AMENDMENTS TO THE MINING LAWS

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INTRODUCTION

Section 2 of the 1964 Act of Congress creating the Public Land Law Review Commission states:

> Because the public land laws of the United States have developed over a long period of years through a series of Acts of Congress which are not fully correlated with each other and because those laws, or some of them, may be inadequate to meet the current and future needs of the American people and because administration of the public lands and the laws relating thereto has been divided among several agencies of the Federal Government, it is necessary to have a comprehensive review of those laws and the rules and regulations promulgated thereunder and to determine whether and to what extent revisions thereof are necessary.[1]

The mining law of 1872,[2] as amended, will be one of the land laws to be considered in the study of the Public Land Law Review Commission. Those who do not understand the problems of the mining industry may urge a drastic revision of the mining laws or their repeal and provision made for leasing mineral lands rather than locating mining claims. Any abuses under the mining laws certainly will be used by those seeking the public lands for other purposes as arguments for their drastic revision or repeal. Because these mining laws encourage the continued exploration of the public domain, it is not in the best interest of the Nation that they be drastically revised or repealed. Enacting amendments strengthening the mining laws resulting from constructive suggestions of the mining industry would improve these basically sound laws and will be an effective way of opposing the unsound proposals of those who would drastically revise or repeal them.

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[1] Act of September 19, 1964, 78 Stat. 982, 43 U.S.C. § 1392 (1964).
[2] Act of May 10, 1872, 17 Stat. 91, 30 U.S.C. § 22 (1964).

Unless otherwise stated, the suggested amendments to the mining laws commented on in this article are the personal views of the author and have not been approved by the American Mining Congress or any other group in the mining industry. It is hoped that this article will make those who are not acquainted with the problems of the mining industry aware of the importance of continuing the basic principles of the mining laws and will encourage those acquainted with the problems of the mining industry to consider proposals for amendments to strengthen the mining laws.

SEARCHING FOR HIDDEN MINERAL DEPOSITS

The modern prospector does not look for mineral deposits with a burro. Instead, he may search for minerals on the public domain using a jeep or truck or fly over the land in an airplane seeking with the latest scientific techniques some indications of a mineral deposit. But this change in methods of mineral exploration and the fact the mining laws were originally enacted in 1872 do not condemn the mining laws as being obsolete. Before appraising their merits one should have some understanding of the problems involved in searching for minerals today. Probably there is no better way of doing this than to consider somewhat briefly the history of the Pima Mining District located south of Tucson.[3]

This mining district embraces several townships south of Tucson, Arizona. In 1950, except in a few areas where mineralization outcropped on the surface, this mining district was covered with an alluvial deposit of one to five hundred feet in thickness. Patented and unpatented mining claims covered most of these surface outcrops. The only operating mine was a lead-zinc operation of The Eagle-Picher Company which shut down in 1952 and has not since reopened. The surface was covered with cactus, palo verde, mesquite and other desert growth typical of the desert around Tucson, Arizona. Abandoned copper mine workings were located on patented and unpatented mining claims in the district, principally within a mile of the Eagle-Picher lead-zinc mine and near two hills called "Twin Buttes" located about six miles south of the Eagle-Picher mine. Virtually all efforts to develop any of the abandoned copper workings in this district ceased with the stock market crash in 1929 and the subsequent depression. One exception was William Foy who continued his interest in the district holding several patented and unpatented mining claims near Twin Buttes.

[3] The author is indebted to Allan B. Bowman, Vice President and General Manager of Banner Mining Company for information and helpful suggestions regarding the history of the Pima Mining District.

It is impossible to state how many times prior to 1950 this mining district had been explored by prospectors and exploration parties searching for minerals. In 1950, however, Banner Mining Company and United Geophysical Corporation began their search for minerals in this district. Attracted by the copper mineral showings on a number of patented mining claims, Banner Mining Company commenced its exploration work in the mining district by optioning most of the patented mining claims that had some past history of copper production and locating mining claims adjacent to these patented mining claims. Using geophysical techniques, United Geophysical Corporation located anomalies in sections of the district where the surface showed only alluvial deposits nonmineral in character. These two companies each received enough encouragement from their preliminary work to sink shafts and open small underground mines.

Later, the mining claims located by United Geophysical Corporation were acquired by Pima Mining Company. After further exploration in 1957, Pima Mining Company converted its underground mine to a small open pit mine and constructed a mill with 3,000[4] tons per day capacity to treat its ores. The mill was later enlarged to a capacity of 6,000 tons per day when mining operations in this open pit were expanded and the mill has now been enlarged to handle 18,000 tons of ore per day to treat ores from a greatly expanded open pit mining operation.

Banner Mining Company continued its underground mining operations from 1951 to 1963. During the decade following 1950 it continued to explore in the district and enlarged its mineral holdings principally by locating mining claims on the public domain, optioning unpatented mining claims located by others and obtaining mineral leases on state lands. A substantial copper-bearing ore body was explored and partially developed by drilling in one parcel of state land which in 1922 had been declared nonmineral in character by the federal government. By an agreement dated March 1, 1963, Banner Mining Company leased all of its mining properties in the Pima Mining District to The Anaconda Company. The Anaconda Company continued exploring and developing ore bodies previously discovered by Banner Mining Company. After more than two years of drilling with several rigs, The Anaconda Company announced plans for a large open pit mine near Twin Buttes on mining claims leased from Banner Mining Company. The size of this proposed mining operation is indicated by the announced plans of The Anaconda Company to remove by 1969 more

[4] The figures with respect to milling capacity given in this article can be misleading if it is not understood that actual milling capacity depends on a number of factors. If conditions are favorable, *e.g.*, soft ores, mills often substantially exceed their rated capacity.

than 200,000,000 tons of alluvial deposit and waste rock in order to open pit mine an ore body lying more than five hundred feet beneath the surface and construct a mill with a capacity of treating a minimum of 30,000 tons of ore per day.

