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Recognizing that expanded activity in hard mineral exploration and development has exposed a critical need for a modern examination of the mining law of Wyoming, the authors examine the law of mines and mining on the public domain in this state. In this, the first of two parts, the authors discuss the appropriation and the form of permissible appropriations of public mineral lands.

MINING LAW IN A NUCLEAR AGE: THE WYOMING EXAMPLE[†]

Don H. Sherwood*

Gary L. Greer**

INTRODUCTION

THE American law of mines and mining on the public domain was forged in the Nineteenth Century by individual miners lured to the Western frontiers of this nation by reports of great mineral discoveries.¹ It was magnificently

[†] Copyright© Don H. Sherwood and Gary L. Greer, 1968. The title is, of course, suggested by one of the first modern articles on American mining law: Martz, *Pick and Shovel Mining Laws in an Atomic Age: A Case for Reform*, 27 ROCKY MT. L. REV. 375 (1955).

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1. These enterprising individuals were in fact trespassers on the public domain; from 1848 until 1866 Congress, by its silence, acquiesced in the occupation and exploitation of the public domain by miners who set up their own rules to govern their individual usufructuary rights. See Swenson, *Sources and Evolution of American Mining Law*, in 1 AMERICAN LAW OF MINING §§ 1.3, 1.10 (1960). By the Act of July 26, 1866, ch. 262, § 1, 14 Stat. 251, the mineral lands of the public domain were "declared to be free and open to exploration and occupation," thus authorizing the activities of the miners, and the express direction contemplated by the Act of July 4, 1866, ch. 166, § 5, 14 Stat. 86 (now 30 U.S.C. § 21 (1964)), which provided that "in all cases lands valuable for minerals shall be reserved from sale, except as otherwise expressly directed by law," was supplied in the Act of July 26,

expounded by judges whose names have long since become legendary,² and was recorded, with occasional embellishment, in the classic pages of the last edition of Lindley's justly famous treatise published in 1914.³ Scarcely touched by statutory changes for a generation,⁴ the mining law languished until, nearly eclipsed by legislative and judicial response to other demands of our society,⁵ it was put to the test of the nuclear age on the Colorado Plateau.⁶

The technology of our times, coupled with the burgeoning appetite of an expanding world population for metals and fissionable materials, has focused increasing attention

1866, ch. 262, § 2, 14 Stat. 251, which directed the grant of a patent to an applicant claiming a lode mine, upon occupation and improvement thereof. An earlier statute had declared that:

no possessory action between persons, in any court of the United States, for the recovery of any mining title, or for damages to any such title, shall be affected by the fact that the paramount title to the land in which such mines lie is in the United States; but each case shall be adjudged by the law of possession.

Act of February 27, 1865, ch. 64, § 9, 13 Stat. 440 (now 30 U.S.C. § 53 (1964)). Placer claims were opened to entry and patent by the Act of July 9, 1870, ch. 235, § 12, 16 Stat. 217. The General Mining Law, although modified and supplemented from time to time by Congress, was adopted basically in its present form by the Act of May 10, 1872, ch. 152, §§ 1-15, 17 Stat. 91 (now 30 U.S.C. §§ 21-42 (1964)).

2. The names of Mr. Justice Field, Judge Hawley, Judge Hallett, and Judge Sawyer come readily to mind. *Cf.*, *e.g.*, Riner, *Hon. Moses Hallett*, 4 Wyo. L. J. 86 (1949).
3. C. LINDLEY, *MINES* (3d ed. 1914); examples of the embellishment which has helped to keep Lindley's text in current use, along with the popular and still useful handbook originally published by Robert S. Morrison, E. DE SOTO & A. MORRISON, *MORRISON'S MINING RIGHTS* (16th ed. 1936) [while others, such as D. BARRINGER & J. ADAMS, *LAW OF MINES AND MINING IN THE UNITED STATES* (1897), G. COSTIGAN, *MINING LAW* (1908) and W. SNYDER, *MINES AND MINING* (1902), have fallen into disuse], can be found in 2 C. LINDLEY, *supra*, §§ 363, 645A.
4. The first significant legislation following the Mineral Leasing Act of February 25, 1920, ch. 85, 41 Stat. 437 (now 30 U.S.C. §§ 181-263 (1964), as amended), was the Multiple Mineral Development Act of Aug. 13, 1954, Pub. L. No. 83-585, ch. 730, 68 Stat. 708, 30 U.S.C. §§ 521-527 (1964), followed by the Multiple Surface Use Act of July 23, 1955, Pub. L. No. 84-167, ch. 375, 69 Stat. 367, *amending* the Materials Disposal Act of July 31, 1947, ch. 406, 61 Stat. 681 (now combined as 30 U.S.C. §§ 601-615 (1964)). *See also* Bloomenthal, *Multiple Mineral Development on the Public Domain*, 9 Wyo. L.J. 139 (1955), and Barry, *Determination of What Constitutes "Common Varieties,"* 12 ROCKY MT. MINERAL L. INST. 225 (1967). Some of the Congressional enactments of the late Forties, *e.g.*, Act of June 21, 1949, ch. 232, §§ 1-4, 63 Stat. 214 (now 30 U.S.C. §§ 28b-e (1964)), Act of June 17, 1949, ch. 221, § 2, 63 Stat. 201, and Act of June 21, 1949, ch. 232, § 5, 63 Stat. 215 (now 30 U.S.C. § 54) (1964)), are of some interest, and illustrate the change in attitude toward some of the mining laws.
5. *See* Martz, *Preface* to 1 AMERICAN LAW OF MINING at vii (1960), and compare *Preface* to E. DE SOTO & A. MORRISON, *MORRISON'S MINING RIGHTS*, *supra* note 3, at iii.
6. Martz, *Pick and Shovel Mining Laws in an Atomic Age: A Case for Reform*, 27 ROCKY MT. L. REV. 375 (1955); *Cf.* Waldeck, *Discovery Requirements and Rights Prior to Discovery on Uranium Claims on the Colorado Plateau*, 27 ROCKY MT. L. REV. 404 (1955), and Note, *Valuable Mineral Discovery*, 9 Wyo. L. J. 214 (1955).

upon the mining laws.⁷ Once the sacrosanct institution of a basic industry,⁸ it has become fashionable even for mining lawyers to suggest reforms.⁹ But what began as an appeal for an accommodation with the Atomic Age¹⁰ has become an open demand, primarily by Government land administrators, for outright repeal of the mining laws.¹¹ Lost, perhaps, in the midst of the wealth of recent literature debating the merits of the various suggested reforms is the mining law itself, born of similar controversy a century ago.¹²

In most public domain¹³ states, such as Wyoming, the mining law is a composite of the General Mining Law of 1872, as amended and supplemented by Congress,¹⁴ and state law.¹⁵ This dual regulation of mines and mining on Federal

7. See, e.g., University of Arizona College of Mines, Symposium on American Mineral Law Relating to Public Land Use, March 21-23, 1966 (Bound Pamphlet edited by J. Dotson).
8. See Gray, *New Concept of Discovery and Title to Unpatented Mining Claims*, 10 ROCKY MT. MINERAL L. INST. 491 (1965).
9. See, e.g., Twitty, *Amendments to the Mining Laws*, 8 ARIZ. L. REV. 63 (1966).
10. Martz, *supra* note 6.
11. See, e.g., Remarks of Under Secretary of the Interior Charles F. Luce before American Mining Congress Coal Show, Cleveland, Ohio, May 15, 1967 (U.S. Dep't of the Interior News Release, May 15, 1967); Barry, *Discovery Under the Mining Laws*, 8 ARIZ. L. REV. 84 (1966) (indicating, *Id.* at 85, that public lands are now "Government lands" which "are closely guarded"), and compare O'Callaghan, *The Mining Law and Multiple Use*, 7 NATURAL RESOURCES J. 242 (1967), Senzel, *Administration of the Mining Laws in Areas of Conflict*, 7 NATURAL RESOURCES J. 225 (1967), Stoddard & O'Callaghan, *Creative Federalism and the Retention or Disposition of Public Lands*, 8 ARIZ. L. REV. 37 (1966), Barry, *supra* note 4, and Hochmuth, *Government Administration and Attitudes in Contest and Patent Proceedings*, 10 ROCKY MT. MINERAL L. INST. 467 (1965), with 1 AMERICAN LAW OF MINING § 4.26 at 642-645 (1960).
12. Swenson, *supra* note 1, § 1.12.
13. We adopt, for the purposes of this paper, the definition of "public domain" supplied by Professor Swenson, *supra* note 1, § 1.6 at 11, which excludes "land acquired from private individuals or the states usually referred to as 'acquired lands'" from the remaining lands ceded to the United States in the West. Although we prefer to refer to Federal lands still open to entry, at least under the mining laws, as "public lands," to distinguish them from "reserved lands" not open to such entry, the applicability of the mining laws to some types of reservations, e.g., National Forests, 16 U.S.C. §§ 478, 482 (1964), some National Monuments, e.g., Death Valley National Monument, 16 U.S.C. § 447 (1964), power site reservations, 30 U.S.C. §§ 621-625 (1964), and even some National Parks, e.g., Mount McKinley National Park, 30 U.S.C. §§ 350, 350a (1964), prohibits a ready distinction between the terms "public lands" and "public domain," and we will use the two terms interchangeably. Some states thought of as public domain states, e.g., Nebraska, Swenson, *supra* note 1, § 1.20, do not have mining legislation supplementary to the General Mining Law of 1872.
14. The Bureau of Land Management of the United States Department of the Interior has adopted some regulations concerning mining claims, see 43 C.F.R. Part 3400 (1967), but, with some exceptions, notably with respect to patent applications and surveys for patents, 43 C.F.R. Subparts 3440-3480 (1967), these are directory rather than mandatory.
15. Compare 30 U.S.C. § 28 (1964) with 30 U.S.C. §§ 22, 26, and 43 (1964), and see Swenson, *supra* note 1, § 1.22. Although Federal law still permits the adoption by local mining districts of regulations "not in conflict with the

