designing new towns for the displaced persons. Although the basic costs for land reclamation and

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21. By way of comparison, the largest U.S. coal mine—the Navajo Mine near Fruitland, N.M.—produced 6.8 million tons of coal in 1972, or less than one-fifth as much as the annual production of the Fortuna-Gorsdorf mine.

population resettlement are borne by the mining company, local and state governments provide supplementary funds to cover the incremental costs of providing better community services than existed at the former town sites.<sup>2 2</sup>

### *The English System of Coal Resource Management*

Minerals in the United Kingdom are usually owned by the surface owner and are subject to real property law in the same way as surface rights. However, there are some exceptions, the most important of which is coal. The Coal Act of 1938 vested ownership of all coal rights in the national government as of July 1, 1942. The Coal Industry Nationalization Act of 1946 vested fee simple ownership in coal, together with the exclusive right to work coal, in the National Coal Board.<sup>2 3</sup>

The Board was given responsibility to regulate opencast (surface) coal mining in 1952. Since that time the Opencast Executive of the Board has been responsible for selecting mining sites, securing leases of the overlying surface rights, and taking bids from private contractors for working the site. The Opencast Coal Act of 1958 provided the Board with compulsory leasing rights for a ten-year period ending in 1968. Compulsory leasing powers of the Board extended to prospecting, excavation, and storage.<sup>2 4</sup> The compulsory leases provided for compensation to the surface owner based on the previous annual return from the land, moving expense, expenses incurred and land value lost due to mining and reclamation, forced sales of livestock and machinery, and other incidental expenses.<sup>2 5</sup>

Opencast mining applications since 1968 have been subject to negotiation of all leases and purchases and to the decisions of local planning authorities, in accordance with the Town and Country Planning Act of 1962 and subsequent legislation. The intent of the 1962 Act is expressed as follows:

“Any grant of planning permission to develop land shall . . . enure for the benefit of the land and of all persons for the time being interested therein.”<sup>2 6</sup>

Opencast mining applications are submitted to the Department of

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22. Nephew, *Healing Wounds*, 14 Environment 20 (1972).

23. Ely *supra* note 19, at 98-99.

24. The compulsory leasing authority of the Board was similar to the power of eminent domain conferred to governmental units in the United States. That is, the surface owner could be compelled to enter into the lease agreement.

25. E. Dobson, Great Britain: Strip Mining's Lazarus? 5 paper presented under research grants from the Sierra Club Foundation and the John Muir Institute for Environmental Studies (1972).

26. *Id.*

Trade and Industry. A detailed description of the proposed mining operation, its effect on land use and the environment, and plans for reclamation of the mined area are included in the application. This application is published in a local newspaper, and all owners, tenants, and local authorities must be notified. The local planning authority is required to take into account any objections or other representations made within 21 days of the publication. If the local planning authority denies permission to mine, the Department of Trade and Industry must conduct a public inquiry before granting permission to mine. Furthermore, the Board must obtain surface rights from all concerned parties before proceeding with either prospecting or excavation.

### PROPOSED SOLUTIONS TO U.S. COAL-RESOURCE OWNERSHIP PROBLEMS

Many coal resource ownership problems in the United States stem from the highly complex ownership system characterized by intermingled private and public ownership, with mineral rights attached to surface ownership in some tracts and separated from surface ownership in others. Closely associated with these factors are the lack of over-all resource planning at either the local or regional level and the division of responsibility for regulation of coal mining among several federal and state agencies.

#### *Public Ownership of All Coal Resources*

One alternative to the present system is exclusive ownership of coal by the state or national government. Advantages of exclusive public ownership include: greater ease of regulating operating firms, increased opportunity for managing the resource in accordance with national priorities, and greater potential for managing the resource over time in accordance with the long range needs of society. Certainly if the federal government were the sole owner of the resource, there would be fewer obstacles to a coordinated national policy that emphasized extraction of coal deposits with a minimum total cost, including social costs.