The discoveries by Banner Mining Company and United Geophysical Corporation have attracted others to this mining district. American Smelting and Refining Company has developed an open pit mine known as the Mission, which originally supplied a mill completed in 1961 with a capacity of treating 15,000 tons of ore per day but which is now being enlarged to treat 22,500 tons of ore per day. By 1959, Duval Corporation had developed an open pit mine known as the Esperanza and constructed a mill with a capacity of 12,000 tons per day to treat its ores.

Since 1950, other mining companies and many individuals have carried on a very thorough search for minerals not only in the Pima Mining District but elsewhere throughout Arizona. The State Department of Mineral Resources estimates that at the present time at least 30 exploration groups have local offices in Tucson, Arizona, and vicinity. In this search for minerals, possible mineral-bearing lands are being examined and tested again and again. Typically, an exploration party will examine an area and become interested after studying the geology and the results of geophysical, geochemical and other scientific techniques. A group of mining claims may then be optioned and open land located. A further examination of the mining claims may then be carried on with the aid of geophysical, geochemical and other scientific techniques. A few holes may then be drilled, and, if they give encouraging results, additional holes are drilled. At any time the results prove too discouraging the options will be dropped and the located mining claims abandoned. Later another exploration party, perhaps with a different theory regarding the geology or encouraged by geophysical anomalies or other scientific information, will seriously explore the area. Such exploration by various exploration parties continues so long as the land remains open to exploration — thus assuring that if a hidden mineral deposit exists, sooner or later it will be discovered by an exploration group possibly using newly discovered scientific techniques for the first time in the area.

Persons unfamiliar with mining exploration often have no idea what kind of an ore body an exploration group hopes to find. The term "ore body" suggests to the uninformed a body of ore of relatively uniform thickness, width and length having approximately the same grade throughout, and the term "vein" or "lode" suggests a vein or lode of uniform width having the same grade of ore. But this is not typical of ore deposits and those in the Pima Mining District illustrate this. In

State Tax Commission v. Eagle Picher Min. & Smelting Co.,[5] the Supreme Court of Arizona had occasion to comment on the Eagle-Picher lead-zinc ore deposit in the Pima Mining District:

> The evidence before the court disclosed that the ore bodies in this mine are not found in compact masses such as in veins or lodes but rather are found as replacements in limestone formations scattered irregularly like raisins in a pudding. There didn't seem to be much rhyme or reason to the disposition of these ore bodies.

There is also a lack of uniformity in the copper-bearing ore bodies in the Pima Mining District. The assays of material in mineralized ground fluctuate widely. Sometimes barren waste rock extends into or through a body of mineralized ground. As a further complication, the upper zones of most of the copper-bearing deposits in the Pima Mining District are oxidized or the sulphide copper-bearing material is mixed with oxidized copper-bearing material. Because the oxidized material is in many cases in limestone formations, the recovery of copper from the oxidized copper-bearing material presents extremely difficult metallurgical problems, and, to date, none of this oxidized copper-bearing material has been commercially treated except by direct smelting of selected high-grade ores.

Exploration of such mineralized ground must be done by drilling. The alluvial overburden and waste rock concealing any mineralization adds to the difficulty in locating drilling sites and increases drilling costs. A drill hole gives positive information only with respect to the core recovered from the drill hole. From this core one is able to infer what the mineralization is in the immediate adjacent area. A determination of the spacing of drill holes depends on many facts, including the character of the ground being drilled, the use intended of the drilling results, geological setting, and the financial ability of the one exploring. Drill hole data, even if the drill holes are closely spaced, frequently give a distorted picture of underground conditions. For this reason, shafts are often sunk in deposits planned to be mined by open pit methods in order that the mineralized ground may be more thoroughly explored and the ores tested by treatment in a pilot mill before commercial mining and milling begins. For example, The Anaconda Company has sunk a shaft and is now exploring the ore body at Twin Buttes before finalizing its open pit and mill plans.

Despite how thorough the exploration and development of an ore body may be, new information concerning it will be obtained during mining operations and more extensive exploration of surrounding areas may develop new information requiring a change in mining plans. This

[5] 73 Ariz. 372, 241 P.2d 804 (1952).

is illustrated by the experience of Pima Mining Company related in the following account:

> Discovered in 1950 by geophysical methods and originally conceived of as a small tonnage, high grade underground operation, Pima Mining Co., 22 miles southwest of Tucson, Ariz., actually started operation on January 1, 1957, as a fairly small, high grade open pit operation with a projected life of less than ten years. The original mill capacity was 3000 tpd and the planned pit was a small, deep and steep one worked by small shovels and trucks in conjunction with an inclined skip system.
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> It is now about nine years since the first concentrates were produced. During 1963, the capacity was doubled to 6000 tpd, and today Pima is engaged in an expansion program which will increase mill capacity from its present 6000 tpd to 18,000 tpd. The program will also convert the mining operation entirely to large electric shovels and trucks. At the same time, the projected life — at a much higher tonnage rate — is more than three times what was originally conceived. What has happened in the last ten years to make the original planning decisions look so out-dated?
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> It is only stating the obvious to say that the ore reserves have been vastly increased. Initially, there was considerable doubt whether the mineralized ground to the east of the present pit did or did not constitute ore reserves. This mineralized zone has keen known about since 1956, when the first diamond drill hole was put down in the area, but the task of showing that it could be mined at sufficient profit to pay off a large plant in a reasonable length of time and then continue to show a reasonable rate of return thereafter has been an arduous one.[6]

What has been the result of the discoveries of copper in the Pima Mining District commencing in 1950 with the explorations by United Geophysical Corporation and Banner Mining Company? Three open pit copper mines are now in operation and one is being developed. The ore deposits of all four of the open pit mines are largely covered by an alluvial overburden. Because this overburden concealed the mineralization, only a very small part of three of these deposits was held by either patented or unpatented mining claims prior to 1950. The fourth of these deposits was entirely open to mining location in 1950. The discovery and development of these deposits is a major contribution to the mineral resources of the Nation. The size of copper mining operations is often gauged by the size of the mill treating the oreas. The follwing shows the production in 1964[7] of the three copper open pit mining operations then operating in the Pima Mining District:

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[6] Martin, *Pima Mining Company's Expansion*, 52 MINING CONG. J. 26 (1966).
[7] U.S. DEPT. OF THE INTERIOR, 3 MINERALS YEARBOOK 4, 106, 110 (1964).

