

1984

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Recommended Citation

Kuehne, Gunther and Trelease, Frank J. (1984) "The New West German Mining Law," *Land & Water Law Review*: Vol. 19 : Iss. 2 , pp. 371 - 394.

Available at: https://scholarship.law.uwyo.edu/land_water/vol19/iss2/1

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University of Wyoming

College of Law

LAND AND WATER LAW REVIEW

VOLUME XIX

1984

NUMBER 2

Federal mining law has long been criticized as cumbersome and inefficient. Although there have been some major reforms, most changes have been piecemeal additions to the Mining Law of 1872. In this article, the new and comprehensive mining law enacted in the Federal Republic of Germany is examined and comparisons are made with American mining law. Professor Trelease discusses the background of American and German mining law, tracing them to their common ancestry. Dr. Kuehne then examines the new German mining code. As a modern mining code for a major industrial country, the new West German mining law contains a variety of provisions which provide solutions to a number of problems which persist in American law.

THE NEW WEST GERMAN MINING LAW

*Gunther Kuehne**
*Frank J. Trelease***

I. INTRODUCTION

In 1982 a new Federal Mining Law (*Bundesberggesetz*, hereafter, in the German style, the BBERG)¹ entered into force in the Federal Republic of Germany. Here in America the past decade has seen major changes in the mining law, but our reform has comprised a number of piecemeal additions to the old Mining Law of 1872, while Germany's new law is a sweeping replacement of the Prussian General Mining Law of 1865 and the hundred or more statutes and ordinances into which it had proliferated. A modern mining code for a major industrial country, an important mineral producer since the Middle Ages, provides an interesting comparison to the American system. American interest is heightened because both systems have a common ancestor; both can trace their origin back to medieval customs that arose in old Saxony.

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1. BBERG vom 13.8. 1980, BGBI. I 1310 (German Official Bulletin [Bundesgesetzblatt] 1980, Part I, No. 48, Aug. 20, 1980).

Comparing the two laws reveals both similarities and differences. They share some features because of their shared background, others because both govern the same type of operation and parallelism can be expected to produce similar treatment. The dissimilarities arise from other factors; the basic theories that underly the mining laws are different, and each is set in a different legal system. American mining law depends on concepts of ownership of the minerals in place, governed by Anglo-American common law, while the German law stems from a mixture of *res nullius*, private land ownership and regalian state property, in a setting of continental civil law rules of *dominium* and obligation.

The fundamental principles of the American law are that the owner of real property owns not only the surface but also the minerals, and that he can divide that ownership and dispose of the fragments to different persons. The private owner of land in fee simple absolute can create a mineral estate in another person, or reserve it to himself from a grant of the surface to another, or create lesser property interests by "leasing" the minerals to an operator who will extract them. While the federal public domain, acquired by purchase, conquest and treaty, is not held in fee simple, the government has these same ownership rights and the federal mining laws are exercises of them. In the 19th century the United States granted homesteaders, states and railroads unlimited rights to the surface and minerals of vast areas of the public domain,² granted miners the rights to the minerals alone in unpatented mining claims, and granted both minerals and surface in patented claims.³ Early in the 20th century the United States began to separate the two estates, granting the surface to farmers and ranchers and granting or leasing the underlying minerals to miners and oil companies.⁴

The Roman Law progenitor of European civil law, however, did not recognize superimposed freeholds.⁵ The owner of the surface owned some minerals, at least rocks and soils in plain sight. From the dawn of history, however, Pharaohs, god-kings and oriental potentates have claimed all gold, silver and often precious gems found within their realms, and this "regalian property" concept found its way into Roman law and was applied to mines and mineral deposits that became the property of the Roman Empire by the conquests of Europe, Africa and Asia Minor.⁶ Another Roman concept concerned *res nullius*, unowned things, that belong to the finder or the person who first appropriates them. German mining laws are based on a combination of these ideas. The landowner owns certain minerals, but these are generally limited to the materials that form the surface itself. The state controls most valuable minerals, granting limited rights, regulating operations and levying a royalty under a system that looks quite regalian, yet these minerals are "free for winning and working" and to this extent

2. L. MALL, PUBLIC LAND AND MINING LAW, Ch. 3, (3rd ed. 1981).

3. Mining Law of 1872, 30 U.S.C. §§ 26, 9 (1976).

4. Agricultural Entry Act of 1914, 30 U.S.C. §§ 121, 124 (1976); Stockraising Homestead Act of 1916, 43 U.S.C. § 291 (repealed 1976), 43 U.S.C. § 299 (1976).

5. BUCKLAND & MCNAIR, ROMAN LAW AND COMMON LAW 101 (Lawson, 2d ed. 1952).

6. *Id.* at 20.

still regarded as *res nullius*, the property of the discoverer who ultimately reduces them to possession.⁷

These labels of private property, state property, and no property, and their accompanying theories of ownership, do not dictate any particular form of regulation. They are not premises from which fixed conclusions must flow, and as will be seen, practically identical operational results can be reached under either system, no matter which theory is used as the starting point.

II. HISTORICAL BACKGROUND

A. *The German Beginnings.*

The early history of medieval German mining law is clouded by uncertainty as to whether, in the Holy Roman Empire that dominated central Europe, the ultimate ownership of mines and minerals rested in the emperor or in the "electors," the kings, princes and dukes who ruled the principalities that made up that confederation. Distinctions between state property and private property were not clearly drawn, and the feudal tenure system itself causes some difficulties in identifying sovereignty, ownership, reservations, and feudal duties in the mining context.⁸ On the one hand, the early emperors claimed regalian rights, at least to certain metallic ores. In the 12th century the first Emperor, Frederick Barbarossa, declared that mineral ownership was separate from surface tenure, that the emperor was the sole proprietor of mines and the only person privileged to grant the right to work them.⁹ Under these rights a tithe, a tenth part of the ore, was reserved, and later emperors frequently disposed of the tithes to lesser lords, to the church or its bishops, and occasionally to towns, as a return for services, as a gift to a favorite, or simply as a sale. The tithes represented the reserved interests of the sovereign, and with them went jurisdiction over the mines and over the smelting houses in which the ores of the miners were treated for a fee.¹⁰ The claims of some electors may have been so founded. On the other hand, there is evidence that many local rulers laid independent claims to these powers. Some early mines were operated with serf labor by the landholding nobles, who occasionally leased them like agricultural lands, reserving a rent or royalty to themselves and possibly in turn to their overlords.¹¹ But as power shifted from emperors to electors, the princes of the German states clearly became the owners of the regalian right by virtue of the "Golden Bull" of 1356 that gave sovereign rights to the constituent states and the Peace of Westphalia that ended the Thirty Years War in 1648 and confirmed the territorial rights of the members of the confederation.¹²

7. The German author of this article follows the German tradition in labelling these minerals "unowned." See WILLECKE-TURNER, GRUNDRISS DAS BERGRECHTS § 14 (2d ed. 1970). The American author believes that this measure of physical and fiscal control over the resource would qualify it for "state ownership" as that concept is usually understood in the United States.

8. TURNER, DAS BERGBAULICHE BERECHTSAMSWESSEN 5 (1966).

9. *Id.* at 6; 2 RICKARD, MAN AND METALS 588 (1932).