lands is undoubtedly one of the outstanding features of American mining law,¹⁶ and the deliberate failure of Congress to pre-empt the field¹⁷ has permitted, if not encouraged, variations in state legislation¹⁸ and judicial interpretations.¹⁹ Thus, any lawyer representing or employed by the enterprising miner of today—generally companies with the resources to engage in long-odds exploration gambling and to invest the astronomical sums²⁰ required in the development of deeply buried and often low-grade mineral deposits—must recognize and appreciate significant variations in the mining laws and precedents of the different Western states.²¹

laws of the United States, or with the laws of the State . . . in which the district is situated," 30 U.S.C. § 28 (1964), such local districts are of little, if any, significance today. Wyoming provided for the organization of mining districts in its first mining legislation, Law of Dec. 2, 1869, ch. 22, §§ 20-23, [1869] Wyo. Laws 311-312 (repealed 1873), and later legislation, Law of Nov. 26, 1879, ch. 57, §§ 1-2, [1879] Wyo. Laws 115, amended by Law of March 9, 1882, ch. 71, § 1, [1882] Wyo. Laws 157 (repealed 1888), and Law of March 6, 1888, ch. 40, §§ 1-3, [1888], Wyo. Laws 83-84, was finally repealed in 1957, Law of Febr. 11, 1957, ch. 96, § 1, [1957] Wyo. Laws 109, following the decision in *State ex rel. Blonder v. Goodbrod*, 77 Wyo. 126, 307 P.2d 1073 (1957). But nothing in the 1957 law "shall affect the validity of any mining district heretofore formed in conformity with the law in effect at the time of the formation of said district." Law of Febr. 11, 1957, ch. 96, § 2, [1957] Wyo. Laws 109. Compare Law of Nov. 26, 1869, ch. 51, § 1, [1869] Wyo. Laws 413 (last codified in WYO. COMP. STAT. § 4657 (1920), and repealed in 1931), validating certain records of the early Shoshone and California Mining Districts. The *Goodbrod* case involved a recent attempt by miners and landowners in Campbell County to organize a mining district under the provisions of the statute then in force, WYO. COMP. STAT. § 57-901 (1945), and to adopt regulations which imposed upon prospective locators certain prospecting and district recording fees, required assignments of overriding royalties and participation rights to holders of surface interests, and required the filing of claims with a district recorder. The Court found the district regulations to be in conflict with state law requiring the recording of location certificates only in official county records and held the regulations invalid.

16. Compare Swenson, *supra* note 1, § 1.22, with 1 C. LINDLEY, MINES §§ 248-264 (3d ed. 1914).
17. Recent Acts of Congress, e.g., Act of Aug. 23, 1958, Pub. L. No. 85-736, § 1, 72 Stat. 829, amending the assessment-work statute, 30 U.S.C. § 28, (1964); Act of Sept. 2, 1958, Pub. L. No. 85-876, §§ 1-2, 72 Stat. 1701 (now 30 U.S.C. §§ 28-1 and 28-2 (1964)), and Act of Mar. 18, 1960, Pub. L. No. 86-390, 74 Stat. 7, amending the "millsite" statute, 30 U.S.C. § 42 (1964), have left intact the permission granted to the states to enact complementary legislation. 30 U.S.C. §§ 22, 26 and 28 (1964).
18. Compare, e.g., WYO. STAT. §§ 30-6 and 30-7 (1957) with COLO. REV. STAT. §§ 92-22-6 and 92-22-9 (1963). But see IDAHO CODE § 47-603A (1948, 1967 Supp.) and NEW MEX. STAT. ANN. §§ 63-2-3.1 to 63-2-3.3 (1953); 1960 Repl. and 1967 Supp.).
19. Compare, e.g., *Simmons v. Muir*, 75 Wyo. 44, 291 P.2d 810 (1955), with *Moorhead v. Erie Mining & Milling Co.*, 43 Colo. 408, 96 P.253 (1908), and *Emerson v. Akin*, 26 Colo. App. 140 P. 481 (1914).
20. See MacMillan, *Management Views of the Areas of Legal Conflict*, 12 ROCKY MT. MINERAL L. INST. 171, 176 (1967).
21. The danger in relying upon the law of sister states in mining cases is well illustrated in *Iba v. Central Ass'n of Wyoming*, 5 Wyo. 355, 40 P.527, 5 Wyo. 367, 42 P.20 (1895), where the Wyoming Supreme Court rejected authorities from Colorado on procedural grounds. See also *Bergquist v. West Virginia-Wyoming Copper Co.*, 18 Wyo. 234, 106 P.673 (1910), in which the lack of uniformity among the mining laws of several states is discussed.

The basic tools of the mining lawyer, having been designed for what might be called the general practice of mining law,²² offer little in the way of specific coverage of the law in any one jurisdiction.²³ Furthermore, the courts have not been idle in the years since 1914. While Congress and the state legislatures avoided statutory revisions until the mid Fifties²⁴ the courts had already begun the process, which is continuing, of accommodating Lindley's law to the nuclear age.²⁵

Our purpose in this study is to collect and examine the Federal and state law of one jurisdiction and to determine the extent to which innovation has occurred in the law of mines and mining on the public domain in the years since publication of Lindley's last edition. If, in the process, we offer the wide-ranging second-century mining lawyer a more precise and yet modern example of the development of American mining law in one jurisdiction, the limitation inherent²⁶

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22. See, e.g., *Preface to E. DE SOTO & A. MORRISON, MINING RIGHTS*, *supra* note 3, at iii, and *Preface to First Edition*, 1 C. LINDLEY, *supra* note 3, at vii, x-xi.
 23. The best comparative material of which we are aware appears in the tables in F. TRELEASE, H. BLOOMENTHAL & J. GERAUD, *CASES AND MATERIALS ON NATURAL RESOURCES*, 477-478, 484-485, 492-493, 508-509, and 529 (1965).
 24. See Swenson, *supra* note 1, §§ 1.34-1.44, and compare, e.g., Law of Febr. 11, 1955, ch. 88, §§ 1-2, [1955] Wyo. Laws 77-79, and Law of Febr. 1, 1957, ch. 25, § 1, [1957] Wyo. Laws 19-20. The Wyoming Legislature adopted no public-land mining legislation between the Law of Febr. 19, 1901, ch. 100, §§ 1-5, [1901] Wyo. Laws 104-105, and the Law of Febr. 1, 1951, ch. 18, §§ 1-4, [1951] Wyo. Laws 25-26.
 25. See, e.g., *Globe Mining Co. v. Anderson*, 78 Wyo. 17, 318 P.2d 373 (1957); *Western Standard Uranium Co. v. Thurston*, 355 P.2d 377 (Wyo. 1960); *Rummell v. Bailey*, 7 Utah 2d 137, 320 P.2d 653 (1958); *Dallas v. Fitzsimmons*, 137 Colo. 196, 323 P.2d 274 (1958); and *Berto v. Wilson*, 74 Nev. 123, 324 P.2d 843 (1958).
 26. We would define the inherent limitation as something more than an inability to analyze all the cases; American mining law developed in response to the discovery of mineral deposits not often found in Wyoming, and the greatest number of Wyoming cases involve mineral deposits such as bentonite, uranium ores, and oil and gas, which were not found in the State in the geological structures which formed the characteristic background leading to the bulk of the reported litigation from beyond the State. Thus, a general examination of Wyoming mining law may not be readily applicable in the context of other mineral deposits in other states, and, conversely, the law of other states is not always framed in such a way that we can assume it should be applicable in the situations discussed by the Wyoming courts. Wyoming oil placer cases, for example, may have their counterparts in California, but they may be as inappropriate to a case involving steeply-dipping silver veins in the Coeur d'Alenes of Idaho as the early Idaho cases were found to be to the Leadville cases in Colorado. See E. De Soto & A. Morrison, *supra* note 3, at 202-203. We do not, therefore, attempt to make a comparative analysis of cases arising under the same or similar laws but different physical situations.

in the approach may yield a product useful to Wyoming lawyers as well.²⁷

APPROPRIATION OF LOCATABLE PUBLIC LANDS

A mining claim²⁸ may be located only on unappropriated or locatable public domain.²⁹ The term "unappropriated public domain" comprehends both that publicly owned mineral land³⁰ has not by Congressional authority or Executive withdrawal under such authority been reserved and segregated from mineral entry³¹ or in some manner withdrawn