A government planning board would be subject to many of the limitations of knowledge and foresight which plague the private decision-maker. However, the planning board might, if it were the sole source of coal, be in a better position to require exploration and mining firms to make information available regarding location and extent of coal reserves. At present, the public planning in the Northern Great Plains States (and perhaps in other areas as well) is made

difficult by lack of information regarding the extent and location of reserves. The mining industry is believed to have much more detailed information than is available to the public.<sup>27</sup>

Public ownership and control over development of coal also is advantageous with regard to managing the coal resources over time. If private rates of discount exceed society's rate of time preference, the competitive market tends to consume exhaustible resources at a rate faster than is optimal for society. The proposition that the private rate of discount will exceed the society's rate of time preference is supported by the fact that individuals can be expected to discount for the riskiness of the future, whereas some risks for which individuals discount are not risks to society but merely the possibility of transfers within society. In addition, society's planning horizon may be longer than that of the individual.

On the other hand, the political process may be no more future-oriented than is the management of a typical corporation. Even as the corporation executive must make his decisions with an eye to the pay-out period, public decisionmakers must always consider the reaction of the electorate.<sup>28</sup>

Regardless of the theoretical advantages and disadvantages of public ownership, nationalization of the U.S. coal industry under present economic conditions would be faced with difficult financial and legal questions. Presumably, nationalization could not violate the constitutional prohibitions against taking private property without due process of law and without payment of just compensation. Coal rights that the government could not obtain by private negotiation possibly could be acquired by a judicial proceeding similar to condemnation. The cost of such proceedings, even in areas where the federal government already owns more than half of the coal rights, might be prohibitively costly. Consequently, nationalization is not recommended at the present time.

### *Regional and Local Planning*

Both the West German and the British systems for control of strip mining have been highly successful in minimizing environmental damage and social dislocation. The main features of the German system are incorporation of mining regulations in an overall regional development plan, formulation of detailed reclamation plans prior to mining, and public preview of the plans. The salient features of the

27. E. Stewart & R. Stewart, Little Missouri Grasslands Study, Summary Report 193-97 (1974).

28. For an excellent discussion of these points, *see* Solow, *The Economics of Resources or the Resources of Economics*, 64 Am. Econ. Rev. 1-14 (May 1974).



English system are its emphasis on thorough preplanning of mining and reclamation, opportunity for local review and approval of mining plans, and full compensation for surface owners.

Although government ownership of coal resources may have simplified the planning process in West Germany and the United Kingdom, government ownership does not appear to be a prerequisite in either system. Nor does a government monopoly for operation of mines, as in the British system, seem to be more advantageous than operation by private industry, as in the West German system.

A regional coal mining planning commission, embodying some of the features of both the German and British systems, could be superimposed upon the present coal resource ownership system in the United States. State legislation to establish such planning commission could take any of several approaches. One would be to establish an agency in each state and endow it with ample powers, not only to formulate plans for mining and spoil-bank reclamation, but also to see that the plans are carried out. Under this approach, a commission might be given the authority to issue strip mining licenses to coal operators, approve or modify the mining and reclamation plans of each company, and oversee their reclamation activities. Commission membership should include representatives of county and municipal governments because these local governments have authority to adopt zoning ordinances, building codes, and other regulations that would have to be coordinated with the mining and reclamation regulations promulgated by the commission.

A different approach would be to follow more closely the West German system by making the commission primarily a planning and liaison body, with enforcement of strip-mining and reclamation regulations left with other state agencies. Membership on the commission should include representatives of the state agencies that license strip mining and supervise spoil-bank reclamation, representatives of county and municipal governments, and various groups having interests in coal mining and the social adjustments that accompany large scale strip-mining operations.

### *Resolving Conflicts Between Surface and Subsurface Owners*

A coal mine commission of either type suggested could resolve some of the conflicts between surface and subsurface owners, particularly if it were able to establish a successful reclamation program and to force the coal industry to pay all costs of mining and reclamation, including social costs. Much of the present tension between surface owners and the coal industry stems from these two issues.