10. TURNER, *supra* note 8, at 8; RICKARD, *supra* note 9, at 524, 552.

11. RICKARD, *supra* note 9, at 595.

12. WILLECKE-TURNER, *supra* note 7, § 5.

The earliest regal claims were to gold and silver, but the *bergregal* was applied to common metals (and in some areas salt) before the fourteenth century. Later, the states extended their jurisdiction to lesser minerals, even some desirable building stone such as marble, to chemicals such as saltpeter, and to coal when its importance as a fuel was realized.¹³

The first records of German mining law are the rules of the mining districts dating from the twelfth to the fourteenth centuries.¹⁴ At the very beginning of this period it is clear that the miner had been freed from serfdom, even from military service, and that the "*Bergbaufreiheit*"—free mining—was firmly established: the privilege of miners to prospect for and lay claim to minerals regardless of surface ownership, and the right of the discoverer to extract the deposit, subject to the payment of a tithe to the prince and to his exclusive privilege to smelt and treat the ores and sell the metal.¹⁵ The freedoms and privileges granted to miners and the ease with which they moved about among the principalities and states indicate that there was keen competition by the princes for the services of these skilled artisans.¹⁶ Each mining community had its own rules but they show a remarkable similarity, partly because of such migrations, and partly because they probably had a common origin in custom, since mining had begun in Germany as early as the tenth century.¹⁷

The rules of the districts all called for the administration of the mining territory by *Bergmeisters*, responsible to the prince and not to the holders of the local fiefs. Prospecting privileges were confirmed to the free miners who inhabited the districts, elaborate procedures were provided for marking and proclamation of claims, performance of annual labor was required to keep the rights alive, and procedures were given for the measurement of tithes. The discoverer of a vein or lode was entitled to a "head meer," a claim approximately 42 feet wide by 294 feet along the vein. Others could locate a "common meer" of 42 by 84 feet. The narrowness of the meer indicates that the thing granted to the miner by the princely owner of the subsurface was the vein, not the surface ground, and suggests that the miner was allowed the "extralateral right" to follow the vein at an angle downward and outward past the sideline of the meer.¹⁸

A lode claim measured along the "strike" of the vein where it intersected the surface became known as a "*Langenfeld*" or "*Streichenfeld*." Later a "*Gerviertfeld*" or squared claim was developed to cover deposits in loose materials or flat-bedded lodes and seams. *Bergmeisters* presided over special courts, advised by juries, which confirmed the meers and settled disputes.¹⁹

Originally, absentee ownership was forbidden. The mines were owned and operated by the local inhabitants, formed into partnerships or companies of sixteen men who with their families worked the mine. As the scale

13. TURNER, *supra* note 8, at 15-16.

14. WILLECKE-TURNER, *supra* note 7, § 6.

15. *Id.*; RICKARD, *supra* note 9, at 596.

16. WILLECKE-TURNER, *supra* note 7, § 6; RICKARD, *supra* note 9, at 598.

17. WILLECKE-TURNER, *supra* note 7, § 6; RICKARD, *supra* note 9, at 595.

18. Colby, *The Extralateral Right*, 4 CALIF. L. REV. 361, 364-67 (1916).

19. *Id.* at 376.

of operations and the need for capital increased, the number of shares was enlarged, but still only miners or burghers of nearby cities were permitted to hold shares. Eventually miners sold their meers to commercial companies and the companies in turn hired miners for wages. By the fifteenth century the cleavage between capital and labor was complete, and companies were organized and shares sold with the recklessness which has so often attended more modern mining booms.²⁰

The free mining customs, confirmed by charters and ordinances proclaimed by the various rulers, became the laws of the states which came to make up the German and Austrian empires.²¹

B. The English Interlude.

The scene now shifts to England. The common law rules applied in most of England: the owner of the surface owned the minerals and could create a separate mineral estate in another or work the mines himself or by a lessee. But in three areas of England: Cornwall, Derbyshire and the King's Forest of Dean in Gloucestershire, certain minerals were not the property of the landowners. The Cornish tin miner had free mining customs reaching back to prehistory,²² the Gloucesterman was free to dig the king's coal and iron as long as he paid a "gale" or rent,²³ but these were very different from the rules that governed the lead mines of Derby. The Derbyshire customs were clearly brought to England from Germany. It has been said that they were one of the few Anglo-Saxon institutions to survive the Norman conquest.²⁴ They showed their ancestry by their similarity to the German customs and the use of Saxon words in the technical terminology of the industry—words such as "strike," "drift" and "stope"—and in the names of mines. The miner could enter, search for and mine lead on any private land except churchyards, burial grounds, dwelling houses and gardens. Any mineral other than lead was the property of the landowner, even if it was brought to the surface by the lead miner. The discoverer of a lead mine was entitled to two meers, usually of 96 feet, each measured along the vein from the point of discovery, and of sufficient width for convenient working of the claim. A third meer was set aside at one end for the king, or the person to whom his royalties had been assigned. All of these were set out by the barmaster, the English cousin of the *Bergmeister* of the Harz Mountains. Title to the mine did not pass until work was begun and the ceremony of "freeing the meer" was performed by delivery of the first "dish" or measure of ore to the barmaster. Thereafter the finder might claim and free other meers along the vein. The duties of working the mine were strict, and it might be forfeited for as little as three weeks of idleness after notice to resume work was served on the finder.²⁵

The owner of a Derbyshire lead mine was said to have an "estate of inheritance."²⁶ He owned a length of the vein regardless of surface titles. His

20. RICKARD, *supra* note 9, at 550.

21. WILLECKE-TURNER, *supra* note 7, § 8.

22. See 26 HALSBURY'S LAWS OF ENGLAND 797-801 (3rd ed. 1959).

23. *Id.* at 807-812.

24. H. HOOVER & L. HOOVER, NOTES TO TRANSLATION OF AGRICOLA, DE RE METALLICA 85 (1912).

25. HALSBURY'S, *supra* note 22, at 804.

26. H. HOOVER & L. HOOVER, *supra* note 24.

surface area was fixed in regard to convenient mining, but he might follow his vein under "excepted places" such as churchyards, and if two veins converged, the miner with the prior title took the whole. This privilege was only to follow his portion of the vein laterally, and if he "worked out of his own length" into an adjoining meer he was guilty of trespass.²⁷

C. *The American Reception.*

The story of the gold rush of 1849 has been told many times. Hundreds of thousands of miners flocked to the territory of California, so recently wrested from Mexico that no civil government existed. The military commander ruled that the Mexican mining laws did not apply, and prudently did not try to stem the tide of miners who swarmed up every valley of the ungoverned, scarcely populated wilderness, washing the gold from the gravel of the stream beds or picking it from the lodes in the surrounding mountains. Lawlessness prevailed, and the only way a person could protect his "diggings" was with a gun. It is astonishing that the United States had no mining laws to govern this situation. Millions of dollars went into the pockets of miners who took the minerals from the government's land without a shred of legal authority. But since most of the miners had come from peaceable communities, they soon banded together and formed "mining districts" to bring about some semblance of order. These *de facto* governments established courts, elected executive officers and made their own laws in the form of rules adopted by the majority in open meetings. The rules fixed the size of the claims, the number that could be held by a single person, and the procedures for marking and recording them. Although they differed from district to district, they all required a discovery, gave the discoverer the right to mine, and required a more or less continuous working of the claim to prevent its abandonment and occupation by another.²⁸ Some of these rules show a Spanish influence, and many "forty-niners" had flocked from Chile, Peru and Mexico. Many Cornishmen, with their expertise in hardrock mining, had been attracted to California, and these rules have been attributed to them. But men of Derby must have been present in numbers, for it is clear that they made the greatest legal contribution. Some of the evidence is that the length of the claim in most districts corresponded closely to the Derbyshire meer, the owner of a claim, like the holder of a meer, had the extralateral right to follow a vein slanting under and beyond the side boundaries, and many mining terms came from Derby. Most conspicuous is the word "bar" for a mineralized area: Michigan Bar, Middle Bar and Negro Bar can still be found on the maps of California. The Derbyshire word is a corruption of the Anglo-Saxon "bargh," of the same root as the modern German "berg." It is clear that the free mining tradition of medieval Europe and England had found a home in 19th Century America. It was adopted by Congress: the Mining Act of 1866²⁹ was a triumph for the free miner, declaring the mineral lands of the public domain to be free and open to exploration and occupation. This was followed in 1870 by the Placer Mining Act³⁰ and both

27. Colby, *supra* note 18, at 376; HALSBURY'S, *supra* note 22, at 803.

28. See generally SWENSON, *Legal Aspects of Mineral Resources Exploration*, in PUBLIC LAND LAW REVIEW COMMISSION, HISTORY OF PUBLIC LAND LAW DEVELOPMENT (1968); McGowen, *The Development of Political Institutions on the Public Domain*, 11 WYO. L. J. 1 (1956).