Open Pit Mining Operation	*Capacity of Mill*[8] *Tons Per Day Of Ore*	*1964 Copper Production*
Mission Open Pit	15,000	53,810 Tons
Pima Open Pit	6,000	30,000 Tons
Esperanza Open Pit	12,000	22,550 Tons
		106,360 Tons

In 1964 this district accounted for more than one-sixth of the copper production in Arizona or more than one-twelfth of the copper production in the United States. This contribution of copper is reaching the market today when the demand for this metal far exceeds the supply, and the United States is seeking to hold the domestic price at thirty-six cents per pound but is faced with a world price for copper of sixty-two cents per pound and upward. Pima Mining Company's mill has recently been expanded from a capacity of 6,000 tons of ore per day to 18,000 tons of ore per day; the Mission mill is now being expanded from a capacity of 15,000 tons of ore per day to 22,500 tons of ore per day, and The Anaconda Company has announced that its mill to treat the Anaconda-Banner ore deposit at Twin Buttes will have a minimum capacity of 30,000 tons of ore per day. With increased mining operations and increased milling capacity, the future contributions of this mining district as a major supplier of copper for the growing economy and defense needs of the United States become even more significant than its present important contributions.

Basic Principles to Consider in Connection With Possible Amendments to the Mining Laws

The surface of the public domain has been searched and the ore bodies outcropping on the surface have been largely discovered. The future exploration for minerals will be directed at ore bodies hidden from the surface by overburden. It has been estimated that less than 10%[9] of the earth's bedrock surface is exposed, and geophysical, geochemical and other scientific exploration techniques will be used increasingly to discover those mineral resources hidden from the surface. The history of exploration for mineral resources in the Pima Mining District since 1950 emphasizes six important conclusions to be considered when changes in the mining laws are contemplated:

1. There is a vast difference in appraising the surface resources and subsurface mineral resources of the public domain. Surface resources are readily apparent on inspection but subsurface resources are hidden and no amount of exploration can completely eliminate all

[8] *Supra* note 4.

[9] See Pemberton, *World Geophysical Discoveries Bolster Future Mineral Needs*, 167 Engineering and Mining J. 85 (1966).

chances that later exploration may discover a deposit which was missed by previous exploration parties.

2. Free competition between different parties or groups searching for subsurface mineral resources is the most effective method to discover these hidden mineral resources.

3. The exploration for and evaluation of subsurface mineral resources is time consuming and involves the expenditure of large sums of money.

4. Since important subsurface mineral deposits have been discovered only after repeated searches for minerals have failed, the public domain should be kept open to exploration so long as compelling national considerations do not require its closing to mineral exploration.[10]

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[10] Although outside the scope of this article, one of the greatest threats to mineral exploration in the United States is the withdrawals, by Executive action or Act of Congress, of land from location under the mining laws. See Ladendorff, *Suggestions for Congressional Action Relating to the General Mining Law*, 11 ROCKY MT. MIN. L. INST. 441, 453 (1966). But withdrawing public domain from the mining laws is not the only way the United States locks up mineral resources from mineral exploration. Public domain classified and sold under the Small Tract Act originally enacted in 52 Stat. 609 (1938), and as amended 43 U.S.C. § 682(a) - 682(e) (1964), and sold or leased for public or recreational purposes, originally enacted in 44 Stat. 741 (1926), and as amended 43 U.S.C. § 869 - 869-4 (1964), provide that the United States reserves mineral deposits with the right to prospect for, mine and remove the same under applicable laws and regulations to be established. However, until the Secretary of the Interior issues rules and regulations, these reserved mineral rights are not subect to prospecting or disposition. 43 C.F.R. § 2233.6 (1965) (sale or lease of small tracts), and 43 C.F.R. § 2232.2-5 (1965) (sale or lease for recreational and public purposes). Since the Secretary of the Interior has never implemented these laws with rules and regulations with regard to prospecting under the mining laws, lands with these mineral reservations have not been open for exploration for locatable minerals. An example of the effect of locking up the mineral resources is seen in the case of the Tucson Mountain or Amole Mining District located near Tucson, Arizona, and approximately fifteen miles from the Pima Mining District. By Recreational Withdrawal No. 21, dated April 29, 1929, 28,980 acres were withdrawn pursuant to the provisions of the Act of June 14, 1926, 44 Stat. 741, 43 U.S.C. § 869 (1964). During the depression after 1929, very little exploration was carried on, and most, if not all, of the unpatented mining claims were abandoned. Virtually all of the Tucson Mountain or Amole Mining District was in this withdrawal. In 1955, efforts were made to unlock the mineral resources by securing regulations from the Interior Department regulating prospecting and mining. By Public Land Order No. 1963 of August 25, 1959, the Interior Department opened 7,600 acres to mineral entry, but, after a public hearing, this order was revoked on December 17, 1959. Virtually this entire mining district has been closed to mineral exploration since 1929. Part of the original 28,980 acres withdrawn from mineral entry in 1929 is now in Saguaro National Monument West and part within Tucson Mountain County Park. In 1929, the Pima Mining District and the nearby Amole or Tucson Mountain Mining District both had only abandoned mine workings and no operating mines. By 1929, no discoveries had been made in either district that indicated mines would be opened in the future. Pima Mining District remained open to prospecting, but Amole or Tucson Mountain Mining District has been closed to prospecting since 1929. The mineral discoveries beginning in 1950 in the Pima Mining District have been a great asset to Tucson, the State and the Nation. One can only wonder what mineral discoveries might have been made in the Tucson Mountain or Amole Mining District if the Department of the Interior, in 1929 or at some later date, had issued regulations adequately protecting the surface rights but permitting prospecting. See opinions of the Solicitor of the Department of the Interior M-36308, October 28, 1955, and M-36403, January 25, 1957, regarding the authority of the department to issue such regulations.