27. The sheer bulk of reported litigation and the partially comparable statutory materials in states other than Wyoming prohibit any comprehensive analysis in this study of similarities and disparities between Wyoming law and the laws of other Western States. *But see* the tables cited *supra* note 23.
28. Congress confirmed, in 1866, the right of citizens of the United States, and those who had declared their intention to become such, freely to explore and occupy the mineral lands of the public domain, Act of July 26, 1866, ch. 262, § 1, 14 Stat. 251, and since May 10, 1872, this license to search for and appropriate "all valuable mineral deposits in lands belonging to the United States," by exploration and purchase, "and the lands in which they are found" by "occupation and purchase," Act of May 10, 1872, ch. 85, § 1, 41 Stat. 437 (now 30 U.S.C. § 22 (1964)), has been well established. Congress simply adopted the practice which the early miners had themselves followed in the years from 1848 to 1866 by which the first to make a discovery of a valuable mineral deposit obtained the right to continue development of his find, *C. MARTZ, CASES ON NATURAL RESOURCES* 467 (1951), and granted the right to obtain fee title to the mine discovered as well. *See supra* note 1. The "appropriation" is initiated upon such a discovery by the location of a mining claim, it is the acts of the discoverer locating such a claim which constitute the "taking up" or segregation of the lands and the mineral deposit itself from the public domain. *Slothower v. Hunter*, 15 Wyo. 189, 88 P.36 (1906). The nature of the claim or "location" itself depends upon the type of deposit discovered, and may be either in the form of a lode claim under 30 U.S.C. § 23 (1964), or a placer claim under 30 U.S.C. § 35 (1964). Nonmineral public lands used or occupied for mining or milling purposes may be located as a "mill-site" claim under 30 U.S.C. § 42 (1964). The only type of claim which can be validly located in advance of the discovery of a valuable mineral deposit is a "tunnel-site" claim located for exploratory purposes under 30 U.S.C. § 27 (1964). Provision is also made in the statutes for the location of a lode within a placer claim, 30 U.S.C. § 37 (1964), and for development tunnels, 30 U.S.C. §§ 27, 28 and 43 (1964), but these features of the law are not well defined.
29. *See Phillips v. Brill*, 17 Wyo. 26, 95 P.856 (1908), and *Slothower v. Hunter*, 15 Wyo. 189, 88 P.36 (1906).
30. Lands "belonging to the United States," containing "valuable mineral deposits," 30 U.S.C. § 22 (1964), "reserved from sale, except as otherwise expressly directed by law," 30 U.S.C. § 21 (1964). The latter statute, which was adopted earlier than the express direction of 30 U.S.C. § 22 (1964), *see* note 1, *supra*, refers to "lands valuable for minerals" rather than "valuable mineral deposits in lands." For the purposes of location under the mining laws, we see no practical distinction between the wording of the two sections.
31. Reservations, at least by Congress, are permitted under the exception in 30 U.S.C. § 22 (1964): "Except as otherwise provided, all valuable mineral deposits . . . shall be free and open . . ." *But see* *United States v. Midwest Oil Co.*, 236 U.S. 459 (1914), extending the exception to executive withdrawals notwithstanding the United States Constitution, art. IV, § 3, cl. 2, which provides that it is the Congress, rather than the Executive branch of the Government which "shall have the Power to dispose of and make all needful Rules and Regulations respecting the . . . Property belong-

from mineral entry,³² and that it is not possessed by anyone who has made a previous, valid discovery and location.³³ Just as not every type of reservation³⁴ or withdrawal³⁵ prohibits locations under the mining laws, so certain forms of entry by individuals onto the public domain do not appropriate the land so as to withdraw it from subsequent location under the mining law.³⁶

An example of Federal-law restrictions on mining activity on the public domain would be an Executive withdrawal from non-metalliferous mining locations under the Pickett Act of 1910.³⁷ Attempted locations of mining claims wholly within an area entirely withdrawn are void and are not given vitality by the restoration of a withdrawn area.³⁸

Although one writer cites two department decisions to the contrary . . . , it is generally assumed that a mining location made on land which has been withdrawn from the location laws is void. Even restoration of the land will not validate the claim so as to give the locator priority from the date of the first location.

A representative case is *Day Mines Inc.*,³⁹ where thirteen claims made after withdrawal of the land for power site purposes were held null and void. Similarly, in *United States v. McCutchen*,⁴⁰ a claimant attempted to initiate a location on land which had been previously withdrawn by Executive

ing to the United States." As to the distinction between withdrawals and reservations, compare, e.g., the Pickett Act of 1910, 43 U.S.C. § 141 (1964), with the Act creating the Yellowstone National Park reservation, 16 U.S.C. §§ 21-40c (1964), and the more recent Act creating Rocky Mountain National Park, 16 U.S.C. §§ 191-198d (1964). Cf. B. HIBBARD, A HISTORY OF THE PUBLIC LAND POLICIES 529 (Gates ed. 1965).

32. *Lockhart v. Johnson*, 181 U.S. 516 (1901); cf. *United States v. Midwest Oil Co.*, 236 U.S. 459 (1914); *Le Clair v. Hawley*, 18 Wyo. 23, 102 P.853 (1909). See also *supra* note 31.

33. *Belk v. Meagher*, 164 U.S. 279 (1881); *San Francisco Chem. Co. v. Duffield*, 201 F.830 (D. Wyo. 1912); *Le Clair v. Hawley*, 18 Wyo. 23, 102 P.853 (1909); *Slothower v. Hunter*, 15 Wyo. 189, 88 P.36 (1906).

34. See *supra* note 13.

35. E.g., withdrawals by the Executive under the Pickett Act of 1910, 43 U.S.C. § 141 (1964), which do not prohibit locations of metalliferous mineral deposits.

36. See *Scoggin v. Miller*, 64 Wyo. 206, 189 P.2d 677 (1948), as to the location of mining claims on grazing permits and stockraising homesteads. Similarly, as to some types of attempted or purported entries under the mining laws, see *Whiting v. Straup*, 17 Wyo. 1, 95 P.849 (1908). See also 30 U.S.C. § 37 (1964), and *Inyo Marble Co. v. Loundagin*, 120 Cal. App. 298, 7 P.2d 1067 (1932), with respect to lodes located within placer claims.

37. 43 U.S.C. § 141 (1964).

38. 1 AMERICAN LAW OF MINING § 1.33 (1960).

39. 65 Interior Dec. 145 (1958).

40. 234 F.702 (D. Calif. 1915).

order on September 27, 1909. In two instances in *McCutchen* it was quite clear that locations within the withdrawn area were made after withdrawal and the Court held these void *ab initio*.

A frequent question in withdrawal cases is whether a locator who entered land and began working toward a discovery of mineral prior to the date of a withdrawal, but who made his discovery thereafter, is protected. *United States v. Ohio Oil Company*,⁴¹ was a suit in equity by the United States to have lands declared withdrawn as of May 6, 1914, the date of a Presidential withdrawal order, and to quiet title against the defendant Ohio Oil Company. Defense to the suit was based upon the right of location prior to the date of the withdrawal order. In 1913 the oil placer claimants commenced drilling a prospect well on the land in question. The well was drilled to a depth of sixty-five feet. There was evidence that oil was discovered in the well. Later in the same year a second well was drilled to a depth of fifty-seven feet and the claimants testified that they found oil therein. Witnesses for the claimants also testified that the oil found by the claimants was of sufficient quantity and quality to justify a person of ordinary prudence in making further expenditures of money and labor with the reasonable prospect of success in developing a valuable deposit of oil.⁴² Government witnesses testified that nine or ten months after the drill holes were put in, they examined them by dropping to the bottom of the wells a line to which was attached a weighted can, and that in one well were found no indications of oil and that in the other there was an oily substance more like gasoline or kerosene than crude oil such as had been found elsewhere in the district.

On May 6, 1914, the area was withdrawn by the Presidential order. Subsequently, the claimants expended \$22,000 in drilling and construction of a permanent camp and \$15,000 for the construction of a steel tank in which to store oil. The facts as stated by the trial court are silent as to whether there was oil production at the time suit was brought. Judge Riner held that the claimants had made a discovery prior to

41. 240 F.996 (D. Wyo. 1916).

42. Compare *Chrisman v. Miller*, 197 U.S. 313, 332 (1905); *Castle v. Womble*, 19 Interior Dec. 455, 457 (1894).

the withdrawal date, May 6, 1914, but that in any event, the claimants were in possession and diligently prosecuting work toward a discovery at the time of the withdrawal and were bona fide occupants or claimants at that time.⁴³ According to the terms of the Pickett Act, their rights were not affected or impaired by the order of withdrawal.