29. 14 Stat. 251 (1866) (repealed 1872).

30. 16 Stat. 217 (1870) (repealed 1872).

were supplanted in 1872 by the Mining Law,³¹ which reaffirmed the basic policy of free mining on the public domain without payment of royalty. In these statutes the mining claim along the vein, the square placer claim, the extralateral right, the requirement of annual labor, all testify to the Germanic origin of American mining law.

D. The Prussian Mining Law.

Meanwhile, the industrialization of Germany in the mid-19th Century brought a movement to update the mining laws. The Kingdom of Prussia led the way with the General Mining Law of 1865 (*Allgemeine Berggesetz*, (ABG)),³² which preserved the freedom to prospect for and locate mining claims, but abolished royalties and tithes. After the 1871 unification of Germany the act was copied by several states, used as a model by others and in this fashion German law became fairly uniform. Each state in which mining was important set up a bureaucracy and adopted elaborate proceedings for claims and regulation of operations.

The ABG created three types of minerals. A list of "free minerals" included most metals and some industrial chemicals. "State minerals" were coal, salt and many chemicals. "Landowners minerals" were all those not listed in the first two categories, and included not only the common varieties of surface minerals but also many valuable substances not at the time thought important enough to regulate. Each class had its own type of mining right. Any person or corporation had open access to prospect and explore for free minerals and could acquire a mineral ownership (*Bergwerkseigentum*) in discovered deposits. Freedom of mining for state minerals was somewhat more restricted. While the state itself could exploit these, for the most part the state controlled them only to prevent monopolization. The discoverer had no assurance that he would receive the mining right, and the states selected the miner and awarded the rights in such a way as to ensure competition in the industry. Landowner's minerals were usually developed under "obligatory contracts," by which the landowner granted to mining companies mining rights quite comparable to American mining leases.

The ABG governed prospecting and the relations between landowner and the mining company operating on his land. It settled the size of the mining claim at 220 hectares, but placed no limit on the number of claims a single operator could hold. The boundaries of the claim extended straight downward; there was no right to follow an ore body that extended through these limits. It is interesting to note that the ABG, enacted before the American mining laws, abolished two features of the old customary laws that were incorporated into the American laws and still give trouble today: the distinction between different types of claims for different types of mineral occurrence (lode and placer claims), and the extralateral right that has led to so many conflicting claims to the same deposit. In general, the discoverer of a mineral deposit was entitled to a mining right, a secure form of real property, unburdened by royalty, regardless of whether it pertained to free minerals or state minerals. It was subject to no special taxes,

31. 17 Stat. 91 (1872) (codified at 30 U.S.C. §§ 22-54 (1976)).

32. GS. S. 705, 24 June 1865.

the entrepreneur took all the "economic rents" and the state was content to have the benefits from mining, both the minerals and the profits, flow into the general economy. In 1934 the Petroleum Act took oil out of the class of landowner's minerals and placed it in a new sub-class of state minerals, governed not by the ABG but by a system similar to leasing.³³

This summary must be understood as a thumbnail sketch of the former law and should not obscure the fact that by 1980 the legislation of the German states had become very complicated, with many differences among the states and many amendments to the laws. The ancient victory of the electors over the emperor in claiming the regalian right had survived the unification of Germany in 1871, but the need for uniform and modern laws was seen as early as 1949. The West German Constitution of that year gave concurring legislative power in the field of mining law to the federal parliament.³⁴ The pressures continued to rise, and this power was finally used in passing the Federal Mining Law of 1980, which became operative on January 1, 1982.

III. MINING RIGHTS

Apart from the aspect of statutory unification, one of the main objectives of the BBergG, as stated in art. 1,³⁵ is to regulate and to encourage the exploration for and exploitation of mineral substances in order to improve the supply of raw materials. This emphasis clearly reflects the energy crisis of the 1970's. The reshaping of essential elements of mining law is intended to meet the requirements of a modern economic order. One key point of the reform was the reorganization of mining rights, since it was felt necessary to restructure the system of mining titles, some of which still dated back to the Middle Ages.

The BBergG's new system of mineral rights should be understood as holding an intermediate position between the two main directions of the former law. On the one hand, one of the basic elements of German mining law since 1865 has been the idea of free entrepreneurial access to mining with a guarantee of acquisition of a mineral estate from the state, dependent only on the fulfillment of certain formal requirements (discovery of the mineral, delimitation of the claim, etc.). On the other, this traditional system of the ABG was considerably eroded by the introduction of the state reserve in some of the most important minerals (coal, oil and gas) with the state having discretionary power to confer contractual mining interests on private industry. The BBergG selects elements of these two systems and tries to take into account both the interest and facilities of private industry in the mining sector and the political need to coordinate mineral operations with the requirements of other policies, particularly the development of energy and the protection of the environment.

33. Erdolgesetz, 10 May 1934, GS. S. 137.

34. Grundgesetz (Basic Law) GG art. 34 no. 11.

35. BBergG, *supra* note 1, art. 1.

A. *Categories of Minerals.*

The BBergG retains, but to a lesser extent, the classification of minerals and the different treatment of the different classes. It still distinguishes between two categories, "minerals free for winning and working" and landowner's minerals, but both the categories and the mining regimes applicable to them have undergone considerable change.

The new free minerals encompass most of the old state minerals as well as the former list of free minerals. Article 3 par. 3 of the BBergG defines them, setting forth a long and specific schedule of metals and ores: hydrocarbons, coal, mineral salts, uranium, etc. These are legally separated from the estate of the owner of the ground in which they are located. Although they can be said to be *res nullius*, unowned until reduced to possession, the property in them can only be acquired through mining on the basis of administrative permission and payment of production taxes.

Landowner's minerals are all those not listed as free minerals. The right to explore and mine these is a part of the landowner's title or the derivative title of his lessee, so no mineral right need be, indeed can be, obtained from the federal government. Nevertheless, the exploiter may have to comply with some provisions of the BBergG, in particular those relating to the operation plans discussed below. These requirements apply to certain listed landowner's minerals, e.g., feldspar, mica and some types of quartz and clay, and to any other landowner's mineral that is explored for or mined underground.³⁶ The BBergG does not apply at all to unlisted landowner's minerals dug from the surface, so the exploitation of some important minerals such as sand, gravel, loam and peat is governed only by the local environmental legislation of the various German states.

America, of course, has its categories of minerals and different systems of mineral law. The Mining Law of 1872³⁷ allows free mining of "all valuable mineral deposits," but the Mineral Leasing Act of 1920³⁸ applies to its list of fuels and fertilizers, and the Surface Resources Act of 1947³⁹ provides for sale of the "common varieties of sand, stone, gravel," etc. It is interesting to note that in 1978 the United States Supreme Court was called upon to decide whether or not oxide of hydrogen, chemically symbolized as H₂O, could be a valuable mineral, and held that it was not;⁴⁰ and in 1980 the West German Parliament felt compelled to specifically exclude water from the mineral classification.⁴¹

Since the German free minerals are located within private land but can only be mined with federal authorization, the closest American analogy to the mining right given by the BBergG is a federal lease of reserved hydrocarbons or chemicals underlying land patented under the Stockraising Homestead Act, the surface of which is in private ownership.⁴² This

36. *Id.*, art. 3, para. 4, no. 1.