5. An incentive must be offered in order to encourage this competition in the search for hidden mineral resources. This incentive under the present mining laws is that the individual making a discovery on the public domain has the right to acquire title to the mineral-bearing ground.

6. Since present mineral exploration is primarily directed in a search for buried mineral deposits, anyone actively searching in a particular area for such deposits should be afforded reasonable prediscovery protection.[11]

The American Mining Congress summarized the above conclusions in its 1965 Declaration of Policy with respect to public lands, when it stated:[12]

> Our growing popuation, expanding economy, and modern armament require a constant increase in the supply of metals and minerals. This is the responsibility of the American mining industry. For the mining industry to meet these demands under a free-enterprise system, the public lands of the United States must be freely open to location so that the prospector and engineer may make new discoveries and open new mines. . . .
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> We urge the continuance of and adherence to the fundamental principles of the mining laws, which are based upon the right of individuals to search for, discover, and acquire title to the metals and minerals lying within the public domain.
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> We recognize that the public lands should be used in as many ways as their resources permit, and we again express our agreement with the principle of multiple use. The public domain should be open to compatible uses even where one use predominates. No area should be closed to exploration for minerals or to mining in the absence of a compelling national interest. As the nation's mineral resources cannot be developed and their value to the country determined until after they are discovered, public lands should be kept open wherever possible to mineral exploration and the location of new discoveries.
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> In keeping with multiple use, even temporary withdrawals of areas of public domain should be made only when compelling national interest demonstrated in a public hearing leaves no alternative. All withdrawals should be reviewed periodically and areas found to be in excess of need should be reopened to mineral entry.
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> Exploration must, for the most part, be directed to the discovery of nonoutcropping and often deeply buried mineral deposits. Hence, appropriate supplementary legislation, in

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[11] Ladendorff, *Proposed Legislation to Enlarge Prediscovery Rights of Mineral Locators*, 1 NATURAL RESOURCES J. 76 (1961). Ranchers Exploration and Development Co. v. The Anaconda Company, 248 F. Supp. 708 (1965), illustrates why the doctrine of *pedis possessio* is inadequate where the mineral deposits are covered with overburden.

[12] *A Declaration of Policy of American Mining Congress adopted October 10, 1965*, 51 MINING CONG. J. 63-67 (1965).

> keeping with the basic concepts and intent of our present mining law, is required to afford reasonable prediscovery protection to one who is in good faith engaged in seeking a discovery of minerals. Such protection is needed to encourage expenditure of the vast sums necessary to carry forward mineral exploration.

This Declaration of Policy clearly states that the mining industry is opposed to basic changes in the mining laws. This opposition of the mining industry does not mean that the mining industry is opposed to any changes in the mining laws. In 1955, the American Mining Congress supported the enactment of Public Law 167.[13] Before the bill later enacted as Public Law 167 was introduced in Congress, representatives of the mining industry and representatives of interested government agencies agreed on the substance and wording of the provisions of this bill. It was agreed that, among other things, it should (1) prohibit the future location under the mining laws of common varieties of sand, stone, gravel, pumice, pumicite and cinders; (2) prohibit the use of any unpatented mining claim located after its enactment into law for any purpose other than prospecting, mining, processing and related activities; and (3) vest in the responsible United States administrative agencies authority to manage and dispose of vegetative surface resources and to manage other surface resources (except locatable minerals) on unpatented mining claims located after the enactment of the bill into law. This bill expressly provided that upon the issuance of a mineral patent for these mining claims, the patentee obtained complete title to the land and the United States ceased to have the right to manage and control the vegetative resources. In this form the bill was enacted into Public Law 167. Such a law, properly administered, is entirely within the spirit of the following Declaration of Public Land Policy adopted by the American Mining Congress in September, 1954:[14]

> We believe . . . that suitable amendments can be made in the general mining laws which, with proper use of available procedures, will simplify enforcement and minimize bad faith attempts through pretended mining locations to serve obectives other than the discovery and development of minerals. We believe that this can be accomplished in a manner which will protect the incentive and reward now inherent in the mining laws.

What constructive amendments to the mining laws should be recommended to the Public Land Law Review Commission? Answering

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[13] Act of July 23, 1955, 69 Stat. 368, as amended 30 U.S.C. § 611-15 (1965).
[14] See H.R. REP. No. 730, 84th Cong. 1st Sess. (1955), 2 U.S. CODE CONG. & AD. NEWS, 2474, 2480 (1955).

this question requires that one first determine what weaknesses or defects exist in the present mining laws and then determine how such weaknesses or defects may be cured by amendment. The balance of this article will consider possible weaknesses or defects in the mining laws and when, in the opinion of the author, such weaknesses or defects do, in fact, exist and should be corrected, possible amendments to the mining laws are suggested.[15]

Interpretation of Mining Laws by Interior Department

One of the most serious problems with respect to the mining laws is the present policy of the Interior Department, as evidenced by its decisions, which increasingly makes more stringent requirements to establish the validity of a mining claim. For example, the Interior Department decisions have eroded away the law of discovery.[16] The enactment of Public Law 167 [17] has accelerated the trend to make more stringent requirements to establish the validity of a mining claim because the Interior Department gained with this law a new ground for holding mining claims invalid by broadly construing "common varieties" to include many deposits clearly not contemplated to be common varieties by those drafting this legislation.[18] The reason for this administrative policy appears to be the fear of the Interior Department that if it allows mineral patents to be issued, the patentee will obtain a windfall in surface resources such as timber. This policy was well expressed in 1964 by H. R. Hochmuth, then Associate Director, Bureau of Land Management, Department of the Interior, in a speech which he made before the Rocky Mountain Mineral Law Institute, when he stated:

> There can be no gainsaying that the Mining Law of 1872 is not administered as it was originally written and intended.