A similar decision was reached in the Eighth Circuit in a companion case,⁴⁴ where the Court of Appeals said that it was unnecessary to determine whether or not a discovery had been made prior to May 6, 1914, because the defendants at the date of the order of withdrawal were bona fide occupants or claimants of the withdrawn lands and were engaged in diligent prosecution of work leading to the discovery of oil, and continued thereafter in diligent prosecution of said work until oil was discovered. The court pointed out that the Pickett Act contains a proviso protecting the rights of any person who at the date of a withdrawal is a bona fide occupant or claimant of oil or gas bearing lands and who is in diligent prosecution of work leading to discovery of oil or gas, so long as he shall continue in diligent prosecution of said work. In construing the Pickett Act, the court said:

Before the enactment of this statute discovery of the mineral was essential to make a location. As frequently, in fact most instances, prosecuting was necessary in order to determine whether oil or gas are on the public lands, and large sums of money were necessarily expended to ascertain this fact, Congress by this proviso in the Act of 1910 extended its protecting arm to those acting in good faith in an effort to ascertain whether there was oil or gas under them. In our opinion, when a citizen of the United States, in good faith enters upon public land for the purpose of discovering oil or gas, takes possession of the land by placing a caretaker thereon while he is taking proper steps to obtain the material necessary for the work of constructing the camps, enters into contracts for drilling, acting as expeditiously as possible in erecting camps and preparing for the drilling, spends money and enters into contracts whereby he becomes liable for sums of money to prosecute the work leading to the discovery of

43. Compare *Phillips v. Brill*, 17 Wyo. 26, 95 P.856 (1908); *Whiting v. Straup*, 17 Wyo. 1, 95 P.849 (1908).

44. *United States v. Grass Creek Oil & Gas Co.*, 236 F.481 (8th Cir. 1916).

oil or gas, and as soon as it is possible, by the exercise of proper diligence, begins the work of drilling, and continues it diligently and expeditiously until oil is discovered in commercial quantities, he is within the protection of this proviso.⁴⁵

Absent such a proviso in a Congressional reservation, or in an Executive order withdrawing land from mineral entry under the implied powers of the President,⁴⁶ subject only to valid existing claims, the Interior Department would find no difficulty in treating the license to explore as revoked, and the diligent prosecution of work toward a discovery as unavailing.⁴⁷

The opposite sort of situation arose in *Le Clair v. Hawley*,⁴⁸ where land segregated from entry as part of an Indian reservation was ceded to the United States and opened to entry under the mining laws by Act of Congress⁴⁹ after the expiration of sixty days from the date of a Presidential proclamation if undisposed of under other disposition provisions of the Act during that period. Entry and occupation under the mining laws was forbidden during that period, but Hawley went on the land anyway, found a lode and stood by on and near it, ready to locate a mining claim when the sixty days had expired. He located his claim on the sixty-first

45. *Id.* at 487.

46. Recognized in *United States v. Midwest Oil Co.*, 236 U.S. 459 (1914), as an inherent power acquiesced in by Congress and separate from that authorized by the Pickett Act of 1910, 43 U.S.C. § 141 (1964).

47. See, e.g., *United States v. Foster*, 65 Interior Dec. 1, 5-6 (1958), where the Deputy Solicitor said, in connection with contest charges filed against a mining claim by the Government, that it is unnecessary for the claimant to show discovery prior to the date of the location of the claims. Under the mining laws, one may take possession of vacant public land open to location under those laws and, after filing notice of location, retain that possession against all except the Government while he is in diligent prosecution of his efforts to discover valuable minerals therein. While he is in possession of the land, he is not regarded as a trespasser because he is on the land with the tacit consent of the Government. However, when the Government withdraws that consent, either by withdrawing the land from the operation of the mining laws or by the institution of adverse proceedings against the claims, the locator must show that he has made a discovery of valuable mineral deposits within the limits of the claim in order to retain his possession. When the Government withdraws the land, a discovery after the withdrawal will not serve to validate the claim. However, when adverse proceedings are instituted against a claim involving land which remains open to the operation of the mining laws, discovery may be proved, even though that discovery may have been made after adverse proceedings have been started and such a discovery will permit the locator to retain possession of the land, all else being regular, and in the absence of a withdrawal of the land in the interim.

48. 18 Wyo. 23, 102 P.853 (1909).

49. Act of March 3, 1905, ch. 1452, 33 Stat. 1016.

day, reckoning the day of the proclamation as the first day (on the sixtieth day, however, if the day of the proclamation were not included in the calculation), and Le Clair located the next day. The Court held the first location to have been made after the expiration of the sixty days, and good against Le Clair, despite the "occupation" by Hawley prior to location. Had the *location* been made before the ground was open to appropriation, however, Hawley would have been premature and his location void.⁵⁰

The question of whether mineral lands may be appropriated, then, depends on whether they are open to entry at the time of the acts of location;⁵¹ if open, and vacant and unoccupied,⁵² when a locator initiates his claim, he will be protected⁵³ while proceeding toward a discovery with reasonable diligence, and his possession will be protected to the extent of the surface claimed⁵⁴ against attempted locations initiated in trespass against his right to complete his location by making the requisite discovery.⁵⁵ When a discovery has been made, and the acts of location completed, the ground is segregated against other entries,⁵⁶ including those by persons who attempted location earlier, but made no discovery and failed to maintain possession and prosecute their work with reasonable diligence.⁵⁷ The rules are consistent

50. See *Kendall v. San Juan Silver Mining Co.*, 144 U.S. 658 (1892); compare *Mandell v. Great Lakes Oil & Chem. Co.*, 150 Cal. App. 2d 621, 310 P.2d 498 (1957), which accords with the position adopted in *Le Clair* by the Wyoming Supreme Court; cf. *Griffith v. Noonan*, 58 Wyo. 395, 133 P.2d 375 (1943).

51. *Le Clair v. Hawley*, 18 Wyo. 23, 102 P.853 (1909).

52. *Phillips v. Brill*, 17 Wyo. 26, 95 P.856 (1908); *Whiting v. Straup*, 17 Wyo. 1, 95 P.849 (1908).

53. Compare *Van Horn v. State*, 5 Wyo. 501, 40 P.964 (1895), where an individual was prosecuted under the Law of Mar. 12, 1886, ch. 115, § 18, [1886] Wyo. Laws 446 (repealed and reenacted by Law of Mar. 6, 1888, ch. 40, §§ 10, 26, [1888] Wyo. Laws 86 and 91, now codified as Wyo. STAT. § 30-21 (1957)), for destroying a building on a mining claim. The court held that the validity of the underlying mining claim need not be established by the State, it being no defense that the location, if located in good faith, might lack a discovery. It is, of course, the destruction that is proscribed, but the principle of good faith location and occupation is the same as in the cases involving diligent prosecution of work toward a discovery.

54. *Phillips v. Brill*, 17 Wyo. 26, 95 P.856 (1908); accord, *Adams v. Benedict*, 64 N.M. 234, 327 P.2d 308 (1958).

55. *Phillips v. Brill*, 17 Wyo. 26, 95 P.856 (1908); cf. *Bergquist v. West Virginia-Wyoming Copper Co.*, 18 Wyo. 234, 106 P.673 (1910).

56. *Bergquist v. West Virginia-Wyoming Copper Co.*, 18 Wyo. 234, 106 P.673 (1910); *Le Clair v. Hawley*, 18 Wyo. 23, 102 P.853 (1909); *Slothower v. Hunter*, 15 Wyo. 189, 88 P.36 (1906); *Wright v. Town of Hartville*, 13 Wyo. 497, 81 P.649, 13 Wyo. 497, 82 P.450 (1905); *Columbia Copper Mining Co. v. Duchess Mining, Milling & Smelting Co.*, 13 Wyo. 244, 79 P.385 (1905).

57. *Whiting v. Straup*, 17 Wyo. 1, 95 P.849 (1908).

with the object of the mining laws, which are intended to promote the exploration and appropriation of the public mineral lands,⁵⁸ and designed to reward the diligent.⁵⁹

FORM OF LOCATION:

LODE AND PLACER CLAIMS AND THE GLOBE CASE

The Federal mining law⁶⁰ provides for the location of mining claims "upon veins or lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper, or other valuable deposits," and also for the location of "claims usually called 'placers,' including all forms of deposit, excepting veins of quartz, or other rock in place."⁶¹ These two provisions, taken together, embody the statutory scheme for classifying lands into two categories and creating distinct methods for the appropriation of each.⁶² Judge Pickett of the Tenth Circuit Court of Appeals described the classification as follows:⁶³

Thus it clearly appears that the plan of this legislation was to provide two general methods of purchasing mineral deposits from the United States—one by lode mining claims where the valuable deposits sought were in lodes or veins in rock in place, and the other by placer mining claims where the deposits were not in veins or lodes in rock in place, but were loose, scattered, or disseminated upon or under the surface of the land.

58. *Id.*

59. 30 U.S.C. §§ 23, 28 (1964). *Cf. Ranchers Exploration & Dev. Co. v. Anaconda Co.*, 248 F. Supp. 708 (D. Utah 1965).

60. 30 U.S.C. § 23 (1964).

61. 30 U.S.C. § 35 (1964).

62. Compare 30 U.S.C. § 37 (1964), providing for situations where lodes are found or known to exist within placer claims. See *Inyo Marble Co. v. Loundagin*, 120 Cal. App. 298, 7 P.2d 1067 (1932), and *F. TRELEASE, H. BLOOMENTHAL & J. GERAUD*, *supra* note 23, at 602-613. At least one court has confused the statutory language in 30 U.S.C. § 37 (1964) regarding "a vein or lode . . . known to exist within the boundaries of a placer claim" or "a vein or lode included within the boundaries" of a placer claim, with the "possession of the vein or lode claim" located thereon. See *Bowen v. Chemi-Cote Perlite Corp.*, 423 P.2d 104 (Ariz. Ct. App. 1967). But the erroneous decision in that case, in which both the lode locator and the subsequent placer locator were locating the ground for the same mineral deposit, was reversed in *Bowen v. Chemi-Cote Perlite Corp.*, 432 P.2d 435 (Ariz. 1967), the Arizona Supreme Court refusing to equate "known lode" with "known lode claim." Both decisions are unsatisfactory in other particulars, but indicate the confusion in concepts to which the mining law is so susceptible.

63. *Titanium Actynite Industries v. McLennan*, 272 F.2d 667, 670 (10th Cir. 1959). See also *Webb v. American Asphaltum Mining Co.*, 157 F. 203 (8th Cir. 1907); *Henderson v. Fulton*, 35 L.D. 652 (1907); 2 C. LINDLEY, MINES § 323 (3d ed. 1914).