One approach to resolving surface-subsurface conflicts would be to establish an official arbitration system. Arbitration authority could be lodged either in the coal mine commissions, suggested above, or in a special board created by state legislation. Saskatchewan, where most mineral rights are owned by the provincial government and most of the surface rights are privately owned, established an arbitration system in 1968.<sup>29</sup> The Board of Arbitration, whose members are appointed for indefinite terms by the Lieutenant Governor in Council, is empowered to determine what rights the surface owner must surrender to the mineral operator, what compensation must be paid to the surface owner, and what maintenance and reclamation work must be done by the mineral operator. In addition to the value of the land taken, the board may include in the compensation award allowances for severance, nuisance, inconveniences, disturbance, noise, and any reasonable costs incurred by the surface owner in presenting his side of the case at hearings before the Board. Decisions of the board may be appealed to the district court.

Another approach to resolving surface-subsurface conflicts is to improve contractual relations between mining companies and surface owners voluntarily. The various Congressional acts pertaining to homesteading and desertland entries on lands in which the federal government reserved the coal rights contain provisions for adjusting problems that arise between the surface owners and mineral lessees and establish procedures to assure payment of surface damages by the mineral lessees. The procedures applicable to any given tract depend upon the particular statute under which the patent from the federal government to the entryman was issued. The practical effect of these provisions is to make the coal lessee responsible for arrangements with the surface owner. The usual procedure is for the coal lessee to negotiate an exploration agreement with the surface owner that sets out the rights and obligations of each, including the compensation to be paid to the surface owner, before any drilling or earth moving work is done. If the surface owner refuses to sign the agreement, the coal lessee can resort to judicial action.

Some coal companies negotiate the same kind of exploration agreement or surface lease with surface owners where the mineral rights are owned by someone other than the federal government. In some cases this means payment of rentals and surface damages the company might not be required to pay under a strict interpretation of the instrument that established the separated mineral estate. The company may be able to justify this additional expense on the

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29. The Surface Rights Acquisition and Compensation Act, Stats. of Province of Saskatchewan 1968, ch. 73, as amended by Stats. of 1972, ch. 127, Stats. of 1973, ch. 109.

grounds that treating all surface owners alike is good public relations.

One large coal operator in the Rocky Mountain Province uses a surface agreement that seems especially favorable for surface owners. Under this contract, the company: (1) assumes responsibility for damages sustained by third parties as a result of the mining operations; (2) agrees to reclaim the land in accordance with all applicable laws; (3) promises to enclose excavations with adequate fencing to protect surface owner's livestock and to keep gates closed whenever practicable; (4) agrees to pay the surface owner an advance royalty of one dollar per acre annually and an over-riding royalty of two cents per ton of coal mined and marketed from the tract; (5) agrees to protect the landowner's stockwater supply and, if necessary, to develop substitute water supplies; (6) promises to pay surface damages, not only for the owner's loss of the use of his land, but also for the loss in net income due to the interference with normal ranching operations by the coal company; and (7) agrees to submit any disagreement between the company and the landowner regarding the amount of damages or other terms of the agreement to an arbitration board.

### *Pooling of Royalty Payments*

A suggestion for alleviating the mineral owner's problem of wide fluctuations in royalty payments from year to year is for the coal resource owners to pool their coal royalty rights. Each mineral owner that elects to join the pool assigns his royalty rights to the pool. The mining company at the end of each quarter pays the pool whatever royalties are due each member of the pool because of production on his land. The bank or other financial institution that manages the pool pays each pool member his pro rata share of the quarter's receipts. Under this arrangement, the royalty income of each pool member varies from one quarter to another according to the total production of the mine, rather than according to the amount of production in his particular tract. Not all of those owning coal resources in the area to be mined would have to join the pool; membership could be voluntary. The ownership shares in the pool can be based on mineral acreages owned by each member, or if there are significant differences in seam thickness from one ownership to another, on the estimated volume of coal owned by each. Careful legal draftsmanship would be required to establish the pool agreement, not only to assure fairness among members, but also to comply with state laws regarding pools and trusts.