37. 30 U.S.C. §§ 22-54 (1976).

38. 30 U.S.C. §§ 181-287 (1976).

39. 30 U.S.C. §§ 601-604 (1976).

40. *Andrus v. Charlestone Stone Products Co.*, 436 U.S. 604 (1978).

41. BBergG, *supra* note 1, art. 3, para. 1.

42. 43 U.S.C. §§ 291 (repealed 1976), 292 (repealed 1976), 299 (1976).

analogy does not hold true for landowner's minerals. However, it has recently been held that the American surface homesteader does not own the very sand and gravel that make up that surface; these too are minerals reserved from his patent.⁴³

A. *Types of Mineral Rights.*

The BbergG introduces a three-stage system of mining rights for free minerals: the exploration license (*Erlaubnis*), the exploitation license (*Bewilligung*) and the mineral estate (*Bergwerkseigentum*).

The exploration license grants the exclusive right to explore for a specific mineral in a specified area, including the right to erect needed structures and operate machinery.⁴⁴ The exploitation license grants the exclusive right to mine and acquire ownership of a specific mineral, to put up and operate the necessary installations and to exercise certain ancillary rights, such as mining other unlicensed substances not capable of being separately mined, or installing auxiliary underground devices in contiguous tracts.⁴⁵

The mineral estate carries the same rights as the exploitation license. The difference is that the license is comparable to a concession and rests on contract law, while the mineral estate has the quality of real property.⁴⁶ This type of mineral right was carried over from the previous legal system under pressure from the mining industry, which considered it necessary in order to permit the mortgaging of mineral rights to finance operations.

Exploration licenses, exploitation licenses and mineral estates always are related to a specific part of the earth, a "*Feld*." Art. 4 par. 7 defines the *Feld* as follows:

The *Feld* of an exploration license, exploitation license of mineral estate is a segment of the earth demarcated by straight lines at the surface and vertical planes in depth.

There is not maximum size for either the exploration or exploitation license. An exploration license, however, may be administratively limited to the extent necessary to prevent a distortion of competition among exploring companies or to improve the exploration of mineral deposits.⁴⁷ Exploitation licenses are limited to the size of the deposit, and where there is no deposit, there can be no exploitation license.⁴⁸ For this reason the exploitation license often may be smaller in size than the exploration license. With regard to the mineral estate, however, the legislators were unwilling to grant a property interest in more than twenty-five square kilometers, approximately 10 square miles.⁴⁹ One person or company may hold more than one exploitation right, whether licenses or mineral estates. Several

43. *Watt v. Western Nuclear Co.*, 103 S.Ct. 2218 (1983).

44. BbergG, *supra* note 1, art. 7, para. 1.

45. *Id.*, art. 8, para. 1.

46. *Id.*, art. 9, para. 1.

47. *Id.*, art. 16, para. 2.

48. *Id.*, art. 12, para. 1, no. 3.

49. *Id.*, art. 13, no. 3.

adjoining claims may be obtained and adjoining mineral estates may be consolidated.⁵⁰

Exploration licenses and exploitation licenses are transferable, but transfer is subject to administrative consent.⁵¹ Consent to a transfer of exploration or exploitation license may only be denied if one of the grounds for initial refusal exists,⁵² e.g., the transferee lacks the necessary financial resources.⁵³ The mineral estate, of course, may be transferred, and consent to the transfer may only be denied if the transfer is incompatible with the public interest.⁵⁴

It can readily be seen that the modern German mining rights have many advantages that the American "pick and shovel" mining claim lacks. The BBERG continues the ABG's exclusion of the possibility of extralateral rights and its elimination of different types of claims. The consolidation of free mineral and state minerals and the unified procedure for all types of minerals contrasts with the American tripartite scheme of location, leasing and purchase. The exploration claim is a vast improvement over that tenuous American pre-discovery right, the "pedis possessio," and the confusion that surrounds that concept.⁵⁵ There is no need to stake multiple small claims and undertake all the attendant pitfalls and dangers of that process. The exclusive license eliminates the race to stake, and there is no danger that part of the deposit will be claimed by a rival prospector working at the same time and end up split between the claimants.⁵⁶

B. Acquisition of Mineral Rights.

Some elements of the free mining system remain. Both exploration and exploitation licenses may be applied for by anybody wishing to mine. He has a right to the license, unless he is barred by one of the grounds of refusal listed in BBERG arts. 11 and 12. Among these are the following:

- Failure to specify the mineral to be explored for or mined;
- Absence of a working program giving evidence of a sufficient scheme for the exploration or exploitation activities;
- Absence of a commitment to inform the authorities about the results of the exploration activities;
- Facts showing the applicant's personal unreliability;
- Lack of financial resources;
- Danger of preventing appropriate and systematic exploration and exploitation of free minerals or landowner's minerals;

50. *Id.*, art. 24.

51. *Id.*, art. 22, para. 1 (exploration and exploitation licenses); art. 23, para. 1 (mineral estates).

52. *Id.*, art. 12, para. 1.

53. *Id.*, art. 11, no. 7.

54. *Id.*, art. 23, para. 1.

55. See *Continental Oil Co. v. Natrona Service, Inc.*, 588 F.2d 792 (10th Cir. 1978); *Geomet Exploration Ltd. v. Lucky Mc Uranium Corp.*, 124 Ariz. 55, 601 P.2d 1339 (1979). See generally Knutson & Morris, *Coping With the General Mining Law of 1872 in the 1980's*, 16 LAND & WATER L. REV. 411 (1981).

56. See *Ranchers Exploration & Development Co. v. Amaconda Co.*, 248 F. Supp. 708 (1965); *Globe Mining Co. v. Anderson*, 78 Wyo. 17, 318 P.2d 373 (1957).

- Impairment of minerals which it would be in the public interest to protect;
- Existence of an overriding public interest that precludes exploration or exploitation in the area claimed. Examples of such public interests are to be found in legislation concerning environmental protection, public transport, zoning of waterway protection.

A holder of an exploitation license may apply for a mineral estate provided that he produces evidence of prospective profitable exploitation in the entire mineral area.⁵⁷ This is almost exactly the same as the requirement that the American miner show the quality of "marketability" of the deposit in order to obtain a patent to his claim,⁵⁸ and points up the parallels between the exploitation license and the unpatented claim and between the mineral estate and the patent. Both of the former will permit mining, and each of the latter is obtained to enhance the security of investment for both miner and financier.

In order to avoid specific grounds of refusal, the administration may add collateral conditions and charges to a mining right.⁵⁹ For example, an exploitation license may require the applicant to use certain mining methods for purposes of protecting adjoining mineral deposits.

C. Duration and Loss.

Contrary to the legal situation under the ABG, all mineral rights springing from the BBergG are limited in time. This is to preclude the hoarding of mineral rights and to secure a more expeditious development of mining activity. An exploration license is generally limited to a duration of five years, but it may be prolonged if further systematic exploration so requires.⁶⁰ Exploitation licenses and mineral estates may exceed fifty years only to protect the investment required for exploitation of the deposit.⁶¹

While the American mining claim is subject to abandonment if the formal requirements of annual filing are not met or if the substantive and formal requirements of performing and reporting annual assessment work are not performed,⁶² and is subject to forfeiture upon proof of lack of discovery of a valid mineral deposit,⁶³ there is no requirement that the miner actively mine his claim. Much more diligence is required of the German miner. In large part, the BBergG is clearly traceable to a policy of intensifying and speeding up mineral activity, inspired by the oil and energy crisis of the 1970's. The BBergG requires that an exploration license be revoked if the holder delays the beginning of activities for more than a year after receiving the license or interrupts work for more than one year. Basically the same applies to exploitation licenses with different time periods: three year

57. BBergG, *supra* note 1, art. 13, no. 2.

58. United States v. Coleman, 390 U.S. 599 (1968).

59. BBergG, *supra* note 1, art. 5; *Verwaltungsverfahrensgesetz* (Administrative Procedure Code) art. 36, para. 1.

60. BBergG, *supra* note 1, art. 16, para. 4.

61. *Id.*, art. 16, para. 5.