Since the statute presents alternatives to the prospective miner, it is apparent that he is faced with making a choice between a lode location and a placer location for the particular mine which he proposes to develop. There is good authority to the effect that the miner makes this choice at his peril because the discovery of a mineral deposit which falls within the statutory classification of a lode will not support a placer location and vice versa.⁶⁴

*San Francisco Chem. Co. v. Duffield*⁶⁵ was an action brought by a junior lode locator in support of his adverse to a patent application made by a senior placer locator. Predecessors of the defendant San Francisco Chemical Company had located placer claims for phosphate deposits lying in horizontal beds in Uinta County, Wyoming, in 1905. The plaintiff Duffield located the same ground as lodes in 1907. Both the plaintiff and the defendant fully complied with the requirements of law as to the acts of location. The defendant applied for a patent for its placer claims, which prompted the suit. On trial of the case the district court for Wyoming entered decrees for the plaintiff and the Chemical Company appealed, contending that it was prior in time to the plaintiff, and that the plaintiff was a trespasser and could therefore have initiated no rights in the public domain. The Company further contended that the trial court erroneously considered whether the public domain is locatable as lodes or as placers for the reason that such a decision is within the exclusive jurisdiction of the land department. The Eighth Circuit Court of Appeals affirmed the decree for the plaintiff, holding that horizontal phosphate beds were locatable only as lodes and that the defendant's prior location of the ground as placers was a mere nullity. The court first decided that the trial court properly inquired into the manner in which the parties located and that the court had jurisdiction to decide whether the parties' locations were made upon faulty choices of the alternatives of lode and placer.⁶⁶ The court

64. *Cole v. Ralph*, 252 U.S. 286 (1920).

65. 201 F.830 (8th Cir. 1912).

66. *Compare Wright v. Town of Hartville*, 13 Wyo. 497, 81 P. 649, 82 P. 450 (1905), where the Wyoming Supreme Court held that the state courts are without jurisdiction to determine, an adverse proceeding under what is now 30 U.S.C. § 30 (1964) (since amended), a dispute between a lode claimant and a town claiming the same ground under a townsite patent, saying, *Id.*, 81 P. at 650:

then went on to hold that phosphate lands lying in horizontal beds were not locatable as placers. The court noted that the rock in question was found in horizontal veins or blanket veins, in place, having a dip and a strike, and further that the veins were firmly fixed in the mass of the mountain with well defined lines of demarcation between overlying and underlying country rock. The court was persuaded in part that the phosphate rock was a lode by reason of the fact that it is mined by blasting, that is, in the same manner as other veins of ore are mined. Having decided that the mineral was properly locatable as a lode, the court concluded that the defendant's prior placer claims were invalid and that they initiated no right to possession in the defendant's predecessors. Therefore, the court determined that the plaintiff rightfully entered and located the lands as lodes.

In the later case of *Duffield v. San Francisco Chem. Co.*,⁶⁷ it was said that any scheme to locate lodes as placers is a fraud on the government and the locations were void, both as against the government and as against a third party attempting to make a valid lode location. This has also been the position of the Interior Department.⁶⁸

It has been said that a mistake by the miner in choosing the form of location should not be fatal, and it does seem unfair to fault a locator who makes an honest mistake in selecting the form of location for his mineral discovery.⁶⁹ Although it is doubtful that a wrong choice would support an application for patent, the *American Law of Mining* writer suggests that as against subsequent locators the first locator, even though he has made an improper form of location, may

The entire disposal of the public lands of the United States under the laws enacted by Congress is placed in the Land Department of the government. This department is the court of last resort in determining questions of fact between contesting claimants with respect to their rights in acquiring any of the public lands. The rule is universal that when the question of the character of the land is in issue it is one for the Land Department to decide, and not for the courts. We cannot conceive of a court determining the right of possession, as in the case at bar, between a town site patentee and a mining claimant, without first arriving at a decision as to the character of the land involved.

67. 205 F.480 (9th Cir. 1913).

68. *Helen v. Wells*, 54 Interior Dec. 306 (1933). The reason, of course, is that lode claims must be purchased at the rate of \$5.00 per acre of surface ground located, 30 U.S.C. § 29 (1964), while the surface ground located in a placer claim can be purchased for \$2.50 per acre. 30 U.S.C. § 37 (1964).

69. See 1 AMERICAN LAW OF MINING § 4.23 (1960).

be favored by the courts.⁷⁰ If such a tendency in the courts does exist, it has not been often expressed as a principle. However, in one remarkable case a state court upheld a senior lode claim located on placer ground against the claim of subsequent placer locators even though the court was aware that the lode locator had made no proper discovery.⁷¹

Whatever the risk of improper selection of the form of location may be, it is important to make a correct choice in order to secure the maximum rights available under the mining laws. Because of differences in the nature of the estates granted and the rights received under the two forms of location, the miner should select that form which comports with the statutory classification of the mineral deposit and which will provide operating rights best suited to his proposed method of mining. He should not only be aware of the requirements for the validity of his choice, but he should be aware of the different consequences which flow from his choice. The statutes express certain differences in the size of the area obtainable,⁷² the price to be paid per acre,⁷³ and in physical requirements for location procedure.⁷⁴ Other substantial differences exist. Extralateral rights may appertain to lode locations, but not to placer locations.⁷⁵ Another important consequence of the choice between lode or placer location is that different rules have been applied to each in the situation where excess surface land has been claimed. In the case of lode locators it has been held that a subsequent locator may measure the ground, cast off and locate the excess.⁷⁶ As to placer locations on unsurveyed lands, it has been held that a locator of excessive area has a right to select that part which is to be cast off and that until he has been made aware of the existence of such excess and has been afforded a reasonable time to exercise his right of selection, no relocation of any part of the ground will be permitted.⁷⁷

70. *Id.*

71. See *Springer v. Southern Pac. R.R.*, 67 Utah 590, 248 P.819 (1926).

72. Compare 30 U.S.C. § 23 (1964) with 30 U.S.C. § 35 (1964).

73. See *supra* note 68, 30 U.S.C. § 37 (1964).

74. Compare WYO. STAT. §§ 30-1, 30-3 (1957), with WYO. STAT. § 30-10 (1957).

75. See 2 C. LINDLEY, *supra* note 63, § 619.

76. *Flynn Group Mining Co. v. Murphy*, 18 Idaho 266, 109 P.851 (1910). But see the extraordinary decision in *Velasco v. Mallory*, 427 P.2d 540 (Ariz. App. 1967).

77. See 2 C. LINDLEY, *supra* note 63, § 362, at 828-830.

*Globe Mining Co. v. Anderson*⁷⁸ illustrates the importance of the determination of the lode or placer nature of mineral land. The plaintiff Globe Mining Company relied on a discovery of uranium within sandstone layers in the Wind River formation, a coarse sandstone lying in a relatively horizontal bed. The sandstone outcropped over or along a ridge covered by claims located by plaintiff's predecessors. The uranium seems to have occurred in a "disseminated uranium deposit of epigenetic origin . . ." That is, the deposits of uranium were "carried into the formation by some solution after the host rock was laid,"⁷⁹ or "deposited epigenetically, i.e., by mineral in solution (a) permeating between grains and crystals of the country rock, (b) replacing certain existing formations, and (c) filling cracks, crevices and pore spaces—after the surrounding rock had been laid down," resulting in the deposit of an "ill defined or formless" mass.⁸⁰ Plaintiff's claims were located as lode claims. At trial plaintiff introduced samples taken from some of them. The parties and the trial court both assumed that the lode law was applicable to the deposit. The precise question was whether plaintiff's purported discovery was a proper lode discovery, i.e., of valuable mineral "in a lead, lode, ledge or vein or rock in place."⁸¹ Finding that the evidence did not show that plaintiff's samples came from a vein or rock in place, the trial court found against the plaintiff on the point. On appeal, the Wyoming Supreme Court noted that no question was raised by the parties as to the trial court's interpretation of the necessity for showing a discovery of mineral in rock in place and concluded, therefore, that the appeal did not require any detailed definition of the word lode.⁸² The court concluded that the uranium deposits were

78. 78 Wyo. 17, 318 P.2d 373 (1957), noted in 13 Wyo. L.J. 43 (1958).

79. 318 P.2d at 377n.4.

80. *Id.* at 378n.4.

81. *Id.* at 376.

82. The word has justifiably been the subject of some confusion. Title 30 U.S.C. § 23 (1964) refers to "mining claims upon veins or lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper, or other valuable deposits." (Emphasis added.) Title 30 U.S.C. § 26 (1964) refers to "mining locations made on any mineral vein, lode, or ledge." (Emphasis added.) These are the only statutory definitions. Yet they are determinative of whether a given deposit is locatable as a lode and, if so, what constitutes a valid lode discovery. Thus in *Jefferson-Montana Copper Mines Co.*, 41 Interior Dec. 320 (1912), it was held that a lode discovery must be (1) of a vein or lode of rock in place (2) bearing valuable mineral in the rock. In *United States v. Ohio Oil Co.*, 240 F. 996 (D. Wyo. 1916), Judge Riner said that no valid location of a lode claim may be made until

locatable as lodes and that plaintiff, relying on a discovery of uranium within the sandstone layers, was obligated to identify its discovery samples as having been taken therefrom, *i.e.*, from a "vein or rock in place." On this basis the court found that the plaintiff's evidence showed valid lode discoveries on certain claims but not on others and it accordingly reversed the trial court's decision as to those claims on which a discovery was shown.