[15] One subject extremely important to the mining industry which is not considered because it deserves treatment in a separate article is suggested amendments to the public land laws to assure free access to the public domain for prospecting and to assure the operator of a mining property that he may acquire adequate surface rights for mine, mill and related facilities, for dumps and tailings areas and for rights of way over the public domain for access to and from mining properties for persons, ores, equipment, supplies and utilities. Existing laws, such as 30 U.S.C. § 42 providing for mill sites, are inadequate.

[16] Hochmuth, *Government Administration and Attitudes in Contest and Patent Proceedings*, 10 Rocky Mt. Min. L. Inst. 467 (1965); Mock, *Marketability as a Test of Discovery under the Federal Mining Laws*, 7 Rocky Mt. Min. L. Inst. 263 (1962); Gray, *New Concept of Discovery and Title to Unpatented Mining Claims*, 10 Rocky Mt. Min. L. Inst. 491 (1965); and Twitty, *The Erosion of the Law of Discovery*, A.B.A. Proceedings, Section of Mineral and Natural Resources Law, 138 (1962).

[17] See note 13 *supra*.

[18] United States v. Melluzzo, 70 I.D. 184 (1963). See Ladendorff, *Suggestions for Congressional Action Relating to the General Mining Law*, 11 Rocky Mt. Min. L. Inst. 441, 450 (1966); and *Hearings Before the Subcommittee on Minerals, Materials, and Fuels, of the Senate Committee on Interior and Insular Affairs*, 89th Cong., 1st Sess. on Pub. L. No. 167, 84th Cong.

> There has been a definite trend in decisions toward more stringent requirements to establish the validity of a claim. The requirements are innovations which have been super-imposed on the basic law by the need for standards which can serve to prevent the subversion of the law for nonmineral purposes. Examples of these may be found in the narrowing application of the rule of discovery, the employment of the rule of marketability, the definitions of 'common varieties,' and the concern for economic values, all of which will be considered in some detail.[19]

One illustration of this policy of the Interior Department is the Solicitor's opinions[20] holding that most deposits of limestone used in the manufacture of Portland Cement are "common varieties" and, therefore, not locatable in spite of Congressional Committee Reports[21] supporting the enactment of Public Law 167, stating with respect to the statutory definition of "common varieties," that such language "would exclude materials such as limestone, gypsum, etc., commercially valuable because of 'distinct and special' properties." Another illustration of this policy is the decision in *United States v. Denison*,[22] where the Interior Department held manganese mining claims invalid for lack of discovery because there was no present market for manganese, in spite of the fact that the mining claims had a record of profitable production and there was still a body of mineral in place although there had been no production after the termination of the Government Purchase Program on August 5, 1959 and the market was being supplied by imported manganese.

ALLOWING UNITED STATES TO MANAGE SURFACE RESOURCES OF PATENTED MINING CLAIMS

So long as the mining laws give one holding a patent to a mining claim the exclusive right to the possession and enjoyment of the patented mining claim and its surface resources, the argument may be made that the patented mining claim may be used for a nonmining purpose and the patentee given a windfall not intended by the mining laws. Moreover, critics of the mining laws can always illustrate their argument with an example of patented mining claims placed to nonmining uses. But if the applicant for patent had to pay the fair market

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[19] Hochmuth, *Government Administration and Attitudes in Contest and Patent Proceedings*, 10 ROCKY MT. MIN. L. INST. 467, 473 (1965).

[20] M-36619, May 12, 1961; M-36619 (Supp.) October 5, 1961. The effects of these Solicitor's opinions have been somewhat removed by regulation. See 43 C.F.R. § 3511.1 (1965).

[21] H.R. REP. No. 730, 84th Cong., 1st Sess. (1955), 2 U.S. CODE CONG. & AD. NEWS 2474, 2482 (1955).

[22] 71 I.D. 144 (1964), *rev'd sub nom.* Denison v. Udall, 248 F. Supp. 942 (1965). The Interior Department followed 71 I.D. 144 (1964) in United States v. Jenkins, A-30409, dated March 1, 1966, holding mining claims with manganese value void for lack of discovery.

value for the surface to obtain the exclusive right of possession and enjoyment of the surface, then he would have no incentive to attempt to obtain these surface rights for nonmineral purposes. Consideration should then be given to amending the mining laws to give the United States the right to manage the surface resources of patented mining claims; provided, the activities of the United States will not interfere with mining or related operations on the mining claims. Situations may arise, however, where the mineral patentee will need the exclusive right and enjoyment of the surface of the mineral land, and any amendment of the mining laws should provide that by paying the appraised fair value, the owner of a patented mining claim may acquire these rights. Finally any such amendment should repair the damage to the mining laws arising from past decisions of the Interior Department construing the definition of "common varieties" and the rule of discovery. Such an amendment would contain four important provisions:

1. Owners of mining claims located after the enacting of the amendment would acquire after patent no greater right to use the surface of the patented land than they would have under Public Law 167 prior to patent.[23] In other words, the United States would continue to own and administer the vegetative resources and the patentee would not have the right to use of surface except for mining operations and related activities.

2. Recognizing that patentees of mineral rights may require the exclusive use of the surface of their patented mining claims, provision should be made that so long as the United States retains title to the surface rights of patented mining claims, owners of these claims would have the right to purchase the reserved title of the United States upon paying the appraised fair value of the surface rights.

3. The definition of "common varieties" in Public Law 167[24] should be revised in a manner which rejects the broad interpretation given "common varieties" in Interior Department decisions and clearly shows that Congress does not intend by this definition to remove from minerals locatable under the mining laws such minerals as limestone, gypsum and ornamental building stone.