62. Federal Land Policy and Management Act, 43 U.S.C. § 1744 (1976).

63. Foster v. Seaton, 271 F.2d 836 (D.C. Cir. 1959); Duguid v. Best, 291 F.2d 235 (10th Cir. 1961), *cert. denied*, 372 U.S. 906 (1963).

delay and three year work stoppage. Even the mineral estate may be terminated if no work is begun or performed in similar ten year periods.⁶⁴ Revocation may not take place if mining activities are delayed because of valid operational or other reasons not attributable to the holder's lack of care.⁶⁵

Other possibilities of termination may arise under the BbergG or under general principles of administrative law. The mining law requires the revocation (*Widerruf*) of a legally issued exploration or exploitation license, if circumstances occur that would have resulted in denial had they existed prior to issuance.⁶⁶ Under the Administrative Procedure Code no compensation would be required if the licensee has not complied with the conditions of the license, but compensation would be paid if the public interest is endangered and the operative facts arose after the issuance, or if the law had been changed and the license had not been exercised, or if it was necessary to prevent or remove a grave detriment to the public welfare.⁶⁷ Under rare circumstances an American miner might face the same sort of loss. While this is not spelled out as in Germany, a comparable situation might arise if his claim or lease were in territory later established as a national park,⁶⁸ or perhaps determined to be critical habitat for a newly-declared endangered species.⁶⁹

Furthermore, an illegally issued license is subject to withdrawal (*Rücknahme*), a quite different concept. The Administrative Procedure Code allows withdrawal of administrative acts (which include exploration and exploitation licenses) without compensation if the applicant obtained the license by fraud, threats, bribe or substantial misrepresentation.⁷⁰ There are possibilities of compensation if the person concerned suffers on account of reliance on the continued existence of the act that was illegal because of some defect in the authority or action of the issuing agency and if the holder was neither guilty of the illegality nor grossly negligent in not knowing of the illegality of the administrative act.⁷¹ This situation is quite comparable to the administrative cancellation of an American mineral lease to correct administrative errors committed in issuing it.⁷² There is no limitation period for withdrawal but if the authority gets information on the facts justifying withdrawal the action must take place within one year from receipt of the information.⁷³ The time limit for a revocation is the same as for withdrawal, one year after knowledge.

An exploitation license cannot be revoked or withdrawn after a mineral estate has been issued, because it ceases to exist when the mineral estate comes into existence. It is uncertain whether the revocation or withdrawal

64. BbergG, *supra* note 1, art. 18, paras. 2-4.

65. *Id.*, art. 18, paras. 3-4.

66. *Id.*, art. 18, para. 1.

67. Administrative Procedure Code, *supra* note 59, art. 49, para. 2.

68. National Parks Mining Act of 1976, 16 U.S.C. §§ 1902-1912 (1982).

69. *See* 16 U.S.C. §§ 1531-1543 (1982); *Cabinet Mountains Wilderness v. Peterson*, 685 F.2d 678 (App. D.C. 1982).

70. Administrative Procedure Code, *supra* note 59, art. 48, para. 1.

71. *Id.*, art. 48, para. 3.

72. *Boesche v. Udall*, 373 U.S. 472 (1963); *see* 30 U.S.C. § 184(h) (1976).

73. BbergG, *supra* note 1, art. 52, para. 4.

procedures set forth in the Administrative Procedure Code apply to mineral estates, if there was an initial or subsequent lack of one of the requirements for the issuance of the state under Articles 11 and 12 of the BBergG. This point has not been settled.

IV. OPERATIONS PLANS

Once a mineral right is issued, the holder is not yet entitled to undertake mining operations, whether exploratory or exploitative in character. Mining operations not only affect their surroundings, they actually destroy the place where they are carried on, causing considerable damage to the surface and creating particular dangers to man and property. Official control to regulate all mining activities and prevent such harms is therefore imperative. For this purpose German mining legislation has developed a specific legal instrument, the operations plan procedure (*Betriebsplanverfahren*). Its roots can be traced back to the 19th century in the Prussian Mining Law of 1865. Today the BBergG retains, with some diversification and refinement, the same basic structure.

A. *The Requirement of Officially Approved Operations Plans.*

In principle, all mining operations—whether exploratory, exploitative or even preparatory in nature—may be initiated, maintained and discontinued only after prior official approval of an operations plan filed by the operator;⁷⁴ although the law provides some exemptions for small scale operations of minor importance and little danger.⁷⁵ Operations plans have to contain a detailed explanation of the size, technical execution and duration of the intended activities,⁷⁶ which may be prolonged, supplemented and altered upon approval of the Mining Authority.⁷⁷

B. *Types of Operations Plans.*

While the Prussian ABG knew only one type of operations plan, the BBergG, following recent administrative practice, has created a whole set of different types of operations plans. This is to take into account the variety of mining operations and, consequently, the need for a more flexible administrative procedure. In addition to the main operations plan (*Hauptbetriebsplan*) there are the skeleton operations plan (*Rahmenbetriebsplan*), the separate operations plan (*Sonderbetriebsplan*), the joint operations plan (*gemeinschaftlicher Betriebsplan*), and the final operations plan (*Abschlussbetriebsplan*).⁷⁸ Main and final operations plans have to be submitted automatically, whereas all other operations plans are due only upon request of the Mining Authority.

The main operations plan is the usual basis for establishing and maintaining mining operations. Its function is to give the Mining Authority comprehensive information on the structure and activities of the operations.

74. *Id.*, art. 51, para. 1.

75. *Id.*, art. 51, paras. 2, 3.

76. *Id.*, art. 52, para. 4.

77. *Id.*, art. 51, paras. 2, 3.

78. *Id.*, arts. 52, 53.

Normally it must be renewed every two years.⁷⁹ Skeleton operations plans run over a longer period, depending on the individual circumstances. They are to provide the Mining Authority with the outline of the whole mining project, its technical execution and prospective duration, so as to enable the authorities to coordinate the project with other public interests involved, *e.g.* the construction of highways or environmental conservation. Skeleton plans, accordingly, are of great importance in sectors of mining with considerable surface effects, particularly strip mining. A separate operations plan will be requested by the Mining Authority when a separate technical complex beyond the normal progress of the mining operation has to be developed, for example the sinking of a new shaft. Joint operations plans will be requested in cases of concerted mining activities being executed by several operators, *e.g.* establishment of joint coal stocks. The final operations plan, which governs closing the mine, has two main functions: to protect the public against dangers arising out of the abandoned mine and to secure restoration of the environment or recultivation.

C. Requirements of Approval.

The operations plan submitted by the operator has to be approved by the Mining Authority.⁸⁰ Like the situation in the stage of issuing mineral rights, the applicant has a right to administrative approval if certain requirements are met.⁸¹ The operator must show:

- (1) the existence of a valid mineral right;
- (2) the necessary reliability, skill and physical fitness of the operator and persons responsible for running the operations;
- (3) that means for the protection of employees, third persons and material goods within the mine have been secured;
- (4) that there is no danger of impairment of other minerals of public importance;
- (5) that means for the protection of the surface in the interest of personal security and public traffic have been undertaken;
- (6) that waste will be removed in a correct manner;
- (7) that adequate recultivation of the surface can be guaranteed;
- (8) that the safety of other mines will not be endangered;
- (9) that the prevention of large scale damaging effects that concern the general public can be guaranteed.