As the court properly observed, no issue was raised in *Globe* as to the appropriate form of location of uranium claims such as those there considered. The parties and trial court assumed the ground was locatable as lodes. But it is apparent that had it been contested and decided that the ground was placer ground, a different issue would have been

after there has been a discovery of a vein or lode containing mineral within the limits of the claim. He went on to say that since mere indications of mineral do not suffice, and since finding mineral itself is not a discovery, but a mere indication, a true lode discovery must be of mineral in rock in place as distinguished from float rock.

Some ambiguity exists in the federal statutes concerning just what it is that must be "in place." At one time the rule that a lode discovery had to be of a (1) vein or lode of rock in place (2) bearing valuable mineral in the rock apparently caused some authorities to believe that deposits of minerals like limestone were peculiarly placer in nature and should be located as placers. Lindley stated:

Lands containing limestone used for fluxing in metallurgical operations, or for the purpose of manufacturing the lime of commerce, have been held to be subject to entry under the placer laws. Deposits of this character although essentially in place, are locatable under the placer laws if they do not contain other mineral or valuable deposits. They are considered "rock in place" but not a "vein or lode of quartz or other rock in place bearing gold . . . or other valuable deposits."

2 C. LINDLEY, MINES § 421 (3d ed. 1914): *citing* Henderson v. Fulton, 35 Interior Dec. 652 (1907), Roy McDonald, 40 Interior Dec. 7 (1911).

Lindley's view was probably correct at the time. Henderson v. Fulton so indicates and even suggests that marble and limestone may be claimed only by placer location. In that case the Secretary had difficulty with the language of the lode statute "rock in place bearing . . . valuable deposits." He said that a marble deposit was clearly in place, but in no sense did it bear mineral. It was not a host rock, but the mineral itself. He went on to say that the lode statute contemplated lode locations either for the enumerated valuable minerals, gold, silver, etc., or for some host rock in place which bore those minerals. Hence, marble, neither being one of the enumerated minerals nor bearing any of them, had to be located as a placer, notwithstanding its occurrence in lode or ledge formation. An earlier departmental ruling in *Shepherd v. Bird*, 17 L.D. 82 (1893), had similarly suggested that limestone was open only to placer entry. But subsequently in two departmental rulings the government reversed Henderson v. Fulton and *Shepherd v. Bird* to the extent that they required such deposits to be located as placers. In *Big Pine Mining Corp.*, 53 Interior Dec. 410 (1931), the Interior Department said that even if the limestone there considered had occurred in deposits which were feasible to mine, the evidence showed that they were in lode formation, and because they had been located as placers, the claims were invalid. One year later, in *Vivia Hemphill*, 54 Interior Dec. 80 (1932), the Department announced the rule which exists today. Limestone, if present in good quality, is a mineral. If it occurs in lode or vein or ledge formation it is locatable as a lode claim. If it occurs in loose or scattered form, it is locatable as a placer.

presented as to plaintiff's discovery, for there is no requirement that a placer discovery be made of mineral in rock in place.⁸³ But, because of the posture of the case, no readily apparent basis existed for the court to examine what it undoubtedly considered a crucial threshold question—are uranium deposits of the type involved in *Globe* to be located as lodes or as placers?

Courts are ordinarily reluctant to express their views as to matters neither raised by the parties nor necessary to decision. Yet, the *Globe* court detected in the unraised threshold question an important example of the increasingly recurrent difficulties experienced in recent years by miners who must attempt to comply with the mining law in the context of physical and economic facts unanticipated by it. Little difficulty confronted the Nineteenth Century miner who set out to locate a lode claim upon a vein of gold or silver lying exposed or near the surface with a readily discernible strike and dip. Lode claims were defined by Congress with his situation in mind. But how are the fundamental, definitional problems of a modern mining industry dealing with low grade, amorphous mineral deposits, which often occur at considerable depth, to be resolved? As the court observed in *Globe*:⁸⁴

A commonly used definition of a lode is "a body of mineral, or mineral-bearing rock, within defined boundaries in the general mass of the mountain." 1 Lindley on Mines, 3d ed., p. 656. This definition has been most often applied to discussions of primary deposits of minerals. It is significant that at the time of the enactment of R.S. § 2320 (1878) those minerals in which this Nation was most interested

83. See 30 U.S.C. § 35 (1964); In *United States v. Ohio Oil Co.*, 240 F. 996 (D. Wyo. 1916), a case involving oil placers, Judge Riner distinguished between lodes and placers. He stated that the term "veins" or "lodes" means lines or aggregations of mineral imbedded in quartz or other rock in place, whereas the term "placer" applies to ground within definite boundaries which contains mineral or valuable deposits not in place. It was argued in that case that no location of a petroleum placer could be made until the discovery of the vein or deposit from which the oil is drawn was shown. Pointing out that a placer claim may be located for the mineral rather than for mineral in rock in place, Judge Riner rejected the notion, spawned in *Bay v. Oklahoma Southern Gas, Oil & Mining Co.*, 13 Okla. 425, 73 P.936 (1903), that there must be a discovery in the case of oil within the oil bearing sands. The holding would of course be applicable to placer claims for minerals other than oil, and it points up the distinction between lodes and placers generally.

84. 318 P.2d 373, 378n.4. (1957).

often occurred in fissures and along weak lines in rock. For that reason, many decisions have emphasized the fact that a vein or lode must have "well defined boundaries." Some courts recognized that many ore deposits possessed all the essential attributes of lodes even though they did not have well defined boundaries in the original sense. However, the words "well defined boundaries" became so firmly ensconced in the legal vocabulary that they often haunted the decisions. Today, the economic necessity of modern civilization has created a need for minerals which by geologic chance frequently occur in ill defined or formless masses.

Then the court, in an extraordinary display of judicial responsiveness to the presence of a difficult, but unlitigated question, chose to offer its guidance in the troublesome area:⁸⁵

Uncertainty presently exists regarding the type of claim by which a disseminated uranium deposit of epigenetic origin should be located Ambiguity in legal interpretations regarding the location of mining claims for this apparently vital mineral may be more than merely frustrating and expensive to well-intentioned prospectors. It may seriously retard a crucial industry by undue litigation, ultimately forcing a new method of mining development to be adopted by legislative action—such as the withdrawal of public land from mineral entry and the reservation of same for acquisition by lease, as is presently done with petroleum. Whether or not this might be desirable is not for judicial decision but is a matter for legislative determination. Meanwhile, there could be irreparable loss, both public and private. Accordingly, we would perhaps be remiss if we did not express our views on the subject.

The lode-placer distinction with which the court thus decided to come to grips has had a history of complexity beginning with the very early cases decided following enactment of the mining law.⁸⁶

The definition of the terms "lode" and "placer" as they appear in the Federal statutes are mutually exclusive.

85. *Id.* at 377-378n.4.

86. Difficulties with the problem continue unabated in the recent cases. *See, e.g., Bowen v. Chemi-Cote Perlite Corp.*, 423 P.2d 104 (Ariz. App. 1967), *rev'd*, 432 P.2d 435 (Ariz. 1967). *See also* Note, 15 Wyo. L.J. 176 (1961).

Lode deposits are said to occur in veins, lodes, or ledges.⁸⁷ Placer deposits are all deposits other than those occurring in veins, lodes, or ledges.⁸⁸ A placer has been defined "as a deposit of valuable mineral found in particles in alluvium or diluvium, or beds of streams."⁸⁹ In *Reynolds v. Iron Silver Mining Co.*, the court said:⁹⁰

Placer mines, those said by the statute to include all other deposits of mineral matter, are those in which this mineral is generally found in the softer material which covers the earth's surface, and not among the rocks beneath.

In *Northern Pac. R.R. v. Soderberg*, it said,⁹¹ "Placers are merely superficial deposits occupying the beds of ancient rivers or valleys, washed down from some vein or lode." In contrast, the terms lode, vein or ledge, which are used more or less synonymously in the mining law, are generally thought to refer to mineral deposits which are found "in place", i.e., in the place of their source or origin. In *Eureka Consol. Mining Co. v. Richmond Mining Co.*,⁹² Dr. Raymond, testifying as an expert witness, explains the origin of the word "lode" as follows:⁹³

The miners made the definition first. As used by miners, before being defined by any authority, the term "lode" simply meant that formation by which the miner could be lead or guided. It is an alteration of the verb "lead", and whatever the miner could follow, expecting to find ore, was his lode. Some formation within which he could find ore, and out of which he could not expect to find ore, was his lode.

The classic judicial definition of the term lode is found in the *Eureka* case, in which Mr. Justice Field⁹⁴ said of the

87. 30 U.S.C. § 26 (1964).

88. 30 U.S.C. § 35 (1964). The term placer was the name given by the Spaniards to auriferous gravels. It has become a generic term in which all forms of deposit other than those occurring in lodes are popularly included. See 2 C. LINDLEY, MINES, § 419, at 983 (3d ed. 1914).

89. *Id.*

90. 116 U.S. 687, 695 (1886).

91. 188 U.S. 526, 532 (1903).

92. 4 Sawy. 302, 9 Morr. Min. Rep. 578, 8 F.Cas. 819 (No. 4548) (C.C.D. Nev. 1881), *aff'd*, 103 U.S. 839 (1881).

93. As quoted in 1 C. LINDLEY, MINES § 289, at 641 (3d ed. 1914). For a similar use of the word "lead" see *Sherlock v. Leighton*, 9 Wyo. 297, 63 P.580 (1901).