4. Adopt by statute the traditional "prudent man" rule of discovery as set forth in *Castle v. Womble*,[25] and affirmatively reject the market-

[23] See note 13 *supra*.
[24] See note 13 *supra*.
[25] 19 L.D. 455, 457 (1894), where the prudent man test is stated as follows:

> After a careful consideration of the subject, it is my opinion that where minerals have been found and the evidence is of such a character that a person of ordinary prudence would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine, the requirements of the statute have been met. To hold otherwise would tend to make of little avail, if not entirely nugatory,

ability rule as a rule of discovery, at least in the case of intrinsically valuable minerals.[26]

By such legislation, Congress would be removing any incentive for one to locate a mining claim for uses other than mining and related activities. This legislation would strike a balance between the surface versus subsurface resources. It would still provide an incentive for one to search for the subsurface mineral resources by allowing one to acquire title to the metals and minerals lying within the public domain. It is in accord with the principles of multiple use in that it will permit the public lands to be used in as many ways as their resources permit. Finally, such legislation is in accord with the basic principles of the present mining laws and may be super-imposed on the existing mining laws without confusion.

PREDISCOVERY PROTECTION

Since 1956, the American Mining Congress has had under consideration proposed legislation to enlarge the prediscovery rights of those exploring for mineral deposits.[27] At a meeting of the American Mining Congress held on September 12, 1961,[28] a draft of a proposed bill relating to prediscovery rights of mineral locations was discussed. This proposed bill provides for exploration claims each having not more than 160 acres and no one having the right to hold more than 5,120 acres in any one state at any one time. This proposed legislation gives the locator the exclusive right to explore the area covered by the exploration claim or claims for a specified period of time, subject to certain requirements such as performance of minimum work and surveying of

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> that provision of the law whereby 'all valuable mineral deposits in lands belonging to the United States . . . . are . . . declared to be free and open to exploration and purchase.' For, if as soon as minerals are shown to exist, and at any time during exploration, before the returns become remunerative, the lands are to be subject to other disposition, few would be found willing to risk time and capital in the attempt to bring to light and make available the mineral wealth, which lies concealed in the bowels of the earth, as Congress obviously must have intended the explorers should have proper opportunity to do.

This test was approved in Chrisman v. Miller, 197 U.S. 313 (1905).

[26] Hochmuth, *Government Administration and Attitudes in Contest and Patent Proceedings*, 10 ROCKY MT. MIN. L. INST. 467, 478 (1965), where Mr. Hochmuth stated:

> A prediction may be made: The time seems to be approaching when the prudent man theory, as it is now known, will be elimiated and the marketability rule will be extended to include all locatable minerals. This prediction is based on the increasing concern for economic value as evidenced in several of the more recent cases.

See note 16 *supra;* Alvis F. Denison, 71 I.D. 144 (1964), *rev'd sub nom.* Denison v. Udall, 248 F. Supp. 942 (1965).

[27] Ladendorff, *Proposed Legislation to Enlarge Prediscovery Rights of Mineral Locators*, 1 NATURAL RESOURCES J. 76, 81 (1961).

[28] Ladendorff, Proposed Legislation Relating to Prediscovery Rights of Mineral Locators, 1961 Mining Convention, Seattle, Washington, September 12, 1961.

the claims. Although this proposed bill was generally accepted by the mining industry and was informally approved by the Department of the Interior under the Eisenhower administration, more recently the Department of the Interior has proposed legislation which ties prediscovery protection to basic changes in the mining laws. Because these basic changes in the mining laws were objectionable to the mining industry, no legislation has been enacted giving prediscovery protection.

Clearing Public Domain of State Mining Claims

Another criticism of the existing mining laws is that no way exists under these laws for clearing the public domain of abandoned mining claims except by expensive contest proceedings. This problem is set forth in a letter dated June 21, 1965, from Mr. John A. Carver, Jr., Under Secretary of the Interior, to the Speaker of the House of Representatives, when he stated, in submitting a bill entitled "To provide for the recordation of mining claims," as follows:

> In many instances, Federal agencies interested in utilizing the public lands are forced to spend large sums of money searching county records for mining claims and contesting recorded claims, some of which have been long since abandoned. The recordation with this Department of annual assessment work would permit abandoned and dormant claims to be easily distinguished from those being actively worked, which would result in considerable savings to the Federal Government. For example, we estimate that approximately 6 million mining claims have been recorded since 1872. Only about one-half million of these claims are even semi-active, i.e., notice of assessment work has been filed for them with the county recorder's office in recent years. Many of the other 5½ million claims are, for all practical purposes, abandoned. However, they are clouds on the title of the public lands. Time-consuming and costly legal proceedings are required to clear title. During the past ten years, the Bureau of Land Management has spent over $500,000 on contests of mining claims situated on lands needed by other agencies such as the Bureau of Reclamation or the Department of Defense. We estimate that some 75 percent of this cost would have been eliminated if only claims as to which notice of assessment work had been filed for the two preceding years had been involved.

The probelms could be corrected by legisation which, it is believed, would be supported by the mining industry. A suggested form of such a bill is as follows:

> If the owner of an unpatented lode or placer mining claim shall fail for any period of more than any four (4) successive

> years commencing after August 31, 1966, to file for record in the office where the location notice or certificate is recorded either a notice of intention to hold the mining claim (including but not limited to such notices as are provided by law to be filed when there has been a suspension or deferment of annual assessment work), an affidavit of assessment work performed or a detailed report provided for by Public Law 85-876, such failure shall be conclusively deemed to constitute the abandonment of the mining claim by the owner, but there shall, however, be no abandonment if the instrument is defective or not timely filed for record under other federal or state laws permitting filing or recording thereof, or if the instrument is filed for record by or on behalf of some but not all of the owners of the mining claim.