The administrative act approving the operations plan may be accompanied by collateral clauses, *e.g.* conditions and obligations imposed for the purpose of securing the fulfillment of the foregoing requirements.⁸²

D. Relation to Other Procedures.

The vast majority of all operations plan procedures involve public interests and administrative procedures outside the purely mining sphere,

⁷⁹ *Id.*, art. 52, para. 1.

⁸⁰ *Id.*, art. 51, para. 1; art. 56, para. 1.

⁸¹ *Id.*, art. 55, para. 1.

⁸² *Id.*, art. 5; Administrative Procedure Code, *supra* note 59, art. 36, para. 1.

especially those relating to protection of waters, nature conservation, etc. The coordination of these different procedures was one of the most difficult issues the legislature was confronted with when drafting the BBergG. The Mining Authority, of course, must give information to and discuss the operations plan with all the other administrative agencies that handle the other public interests affected by the projected mining operation.⁸³ As in many other fields, the problem is whether or not the operator, in order to start mining operations, has to conform to all statutory provisions regulating the other public interests or, eventually, to apply for administrative dispensation. German administrative law has two basic approaches to this question. First, as a general proposition the applicant has to comply with all existing regulations and procedures for obtaining separate licenses, permits or dispensations prescribed by statute. The other approach starts out from the idea that in certain fields involving a variety of public interests—*e.g.* planning of railway routes, highways, airports or waterways—these various interests have to be weighed against each other in one procedure that substitutes for the various separate procedures normally required statute. The German Parliament followed the first approach in the BBergG, so that the operations plan procedure does not replace other administrative procedures such as those provided for by water laws, statutes for the conservation of historic sites and monuments, and laws protecting military installations. In general, all statutory provisions of public law character are applicable in addition to the mining law.⁸⁴ Moreover, the BBergG empowers the Mining Authority itself to prohibit or to restrict mining operations whenever there is another conflicting predominant public interest.⁸⁵ This provision has already given rise to some confusion and to various controversies which are expected to be settled by court decisions over the next few years. The whole problem of concurrent administrative procedures is basically unsolved.

E. American Parallels.

The American miner should feel a bond of sympathy for his German counterpart on this point, since he must follow an almost parallel course. If he is on the public lands he must file a notice of intention to operate and secure approval of a plan of operations either from the United States Forest Service under the Surface Use Regulations or from the Bureau of Land Management under its even more stringent regulations.⁸⁶ If he seeks an open pit mine he must comply with the state's surface mining statutes,⁸⁷ or, if he seeks coal, with the Surface Mining Control and Reclamation Act of 1977.⁸⁸ He too must go from agency to agency seeking clearance under the Clean Air Act,⁸⁹ the Clean Water Act,⁹⁰ and the Resources Conservation and Recovery (Hazardous Wastes) Act.⁹¹ In one respect the German operator may have an easier path. The *Betriebsplan* is much concerned with the internal operations and conditions of the mine and the precautions

83. BBergG, *supra* note 1, art. 54, para. 2.

84. *Id.*, art. 48, paras. 1-2.

85. *Id.*, art. 48, para. 2.

86. 43 C.F.R. § 3800 (1980).

87. *State ex rel. Andrus v. Click*, 97 Idaho 791, 554 P.2d 969 (1976).

88. 30 U.S.C. §§ 1201-1328 (Supp. V. 1981).

89. 42 U.S.C. §§ 1857(a)-1858(a) (1976).

90. 33 U.S.C. §§ 1251-1376 (1976).

91. 42 U.S.C. §§ 6921-6978 (1976).

to be taken, so the *Bergmann* has at least one less agency to face than the American who must comply with the Mine Safety and Health Act.⁹²

V. THE RIGHT TO USE THE SURFACE

Almost every kind of mining operation, in one way or the other, affects the surface of the tract of land in which it takes place. Strip mining is the type of mining where this is most obvious, but subsurface and underground mining operations, too, need surface installations. Since from the beginning the landowner never had title to most minerals and the miner received his authority from the sovereign, the right to use the surface for the execution of mineral rights emerged far back in medieval legal history.

The holder of an exploration license usually must procure the landowner's consent to enter the property.⁹³ He has to restore the surface after termination of the exploration and eventually must pay compensation to the owner in case of remaining losses. If the owner refuses to consent to the operator's ingress, the Mining Authority may substitute administrative permission for the owner's consent, where public interests require the exploration.⁹⁴

The holder of an exploitation license or a mineral estate has a statutory right to obtain from the landowner a surface lease (*Grundabtretung*), provided that the envisaged use of the surface is necessary for the establishment or maintenance of the exploitation or working operation.⁹⁵ This right is of special importance in cases of surface mining, the construction of headworks or installation of tailings dumps. If the landowner refuses to grant the use of the surface, the operator may apply for an administrative decision enabling him to use the surface, thereby restricting the scope of landowner's property.

Under the Prussian Mining Law of 1865 there was a theoretical dispute as to whether the provisions allowing the mining operator to take and pay for surface rights gave a procedure for settling private rights or were an example of the power of the state to allow the miner to expropriate (condemn) the property of the landowner. The BBergG's chapter on the subject is clearly a choice for the expropriation theory. The Federal Constitution allows expropriation only when required by the welfare of the general public, and only in accordance with statutory authorization that provides a just balance between the interests of the general public and the parties concerned.⁹⁶

The BBergG carries out this concept by requiring that the use of the surface must serve the public interest in the market supply of mineral raw materials, the protection of jobs in the mining industry or the maintenance or improvement of the economic infrastructure in the area. The mining

92. 30 U.S.C. §§ 801-960 (1976).

93. BBergG, *supra* note 1, art. 39, para. 1.

94. *Id.*, art. 40.

95. *Id.*, art. 77, para. 1.

96. GG art. 14, para. 3.

operator, in order to get an administrative grant to use the surface, has to produce evidence that he has made serious but unsuccessful efforts to acquire a property interest in the estate concerned or to achieve a contractual agreement with the owner over the right to use the surface.⁹⁷ The law embodies the principle of *ultima ratio*, that is there must be evidence that the purpose to be served by the administrative decision cannot be fulfilled in another reasonable way,⁹⁸ and the principle of proportionality, that is, the grant the use of surface must be limited to the extent necessary for achieving its objective.⁹⁹ An actual transfer of ownership, therefore, is admitted only in exceptional instances.¹⁰⁰ The law contains detailed provisions covering compensation and procedures.

The American miner's need for surface privileges is less pervasive, and the American law is less coherent. The holder of a patented mining claim has no problem; he owns both surface and minerals. While the miner on an unpatented claim can come into controversy with other users of the surface of the federal public domain,¹⁰¹ a valid mining claim takes precedence to the extent that "[any other use of the surface] shall be such as not to endanger or materially interfere with prospecting, mining or processing operations or uses reasonably incident thereto."¹⁰² But where the United States has disposed of the surface to farmers and ranchers and reserved the underlying minerals, the German situation is approximated. The legal relations between the surface owner and a claimant to the minerals varies according to the law under which the mineral right was obtained. The Agricultural Entry Act of 1914¹⁰³ reserved oil and gas and certain chemicals—all governed by the Mineral Leasing Act¹⁰⁴—from lands offered as farming homesteads. The act permits a person qualified to acquire a lease of the minerals to enter and prospect, upon receipt from the Department of Interior of approval of a bond securing payment of damages to crops and improvements. Any person who does lease the property may "re-enter" (even though he never first entered to prospect) and occupy and use as much of the surface as may be reasonably required for mining and removal of the minerals, upon payment of damages or giving a bond to secure the payment. In practice the giving of the bond is a part of the leasing transaction, and the right to enter is given by the lease and is regarded as a dominant servitude.¹⁰⁵ The mineral operator therefore has no need to condemn a right of entry and use, and the surface owner can claim only damages for loss of crops and agricultural improvements.