94. He was then Judge of the Circuit Court for the District of Nevada.

lode and placer statutes:⁹⁵

Those acts were not drawn by geologists or for geologists; they were not framed in the interest of science, and consequently with scientific accuracy in the use of terms. They were framed for the protection of miners in the claims which they had located and developed, and should receive such a construction as will carry out this purpose. The use of the terms "vein" and "lode" in connection with each other in the Act of 1866, and their use in connection with the term "ledge" in the Act of 1872, would seem to indicate that it was the object of the legislator to avoid any limitation in the application of the Acts, which a scientific definition of any one of these terms might impose. It is difficult to give any definition of the term as understood and used in the Acts of Congress, which will not be subject to criticism. A fissure in the earth's crust, an opening in its rocks and strata made by some force of nature, in which the mineral is deposited, would seem to be essential to the definition of a lode, in the judgment of geologists. But to the practical miner, the fissure and its walls are only of importance as indicating the boundaries within which he may look for and reasonably expect to find the ore he seeks. A continuous body of mineralized rock lying within any other well-defined boundaries on the earth's surface and under it, would equally constitute, in his eyes, a lode. We are of opinion, therefore, that the term as used in the Acts of Congress is applicable to any zone or belt of mineralized rock lying within boundaries clearly separating it from the neighboring rocks.

Notwithstanding the imposing authority of these definitions, it has in recent years come to be recognized that not all mineral deposits occur in the simple forms envisaged by the draftsmen of the statutes.⁹⁶ The statutory and early judicial definitions were essentially simplistic. The terms

95. The *Eureka* definition is cited and quoted virtually everywhere the question is discussed. In *Iron Silver Mining Co. v. Cheesman*, 116 U.S. 530, 533-34 (1886), Mr. Justice Miller said of it:

This definition has received repeated commendation in other cases, especially in *Stevens v. Williams*, 1 McCrary 480, 488 where a shorter definition by Judge Hallett, of the Colorado Circuit Court, is also approved to wit: "In general, it may be said, that a lode or vein is a body of mineral, or mineral body of rocks, within defined boundaries, in the general mass of the mountain."

96. In *Moulton Mining Co. v. Anaconda Copper Mining Co.*, 23 F.2d 811, 814 (9th Cir. 1928), the court said:

We are guided by the well-recognized knowledge that in the complexities of lodes, with indefinite and irregular walls, while the mineral

were not scientific terms. They were miner's terms. A lode was simply a "lead." Consistent therewith, a lode was usually defined as a body of mineral, or mineral-bearing rock, within defined boundaries, in the general mass of the mountain.⁹⁷ The definition was adequate and workable for it was within the understanding of the miner and was readily applicable to the types of deposits generally found and claimed at the time. In short, it made common sense to the miner.⁹⁸

The difficulty with the "common sense" approach to the definition of a lode becomes apparent upon reading the facts presented in the *Globe* case. The uranium deposits simply did not conform with the various alternatives of configuration generally known to the miners by whom and for whom the old definitions were made. The Wyoming court, noting

association of rock in place is an essential element in the definition, the nature of the material, the form of the deposit, and the character of the boundaries are often variant . . . (Citations).

Even as early as 1914 Lindley remarked:

Of course, there are irregular mineral deposits departing widely in their characteristics from the typical or ideal vein which seems to have been in the mind of the framer of the Act of 1872 . . . [in] my opinion, great difficulty will be experienced in any attempt to apply the existing law to them.

1 C. LINDLEY, MINES, § 308, at 683 (3d ed. 1914).

97. See *Hyman v. Wheeler*, 29 F. 347 (C.C.D. Colo. 1886), citing the *Eureka* case.

98. In a circular which was issued to surveyors-general, registers and receivers by Commissioner Drummond of the General Land Office in 1873, the Commissioner concluded that to determine whether a mineral deposit is a lode, one should look to the statute rather than to the definitions of geologists, and that the statute is to be construed in the light of common usage of the "lode" or "vein" rather than upon the basis of scientific definition. See *Henderson v. Fulton*, 35 Interior Dec. 652 (1907); 1 C. LINDLEY, MINES § 299, at 667-668 (3d ed. 1914). The Ninth Circuit Court of Appeals said in *Duffield v. San Francisco Chem. Co.*, 205 F. 480 (9th Cir. 1913), that a miner need not know the origin or geologic history of the area. If to a miner the mineral deposit is one which is in rock "in place" within the general mass of the mountain, then the purpose and requirements of the statute are met. In *McMullin v. Magnuson*, 102 Colo. 230, 78 P.2d 964 (1938), the Colorado Supreme Court was faced with the question of whether disputed ground was subject to a lode location or whether a subsequent placer locator might prevail upon the theory that the pegmatite contained in the ground was locatable only as a placer. The placer locators argued that pegmatite, because of the process of its creation, i.e., by the projection of molten rock material originating within the earth into its present position where it later cooled and solidified, is not a vein or lode in a strict geological sense, but is a dike, or even a mineralized portion of a mass of country rock which is subject to location only under the placer laws. The court rejected the argument:

Interesting as is this theory, and without reference to its soundness from a geological standpoint, its weakness as an argument here lies in the circumstance that by no statute or judicial pronouncement is the origin or method of formation of a mineral body controlling in determining whether the ground is subject to location as a lode or placer. 102 Colo. at 239, 78 P.2d at 969 (1938).

Accord, *Jones v. Prospect Mtn. Tunnel Co.*, 21 Nev. 339, 31 P.642 (1892).

(1) that fairly uniform geological definitions are available,⁹⁹ and (2) that the earlier decisions relied on rigid, non-technical definitions,¹⁰⁰ concluded:¹⁰¹ "such rigid definitions cannot be of universal application but rather must be tempered by scientific findings as to the nature of the deposits under consideration." If the court's statement appears to be contrary to Mr. Justice Field's declaration that¹⁰² "those acts were not drawn by geologists or for geologists; they were not framed in the interest of science, and consequently with scientific accuracy in the use of terms. They were framed for the protection of miners . . .," a moment's reflection should reveal that the Wyoming court has done no more than recognize that the modern miner is of necessity partly scientist and partly miner. Unlike its historic predecessor, today's mining company employs teams of geologists, and the art of prospecting has become the science of prospecting. It is, therefore, appropriate that the classic distinction between lode and placer should be made upon criteria "tempered by scientific findings as to the nature of the deposits under consideration."¹⁰³

99. 318 P.2d at 378n.4:

Such definitions by various authors writing on geological subjects vary to some extent but in general are remarkably uniform, and we think may be fairly summarized as: A *placer* is a deposit of heavy minerals concentrated mechanically; a *vein* is a deposit of minerals formed in weaknesses in the earth's crust either by injection of molten rock or by water solution moving through openings and depositing minerals in and along such openings or in replacement of materials already there; a *lode* is a portion of the earth containing several veins spaced closely enough together so that all of them together with the intervening rock can be mined as a unit.

See generally Longwell and Flint, *Introduction to Physical Geology*, 1955, p. 382; Emmons, Thiel, Stauffer, and Allison, *Geology: Principles and Processes*, 4th ed., p. 597; and Longwell, Knopf and Flint, *Physical Geology*, 3rd ed., p. 531.

100. 318 P.2d at 378n.4:

These geological definitions indicate that the basic characteristic of a vein is the origin of the deposit contained therein. However, the earlier decisions usually dealt with minerals which by nature tended to form largely in cracks and crevices so that courts and administrative agencies found no occasion to consider the origin of the mineral as important but instead relied entirely on its form as being confined within narrow, definite boundaries. They often used such rigid definitions of lode as "mineral lying within well defined seams or fissures in the surrounding rock," 36 Am. Jur., *Mines and Minerals* § 70, or "any zone or belt of mineralized rock lying within boundaries clearly separating it from the neighboring rock," 58 C.J.S. *Mines and Minerals* § 3, at p. 31—sometimes saying, "The critical test is the manner in which the deposit occurs rather than the origin of the deposit," U.S. Gypsum Co., 60 I.D. 24, 25.

101. 318 P.2d at 378n.4.

102. See, *supra* note 95 and accompanying text.

103. See, *supra* note 101.

The *Globe* court correctly noted that under traditional doctrine the critical test for determining whether a deposit was a lode or placer was the manner or form in which it occurs rather than its origin.¹⁰⁴ The test emphasized the form of the deposit and contemplated that a lode would be readily recognized by its confinement within definite boundaries of "country rock." In *Stevens v. Williams*, Judge Hallett said:¹⁰⁵

It is the surrounding mass of country rock; it is that which encloses the lode, rather than the material of which it is composed, which gives it its character. So that, even if it be true, as counsel has stated in the course of their arguments, that this is mere sand, is a loose and friable material, which cannot be called rock, in the strict definition of the word—if that be true, it does not affect the character of the lode. If it were all of that character, it would still be a vein or lode *in place* if the wall of each side, the part which holds the lode, is fixed and immovable.

In *Stevens v. Gill*, he said:¹⁰⁶

The act of congress speaks of veins or lodes *in place*, by which, according to our interpretation, it is required that the vein, or lode, shall be in the general mass of the mountain. It may not be on the surface or covered only by movable parts, called slide, or debris. But if it is in the general mass of the mountain, although the enclosing rocks may have sustained fracture and dislocation in the general movement of the country, it is in place.