This bill provides that a mining claim is conclusively presumed abandoned if some notice or other instrument is not filed of record in the appropriate county office by or on behalf of the owner of the mining claim at least once every four years. The four-year period allows a holder of a mining claim ample time to file such an instrument. Four years are allowed not only in fairness to the owner of the mining claim, but also to meet constitutional objections inherent in a shorter period. The bill purposely provides that any kind of notice or affidavit of labor is sufficient, even though it is defective or is not timely filed for record under other federal or state laws permitting the filing or recording thereof. Such an instrument is sufficient because it shows an affirmative intent on the part of the owner not to abandon his mining claim. Moreover, if form or substance of the instrument to be filed were prescribed, then one examining an abstract of title would be presented with many troublesome problems not existing under the present law. Determinations would then have to be made whether the form and substance of the instrument filed complied with law. These matters are usually unimportant under the present laws.[29]

RECORDATION OF MINING CLAIMS AND ASSESSMENT WORK STATEMENTS WITH BUREAU OF LAND MANAGEMENT

The proposed bill "To provide for the recordation of mining claims," concerning which Mr. John A. Carver, Jr. wrote in the letter referred to above, was introduced in the Senate as S.B. 2248 and in the House as H.R. 10194, 89th Congress. Mr. Carver explained the Interior Department's proposal in his June 21 letter by stating:

> Our proposal would require owners of all unpatented mining claims to file a statement and other identification data with

[29] A proper affidavit of labor timely filed is only prima facie evidence that the assessment work has been performed and other evidence may be introduced to prove that the assessment work was, in fact, performed. 2 AMERICAN LAW OF MINING §§ 7.24 and 7.25 (1964).

the Secretary of the Interior giving information regarding the location and ownership of their claims. Statements pertaining to claims located prior to enactment would be required to be filed within two years after enactment, and statements relating to locations made after enactment would have to be filed within 90 days after location of the claim. Failure to comply with such requirements within the time allowed would terminate the rights of the holder to the mining claim.

The proposed bill would also require mining claimants to file with the Secretary, within 90 days after the expiration of every annual assessment year, a statement of the assessment work performed on the claim during that year. Failure to file such a statement for two consecutive years would result in the termination of the mining claimant's rights to such claim.

The bill would not change any of the present provisions of the mining laws relating to discovery, location of claims, assessment work, or applications for patent, nor would the bill affect in any way the requirements under applicable State laws, including those relating to recordation.

Our proposal would not only be useful to us in the administration of the public lands, but also to private parties seeking to determine lands not already covered by mining claims. Our bill requires that the physical site of a mining claim be clearly identified in terms of the governing official plats of survey. Many mining claims now of record in county recorders' offices simply describe claims in terms of corners tied to a blaze on a tree, rock, etc., and the physical site of the claim may be ascertained, if at all, by an actual inspection on the ground. Not uncommonly, the physical location of a claim cannot even be identified on the ground because a tree, to which a corner of the claim is tied, no longer exists or the blaze no longer exists. On the other hand, the description of the location of the claim in terms of the official surveys, where such exist, fixes a definite location. Recognizing that many locations are made on unsurveyed lands, our bill provides an alternative procedure for identifying the locus of such claims.

We wish to emphasize that our proposal is designed to clear abandoned and inactive claims from the records and to permit a more effective management of the public lands. The costs of administration of the bill, in our judgment, would be greatly outweighed by savings resulted from the obviating of searches of county recorders' offices and contest proceedings against inactive or abandoned claims.

We believe that the merits of a recordation requirement can be evaluated adequately on the basis of present information, and that there is no need to delay action until the completion of the study of the Public Land Law Review Commission.

The author has previously set forth the form of a bill which would clear abandoned and inactive mining claims from the records without requiring recordings with the United States. Such a bill would

also permit a more effective management of the public lands in that the public domain would then be cleared of these abandoned and inactive mining claims. Should the mining laws also be amended to require recordings of location notices and statements of labor with the appropriate Federal Land Office? Such an amendment is objectionable for several reasons. As introduced, S.B. 2248 and H.R. 10194 are objectionable in a number of respects which may be cured by amendment. For example, these bills make no provision that information with respect to unpatented mining claims on file with the Federal Land Office will be readily available to the public.[30] Since questions of validity of mining claims will depend on this information, it is vital that such information be available to the members of the public so they may determine questions with respect to the validity of mining claims. But there are objectionable features in these bills which are not capable of being cured by amendment. These objectionable features are implicit in any requirement that location notices and statements of labor be filed with the Federal Land Office. For example:

1. If recordings of mining claims with the Federal Land Office are to identify clearly the physical site of the mining claim in terms of the official maps of survey, the services of land or mineral surveyors will be required to prepare the description and the map, plat or survey called for by these bills. This will be expensive and time-consuming, and will, no doubt, cause the holders of many existing valid mining claims to lose their mining claims because of their inability to comply with such a law. Such a law would also discourage, if not stop, prospecting and the locating of mining claims by the prospector with no financial backing.

2. If mining claims will be invalid unless properly prepared location notices or certificates of location, maps, plats or surveys and statements of assessment work are timely filed with the Federal Land Office, then the problems of determining the validity of mining claims will not be lessened but, instead, will be much greater, because then it will be necessary to search these federal records to determine whether each of the documents relating to a mining claim has been properly prepared and timely filed. Moreover, it is contrary to basic principles of the mining laws to provide that a mining claim ceases to exist because a properly prepared instrument is not timely filed. Under the present mining laws, defects in location notices and certificates of location may be corrected by filing amended notices and certificates,[31] and even the

[30] Mining Claims Rights Restoration Act of 1955, 69 Stat. 383, 30 U.S.C. § 621 (1964) provides for filing of notices of location and statements of assessment work with the District Land Office, but these records are not readily available to the public.

[31] 1 AMERICAN LAW OF MINING § 580 (1964).

failure to file timely a location notice or certificate in most jurisdictions will not invalidate a mining claim in the absence of intervening rights.[32] The failure to record an affidavit of assessment work does not terminate rights under a mining claim,[33] and, indeed, the failure to perform assessment work will not now automatically terminate rights under a mining claim.[34]

3. In light of the past policy of the Interior Department of imposing increasingly more stringent requirements with respect to establishing the validity of a mining claim, i.e., erosion of the rule of discovery and extremely broad construction of "common varieties" to exclude minerals from the mining laws, would not the Interior Department extend this policy to such a law and thereby impose new stringent requirements with respect to establishing the validity of a mining claim and make it more difficult to hold a mining claim?