### *Unknown and Unlocated Mineral Owners*

The ownership problems created by unknown and unlocated owners of separated mineral estates have no easy solution. One approach would be to quiet title to severed mineral interests in the surface owner, who then could sign mineral leases. In North Dakota, at least, all such attempts in actions under the adverse possession statutes or the Marketable Record Title Act have failed. Courts consistently have held that possession of the surface is not possession of the subsurface, adverse or otherwise.<sup>30</sup>

An act of the 1967 Session of the North Dakota Legislative Assembly authorizes the district court to establish a trust in the interest of a mineral or royalty owner whose whereabouts is unknown upon petition of someone who holds a mineral or leasehold interest in the tract. The trustee appointed by the court may execute mineral leases and related documents subject to approval of the court, and he holds any income in trust to be paid to the owner if and when he is located.<sup>31</sup>

The main limitation of this statute is that at least one known mineral owner must petition the court or sign a mineral lease which would enable the mineral lessee to petition. The procedure thus is not available in those instances in which no owner of a mineral interest can be found. The costs of the trusteeship probably would not be exorbitant and in any event probably could be paid out of the rental and royalty receipts. Just why this procedure has not been used more extensively than it has is not readily apparent.

Another approach to the problem of unlocated mineral owners would be to tax separated mineral rights. If the owners of the severed mineral rights pay the tax, their whereabouts probably could be located from tax records. If they do not pay the tax, the counties could acquire title under tax-deed procedures. Several states have attempted to tax severed mineral rights. The usual mechanism has been to list the tracts with severed mineral rights in an addendum to the property tax roll, showing for each tract description the name of the last known owner, the share of the undivided mineral rights (or the mineral acreage), and the assessed valuation of each ownership computed at some nominal value per mineral acre. Courts generally have struck down these statutes on the grounds that they violate tax uniformity clauses of state constitutions.<sup>32</sup>

A properly drafted proposal that would tax all mineral rights, both

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30. D. Kalash, *Severed Mineral Interests, a Problem without a Solution?*, North Dakota Law Review, 451-455 (1970).

31. N.D. Cent. Code, §§ 38-13-01 to 38-13-04 (1960).

32. Kalash, *supra* note 30, at 455-458.

separated and attached to surface rights, on the same basis might be constitutional. Local tax officials, however, have vigorously opposed such proposals on the grounds that a tremendous amount of work would be required to set up and maintain a mineral rights assessment roll and that the revenue obtained probably would not cover the additional costs.

### SUMMARY AND CONCLUSIONS

The pattern of coal resource ownership differs greatly among the various coal provinces. The most complex situations occur in the Northern Great Plains and the Rocky Mountain Provinces, where public and private ownerships are intermingled and mineral ownership is separated from surface ownership on more than half of the land. The continued expansion of strip mining in these two provinces will be accompanied by numerous land use problems resulting from present ownership patterns, the most serious of which are the conflicting interests of coal lessees and agricultural operators over use of the surface. Changes in legal and institutional arrangements are needed if these problems are to be resolved equitably.

One approach would be acquisition of all coal resource ownerships by a single governmental unit, either state or national, as has been done in West Germany and the United Kingdom. The legal and financial problems associated with such a drastic change would be formidable in the United States. It is believed that most of the achievements of the West German and English systems in minimizing environmental damage and social dislocation could be accomplished by local and regional coal production planning commissions without major ownership changes in coal resources.

Other possible measures to resolve surface-subsurface conflicts include: (1) an official arbitration system; (2) improvement of contractual relations between mining companies and surface owners by voluntary action; (3) pooling of royalty payments in each mine or locality; (4) establishment of trusts by district courts to manage mineral rights owned by unlocated and unknown owners; and (5) subjecting all privately-owned mineral rights, both severed and attached, to property taxation.