The rancher who settled on lands under the Stockraising Homestead Act of 1916 has even less protection. Prospectors searching for Leasing Act or locatable minerals may enter at will, and while the law forbids injury or damage to permanent improvements and damage to crops must be

97. BBergG, *supra* note 1, art. 79, para. 2.

98. *Id.*, art. 79, para. 1.

99. *Id.*, art. 82, para. 1.

100. *Id.*, art. 82, para. 2.

101. *Duguid v. Best*, 291 F.2d 235 (10th Cir. 1961), *cert. denied*, 372 U.S. 906 (1963); *United States v. Curtis-Nevada Mines, Inc.*, 611 F.2d 1277 (9th Cir. 1980).

102. 30 U.S.C. § 612(b) (1976).

103. 30 U.S.C. §§ 121-125 (1976).

104. 30 U.S.C. §§ 181-287 (1976).

105. *Kinney-Coastal Oil Co. v. Kieffer*, 277 U.S. 488 (1928).

compensated for, no prior bond need be executed.¹⁰⁶ If the operator obtains a lease or locates a mining claim, he must, before undertaking any work, either obtain the written consent of the surface owner or execute a bond and file it in the land office.¹⁰⁷

If the desired mineral is coal, however, the landowner is in a stronger position. The Coal Lands Acts¹⁰⁸ reserve all coal from any type of entry and the Surface Mining Control and Reclamation Act reverses the servitude: the lease of federal reserved coal is forbidden without prior written consent of the landowner.¹⁰⁹ The operator must buy his way in at the best price he can negotiate.

VI. MINING DAMAGES

Most mining activities will adversely affect the surface on or under which they take place. If the landowner could institute an action to enjoin the mining operator from continuing the activity, as he could under the normally applicable standards of civil law, mining operations would be almost impossible. It is a long-standing rule, therefore, that a landowner cannot get injunctive relief against duly licensed and exercised mining operations. The only remedy available is damages; as the Germans say, the landowner must "tolerate and liquidate." The emphasis on compensation rather than on avoidance of damages, however, sometimes obscures the fact that compensation may be more expensive than avoidance in a number of cases. In the BBergG Parliament took this aspect into account and somewhat shifted the emphasis from compensation to avoidance. The new philosophy is one of mutual restraint rather than unilateral predominance of the mining operator in his relations with the landowner. The articles on surface damages contain several measures of adaptation and prevention.

As to improvements, the landowner has a duty to take into account the surface effects of mining operations when constructing a building or structure on his premises. At the request of the mining operator, the landowner must adapt the site, position or method of construction to the prospective effects of mining.¹¹⁰ Costs may be shared: insignificant losses or costs are to be borne by the landowner, the rest by the mining operator.¹¹¹ But if the losses or costs of adaptation would be disproportionate to the reduction of mining damages thereby obtainable, the landowner has no duty to adapt.¹¹² If the usual measures of adaptation would be insufficient, the mining operator may request the landowner to take additional measures of prevention while erecting structures on his land¹¹³ at the operator's expense.¹¹⁴ If it will be impossible to avoid harm to a projected structure, or if the costs would exceed the benefits to the miner, the operator may address to the

106. 43 U.S.C. § 299 (1976).

107. 277 U.S. at 488.

108. 30 U.S.C. §§ 81, 85 (1976).

109. 30 U.S.C. § 1305 (Supp. V 1981).

110. BBergG, *supra* note 1, art. 110, para. 1.

111. *Id.*, art. 110, para. 3.

112. *Id.*, art. 110, para. 4.

113. *Id.*, art. 111, para. 1.

114. *Id.*, art. 111, para. 2.

landowner a written warning not to construct it,¹¹⁵ whereupon the landowner can recover compensation for diminution of the value of his land.¹¹⁶ The landowner incurs no liability for his non-compliance with the duty to take measures of adaptation or prevention or for his disregard of the operator's warning. The only consequence is the loss of damages for any results of the mining operation that would have been prevented by taking the requested measures or by omitting the endangered construction.

America has somewhat similar rules. As noted above, the miner digging or drilling for federally reserved minerals under land occupied by a surface owner is liable for damages to crops and improvements.¹¹⁷ The most severe damage to the surface, of course, comes from open pit mining. Under the Stockraising Homestead Act the miner was liable only for harm to improvements,¹¹⁸ but the injustice in granting a rancher the surface then letting a miner destroy it was corrected in the 1945 Open Pit Mining Act, which made the miner liable for the loss of the value of the land for grazing.¹¹⁹ The loss of value because the landowner cannot erect structures or put the land to non-agricultural use is not recoverable in America,¹²⁰ however, and the surface owner may have no rights at all if the mining claim or lease was in effect prior to the time he acquired title to the surface.¹²¹

The BBergG makes a significant change in the recovery of damages arising out of mining operations.¹²² Before 1982 the law only permitted recovery of damages for injuries to real estate and fixtures, on the theory that the recoverability of damages arises out of the unavailability of injunctive relief. The new law starts from the premise that liability for mining damages is based on the principle of strict liability for extra-hazardous activities, and liability is accordingly established for any injury done to persons or things. Some specific cases, however, are explicitly excluded, *e.g.* harms to the miners and injuries to the mine itself or other mines.¹²³ As in almost all other cases of strict liability under German civil law, the responsibility for mining damages is limited in two directions. First, the law sets a maximum amount of DM 500,000 for death or injury to a person and limits property damage to the common value of the damaged thing. Second, there is no liability for pain and suffering.¹²⁴

Under the prior law an injured person seeking to recover damages from the mining operator had to prove a causal connection between the injury and the mining activities. His burden of proof was only alleviated by application of the rules of *res ipsa loquitur* or *prima facie* evidence. Since the average landowner know nothing about the scientific and other factors which contribute to mining harms, even the introduction of *prima facie*

115. *Id.*, art. 113, para. 1.

116. *Id.*, art. 113, para. 3.

117. *See supra* text accompanying notes 105 and 106.

118. 43 U.S.C. § 299 (1976).

119. 30 U.S.C. § 54 (1976).

120. *Kinney-Coastal Oil Co. v. Kieffer*, 277 U.S. 488 (1928).

121. *Transwestern Pipeline Co. v. Kerr-McGee Corp.*, 492 F.2d 878 (10th Cir. 1974); *Carlin v. Cassrell*, 50 L.D. 383 (1924).

122. BBergG, *supra* note 1, art. 114, para. 1.

123. *Id.*, art. 114, para. 2.

124. *Id.*, art. 117, para. 1.

evidence very often can be too heavy a burden on the plaintiff's shoulders. On the other hand, the mining operator is in possession of all the facts and factors relevant to the problem of surface damages caused by his enterprise. In view of the operator's superior knowledge the legislature has shifted the burden of proof and the BBergG provides for a presumption of causation between mining activities and injuries on the surface.¹²⁵ This presumption, of course, is restricted to types of injuries by their very nature capable of being caused by mining operations and to harms occurring within a certain radius of the operations. If all elements of the presumption are present it is up to the operator to rebut the presumption, otherwise liability will be established.

VII. MINING ROYALTIES

One of the most delicate and controversial problems of the reform was the issue of royalties. Its complexity is due to the fact that here historic tradition, legal theory and high ranking political aspects come into conflict. The BBergG achieves a compromise between these elements.