Assessment Work Requirements

The assessment work requirement in the mining laws has frequently been criticized.[35] It is contended that the work requirement, which has not been changed since 1872, is too low and that there is no requirement that statements or affidavits of labor must be timely recorded or rights under the mining claim will cease to exist. Also, there are abuses of the assessment work requirement in that the work performed sometimes clearly does not actually tend to develop the mining claim and affidavits of labor are recorded with the county offices when the work set forth in the affidavit was not performed.

The difference in the buying power of money is partially offset by the need today to hold more mining claims when exploring for an ore deposit concealed with overburden than was necessary when the search was for lodes or veins outcropping on the surface. Certainly, the assessment work requirement should not be burdensome as to preclude prospectors with limited means from holding mining claims. In order to make effective an amendment requiring affidavits of labor be recorded, such amendment must require that failure to record will terminate all rights in the mining claim. As pointed out above, this involves a basic change in the mining law. At the present time, failure to perform assessment work or failure to record the affidavit as assessment work does not automatically terminate rights in a mining claim, but failure to perform the work will make the mining claim subject to forfeiture upon a third party locating the ground.[36] If failure to perform assess-

[32] 1 American Law of Mining § 578 (1964); Perley v. Goar, 22 Ariz. 146, 195 Pac. 532 (1921).
[33] See note 29 *supra*.
[34] 2 American Law of Mining § 7.26 (1964).
[35] See Pearl, *Projected Impact of Pending Proposals to Revise the Mining Laws*, 9 Rocky Mt. Min. L. Inst. 1, 19 (1964).
[36] 2 American Law of Mining § 7.26 (1964).

ment work tending to develop a mining claim resulted automatically in the termination of all rights under a mining claim, then no one could possibly determine whether the mining claim had ceased to exist because the work claimed did not tend to develop the mining claim. A result almost as bad would occur if the existence of a mining claim hinged on the timely recording of an affidavit of assessment work by or in behalf of the owners and perhaps legal sufficiency of the recorded affidavit.

EXTRALATERAL RIGHTS AND ELIMINATION OF DISTINCTION BETWEEN LODE AND PLACER LOCATIONS

Other suggested changes in the mining laws have been to eliminate the distinction between lode and placer locations[37] and to provide that lode mining claims located in the future will not have extralateral rights.[38] The doctrine of extralateral rights developed when the search for lode or veing deposits was largely restricted to surface outcrops. Today, the search is primarily directed to ore deposits hidden by alluvial deposits or other overburden. For this reason, it is no longer important that a mining claim have extralateral rights. It is suggested that 30 U.S.C. § 26 be amended to provide, with respect to lode mining claims located after the enactment of the amendment, that the rights of the locator will be limited to the vertical boundaries of the mining claims and that no extralateral rights will be acquired by reason of such location.

One of the principal reasons for eliminating the distinction between lode and placer mining claims is to avoid the troublesome problem of whether the deposit is lode or placer. Unless care is exercised, any amendment eliminating this distinction may create more serious problems than it solves. Since locations of lode and placer mining claims now depend not only on the provisions of federal statutes but also on the statutes of the various states which provide how these mining claims may be located, consideration must be given to the effect any amendments will have not only on federal statutes but also state statutes. Any such amendment which radically changes the present mining laws or pre-empts the field in mining legislation presently covered by state legislation undoubtedly would be opposed by the mining industry.

Confusion whether deposits are placer or lode is not the only area of concern. Confusion exists whether certain deposits are leasable or locatable. Irving Senzel pointed this out when he stated:

> A problem of growing concern is the question whether certain minerals are leasable or locatable. Many minerals which have been claimed by location under the general mining laws have elements of minerals which are specifically leasable under the 1920 act. This brings the mining laws and mineral leasing

[37] *Supra* note 35, at 21. See Titanium Actynite Industries v. McLennon, 272 F.2d 667 (10th Cir. 1959).
[38] *Supra* note 35, at 21.

> acts in direct conflict. Which law shall govern the disposition of minerals mentioned in the mineral leasing laws? The laws themselves throw little light on their own intent. The Solicitor now has before him this question with specific reference to zeolites of sodium and potassium in bedded tuff deposits. Whatever the answer to this question, calcium zeolites presumably will still be locatable. The question has also been posed whether a recently discovered deposit of bedded tuff containing large amounts of potash feldspar is locatable or leasable. Potash is specifically listed in the Mineral Leasing Act of 1920.[39]

Future exploration will, at times, no doubt, be for mineral compounds either now unknown in native state or having no commercial value today. Certainly one making a discovery of one of these compounds or other deposits not clearly leasable should not lose the benefits of making a discovery because he believes in good faith that the deposit is locatable and the Solicitor later concludes that it is leasable.

A suggested amendment largely eliminating the lode-placer and locatable-leasable problems, which would not radically change the mining laws or disrupt the existing federal and state mining legislation, could be made by amending only the federal statutes relating to placer mining claims.[40] Such an amendment would provide that all placer mining claims, other than association placers,[41] include all locatable minerals within the vertical boundaries of the mining claims and such leasable minerals within these vertical boundaries as the locator believed in good faith at the time of the location were locatable under the mining laws. Because lode deposits could then be located by legal subdivision and problems with respect to placer-lode and locatable-leasable distinctions would be avoided, it is believed that virtually all future mining locations would then be made under such an amended provision rather than as lode mining claims.

Conclusion

The mining laws have served the Nation well. They should be retained because they will best serve the Nation in encouraging the search for the subsurface mineral deposits. Improvements in these laws should be made where possible and it is the task of the mining industry to explore ways of improving them. The mining industry and others interested in the use of the public domain should carefully consider all proposed amendments to these laws and make certain that the Public Land law Review Commission is fully advised of the merits of proposals which will improve the mining laws and of the defects of proposals that would weaken them.

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[39] Senzel, Administration of the Mining Laws in Areas of Conflict, address given at the Mineral Law Symposium, University of Arizona, March 23, 1966.

[40] 26 Stat. 1097 (1891), 30 U.S.C. § 35 (1964).

[41] 26 Stat. 1097 (1891), 30 U.S.C. § 36 (1964).