For centuries mining royalties were a traditional part of German mining law. Up to the 19th century the tithe constituted the *quid pro quo* the miner paid the sovereign who had bestowed the *Bergregal* upon him. In conformity with the liberal economic philosophy prevailing in 1865, the Prussian ABG regarded the exploitation of mineral deposits as the business of private industry, with the state being reduced to the role of an umpire. In this line of thinking regalian rights and royalties had no place and, consequently, were abrogated. Their reappearance began at the beginning of this century when the state tried to gradually get control over the then most important minerals, coal and salt. This tendency was accentuated after 1933, when the state wanted to achieve self-sufficiency in a period of growing economic isolation from world markets. Beginning in 1934, when legislation reserved oil and natural gas to the state for its sole dispersal, the state granted oil and gas mineral rights to operators in return for a certain percentage of the market value of the output. The 1982 law carries on this practice but places it on a non-contractual *ex lege* basis and extends it to all free minerals. In so doing the legislature indicated that it regarded the granting of mineral rights as a special economic advantage to the applicant normally not available to him.

The holder of an exploration license has to pay an annual royalty of exploration the amount of which is rather low and varies with the size of his claim.¹²⁶ Of much greater importance is the royalty of exploitation which the holder of an exploitation license or the owner of a mineral estate has to pay for the free minerals extracted from his claim during the respective year.¹²⁷ The regular rate is 10% of the average market price of the minerals produced, but the governments of the states may order exemptions for certain minerals or alter the rate or the basis of computation,¹²⁸ in order to

125. *Id.*, art. 120.

126. *Id.*, art. 30, paras. 1, 3.

127. *Id.*, art. 31, para. 1.

128. *Id.*, art. 31, para. 2.

prevent danger to the competitive capacity of the exploring or exploiting enterprises, guarantee a market supply of raw materials, improve the utilization of mineral deposits or protect other economic concerns. The maximum rate is fixed at 40% of the market price.¹²⁹

The major purpose of this flexible scheme is to solve the problem of windfall profits arising out of oil production in the Federal Republic, a problem important there as well as in the United States. Even though West Germany is far from being a sizable oil and gas producing country, its domestic oil production satisfies roughly 5% of its demand and domestic gas production amounts to around 30% of its consumption. Ninety percent of the production is concentrated in the state of Lower Saxony. In the years up to the mid 1970s the contractual arrangements between the state and the producing firms laid down 5% of the market price of the produced oil as royalty. Under the impact of the oil crisis and its continuously rising world market prices, the arrangements between the state and the producers were gradually renegotiated up to 22% in 1981. Owing to the geological structure of the deposits production costs in Germany are relatively high. The increasing world market prices after 1973-1974 reversed the negative balance between market prices and production costs and led to growing windfall profits to the benefit of the domestic oil producing firms. Parallel to this development was the growing pressure from state and federal government as well as from the oil companies without domestic production to tax away these windfall profits.

The new royalty provisions are an attempt to achieve this goal. It remains to be seen whether this attempt has been and will be successful. In 1982 and 1983 oil royalty was increased to 36%, with a number of rebates for special cases such as unusually high production costs. The adequacy and workability of this system depend on a number of other problems which cannot be discussed in detail here. There are for instance, controversial statements on the legal character of the royalty (is it a quid pro quo or a tax?) with implications reaching to the question of constitutionality of varying the royalty. Another problem relates to the extent that other states and the Federal Government participate under the existing revenue sharing system in the revenues accruing to Lower Saxony. This very complex problem will be tested and resolved in a constitutional lawsuit pending at present in the Supreme Constitutional Court.

VIII. ADMINISTRATION

Although West Germany is a federated republic, the separation of federal and state governments is not as complete as in America. In many ways the German state (*Land*, pl. *Laender*) is an arm or agency of the nation. Enforcement of federal laws, in principle, is within the competence of the states¹³⁰ and the states enforce the BBergG, with the exception of a few matters explicitly reserved to administration by the Federal Ministry of Economics. The organization of mining administration in the different states varies in view of their administrative autonomy and the different

129. *Id.*, art. 32, para. 2.

130. GG Arts. 83, 84.

degree to which the individual states are affected by mining activities. Administrative autonomy of the states also accounts for the fact that the BBergG only speaks of "*die zuständige Behörde*" or "the competent authority,"¹³¹ leaving it to the states to determine what the competent authority is. To this end the states have issued so-called "*Zuständigkeitsverordnung*" or "competence ordinances."

The top level mining authority in the state is a ministry, normally the Ministry of Economics. On the next lower level below is the Regional Mining Authority (*Oberbergamt*). However, there are only five Regional Mining Authorities in the Federal Republic, because some states with little mining activity have concluded agreements on establishing joint Regional Mining Authorities. Thus, there are Regional Mining Authorities in Saarbrücken for the Saarland and Rhineland-Palatinate, in Clausthal-Zellerfeld for Schleswig-Holstein, Lower Saxony, Hamburg and Bremen, in Dortmund for North Rhine-Westphalia, in Wiesbaden for Hesse and in Munich for Bavaria. In Baden-Württemberg there is no Regional Mining Authority at all, only one Mining Authority for the whole Land (*Landesbergamt*) in Freiburg. At the local level, under the Regional Mining Authority, is the District Mining Authority (*Bergamt*). The number and geographical extension of the District Mining Authorities vary greatly according to the intensity of mining activities in the area concerned.

IX. CONCLUSION

One major change brought about by the BBergG is the shift from "iron clad rules" of the old law to a more flexible and adaptable system, better suited to new fact situations. The price for this advantage, of course, is the diminution of legal certainty. In particular, the frequent use of elastic terms such as "public interest" puts a heavy burden on administrative and judicial interpretation and administration. Thus, the quality and wisdom of the reform must largely be measured by what the courts and the authorities make of it in the future.

Even what is retained is improved. An important advantage of the BBergG is the unification of all mining laws. The old variations on the ABG in the different states and a century's amendments and additions are integrated into a comprehensive code, coordinated with other laws to meet modern developments in public and private law.

The practical significance of the new approach will vary according to place and circumstances. Current operations will continue unchanged in most respects, subject to some of the new provisions. The basic mineral estates that form the legal underpinning of existing mines of free minerals are vested rights, they are not limited in term like the new mineral estate, and they will remain free of royalties. The exploration and exploitation licenses for oil and gas issued under the pre-1982 system are matters of contract. Operations plans approved before 1982 will be continued in force, but the new operations plans procedures are applicable to old and new

131. BBergG, *supra* note 1, art. 56, para. 2.

operations alike. While it may be supposed that unexplored mineral deposits and reservoirs are rather rare in a country as old and well settled as Germany, there is sufficient activity to justify the changes for newly discovered or developed minerals.

A little over a decade ago, there was a serious attempt to adopt sweeping changes in American mining law. The Public Land Law Review Commission, a study group comprising Senators, Congressmen and public members, made two proposals for change: the majority recommended congressional adoption of substantial amendments to the mining laws, while the minority urged that the leasing system should be extended to all minerals.¹³² Neither suggestion was acted upon. The government's position has since eased because its two principal objections to the old system have been met, at least in part. The Federal Land Policy and Management Act gave it the recording system it needed and a method of clearing the records—and freeing the land—of abandoned claims.¹³³ The Surface Mining Regulations of the Forest Service and the Bureau of Land Management now supply those agencies with most of the environmental controls they sought.¹³⁴ The mining industry, although freely admitting the faults of the present system, clearly prefers to adapt the 1872 pick and shovel law to modern core drill and earth mover operations rather than to face the unknowns and uncertainties of a new system of regulations, controls and royalties. The pressure for reform has died down. It is interesting to contemplate the notion that if there should come a time to replace our old, creaking legal machinery, the United States might return to the source of its old laws to find new German ideas for a new American mining law.

132. One-third of the nation's land. REPORT OF THE PUBLIC LAND LAW REVIEW COMMISSION, 124-132 (1970).

133. 43 U.S.C. § 1744 (1976).

134. See *supra* note 86.