These statements have been generally accepted as expository of the law. In addition, it has occasionally been noted that the relative hardness or softness of the surrounding rock is a factor in determining whether or not the mineral embraced is "in place."¹⁰⁷ The courts have expected to find that softer rocks will occur near the surface while harder rocks will occur at greater depth. Thus the combination of depth and hardness of the country rock have been taken as indicators, perhaps not only of the nature of the deposit, but also of the

104. *Citing* U. S. Gypsum Co., 60 Interior Dec. 24, 25 (1947).

105. 1 Morr. Min. Rep. 557, F. Cas. No. 13,414 (C.C.D. Colo. 1879).

106. 1 Morr. Min. Rep. 576, 580, F. Cas. No. 13,398 (C.C.D. Colo. 1879).

107. *Reynolds v. Iron Silver Mining Co.*, 116 U.S. 687, 695 (1886).

ease or difficulty with which it might be mined at the surface by placer methods.¹⁰⁸

It is usually said that mineral-bearing rock is different in kind from the surrounding country rock, but it is clear that such need not be the case.¹⁰⁹ Nevertheless, the chances for a determination of the existence of a lode would seem to be greatly enhanced where the evidence shows that the country rock is barren.

Although much attention has been devoted to the form of the deposit as imposed upon it by the form of the surrounding country rock, much has also been said concerning the character or form of the mineralized zone itself in connection with classifying mineral deposits as lodes or placers. It is most frequently said that the deposit must have "trend" or "continuity."¹¹⁰ Where there has been doubt as to the continuity of the deposit or the existence of a true "body," the courts have sometimes required location for such minerals as placers.¹¹¹

Of course, if the ore body and the surrounding country rock each possess distinguishing characteristics, *i.e.*, if the country rock is barren and embraces a "body" of mineralized rock which itself possesses continuity, there will, of necessity, be a zone of contact between the mineral and the country rock. In ideal form the contact is clearly visible. The standard definitions, of course, describe such an idealized situation. Thus, in *Iron Silver Mining Co. v. Cheesman*, it was said:¹¹² "the term [lode] is applicable to any zone or belt of mineralized rock lying within boundaries *clearly separating* it from the neighboring rock." But it has been held that the contact zone need not be visible and that its presence may be determined by assay and analysis.¹¹³

108. *Titanium Actynite Industries v. McLennan*, 272 F.2d 667 (10th Cir. 1959).

109. *Henderson v. Fulton*, 35 Interior Dec. 652 (1907).

110. *See* *Titanium Actynite Industries v. McLennan*, 272 F.2d 667 (10th Cir. 1959). *See also* *Pepperdine v. Keys*, 198 Cal. App. 2d 25, 17 Cal. Rptr. 709, 715 (1962). Statements of this kind would appear to be merely the reverse of the requirement that the surrounding country rock be barren.

111. *See* *Veale v. Piercy*, 206 Cal. App. 2d 557, 24 Cal. Rptr. 91 (1962), where the court considered a deposit of dolomite, and having found that it occurred in a conglomerate, diffused mass stated that there was no vein or lode and that the proper form of location was placer.

112. 116 U.S. 529, 534 (1886).

113. *Beals v. Cone*, 27 Colo. 473, 62 P.948 (1900); *Henderson v. Fulton*, 35 Interior Dec. 652 (1907).

Three principal factors determinative of the existence of a lode emerge from this considerable body of authorities: (1) the character of the surrounding country rock; (2) the form, trend or continuity of the orebody itself; and (3) the existence of a reasonable definition or boundary between the mineralized zone and the country rock. From one case to the next the factors tend to recede or emerge individually as the facts warrant, making it difficult to assign to them an order of importance. But the foregoing illustrations make clear that courts have tended to concentrate on the mode of occurrence, rather than some intrinsic quality of a mineral deposit which might determine the manner in which it should be located.

The court in *Globe* rejected such "rigid definitions," noting that "the nature of the material, the form of the deposit, and the character of the boundaries are often variant."¹¹⁴ The court said first that structural boundaries are not always necessary to constitute a vein or lode, and then:¹¹⁵

[V]arious portions of a mineral-bearing area coming from the same general source and found to have been created by the same processes of deposit *from solution* constitute a *lode* (rock in place) for the purpose of locating mining claims *even though they may be formless and are not enclosed by definite boundaries*.

Thus, beginning with the premise that the uranium deposits of the type located as lodes in the Wind River formation lack the essential characteristics of rock in place under the usual or historic definitions related to form, continuity and enclosure of ore bodies, the court (1) relied on what it understood to be a scientific definition, according to which the terms vein and lode may include somewhat vaguely defined "deposits" within a general area of mineralization formed, perhaps, by ground water deposition from solution, and (2) declared that such deposits are, therefore, also lodes or rock in place within the meaning of the mining law.

The *Globe* court's premise, rationale and conclusion raise

114. 318 P.2d at 379n.4. It should be noted that the court in referring to the scientific ("geological") definition of placers stated: "A *placer* is a deposit of heavy minerals concentrated mechanically . . ." *Id.* at 378n.4.

115. *Id.*

several interesting questions. First, to what extent was its characterization of such uranium deposits as lodes a substantial departure from prior law? Certainly the classic statements of what constitutes a lode would not appear to permit inclusion of a formless mass without boundaries.¹¹⁶ But, on the other hand, it is demonstrable that the classic definitions have not proved to be so inflexible as to prevent lode locations for other minerals having some if not all the characteristics of the Wind River uranium deposits. Consider, for example, the following description of the horizontal, blanket limestone replacement deposits of the Leadville District, located and upheld as lodes:¹¹⁷

[T]he lower surface is ill-defined and irregular, there being a gradual transition from ore into unaltered limestone, the former extending to varying depths from the surface, and even occupying at times the entire thickness of the blue limestone.

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The material of which they were composed was not a deposit in a pre-existing cavity in the rock, but the solutions, which carried them, gradually dissolved out the original rock material and left the ore or vein material in its place

Notable similarities in the characteristics of the Leadville blanket veins and the deposits of the Wind River formation, such as the horizontal position of the beds, a gradual transition from ore into a zone of little or no mineralization, and, perhaps, the mode of deposition from solution, suggest that these characteristics do not, of themselves, militate against a finding under the familiar legal definitions that the deposits are properly locatable as lodes rather than placers. Locations of the Leadville deposits as lodes were upheld notwithstanding that in some of them at least, the ore was found on the surface or covered only by the superficial mass of slide, debris, detritus, or movable materials distinguishable from the general mass of the mountain.¹¹⁸ What was crucial to their lode character was that the beds themselves were found to lie in

116. See the quotation from *Iron Silver Mining Co. v. Cheesman*, *supra*, note 112, emphasizing the requirement of a body of mineral within defined boundaries; cf. 1 C. LINDLEY, *supra*, note 96.

117. EMMONS, *GEOLOGY AND MINING INDUSTRY OF LEADVILLE*, at 375, 378, quoted in 1 C. LINDLEY, *MINES* § 300, at 670 (3d ed. 1914).

118. 1 C. LINDLEY, *MINES* § 300, at 669 (3d ed. 1914).

fixed position in the general mass of country rock.¹¹⁹ They were thus "in place."¹²⁰ It is submitted that the same might be said of the Wind River formation, generally, so that portions of the formation, *to the extent that they are mineralized*, might accurately be classified as lodes, whatever their mode of deposition.¹²¹ As against the objection that the mineralized portions of the formation are formless and without ascertainable boundaries, two solutions appear. First, it was suggested in the *Ula Uranium*¹²² case that the boundary of the deposit may be fixed by the impoverishment of the mass beyond the limits of profitable extraction. This solution appears to be a practical one for its criterion is one which the miner himself is vitally interested in determining.¹²³ Second, the depth in the Wind River formation at which ore is found, or, at least, above which no ore is found has apparently been established by reference to the known water table.¹²⁴ This information would seem to have significant value as a boundary marker. Whether such lode indicators were not brought to its attention or whether it merely declined to consider them to be of sufficient importance, the court's adoption of its premise in *Globe* that the nature of the uranium

119. *Id.* § 301, at 671.

120. Excluding the wash, slide, or debris, on the surface of the mountain, all things in the mass of the mountain are *in place*. *Iron Silver Mining Co. v. Cheesman*, 116 U.S. 529, 537 (1886).

121. *Cf.*, *Jones v. Prospect Mtn. Tunnel Co.*, 21 Nev. 339, 351, 31 P.642, 645 (1892). To be compared as to classification of an entire formation as "in place" so as to enable lode characterization of mineral portions thereof are the limestone cases. Lindley observed of limestone beds that they were essentially in place, but that unless they *contained* some other mineral or valuable deposits within the enumeration in 30 U.S.C. § 23 (1964), they were not *mineral bearing* rock in place, and should therefore be located as placers. This was the rule at one time. *C. LINDLEY, supra* note 118, at See also *Columbia Copper Mining Co. v. Duchess Mining, Milling & Smelting Co.*, 13 Wyo. 244, 79 P.385 (1905). But in *Vivia Hemphill*, 54 Interior Dec. 80 (1932), it was announced that limestone beds, to the extent that they were valuable, were themselves mineral and, being in place, were locatable as lodes. *Cf.* *Bowen v. Chemi-Cote Perlite Corp.*, 423 P.2d 104, 117 (Ariz. App. 1967) *rev'd on other grounds*, 432 P.2d 435 (Ariz. 1967).

122. *Ula Uranium, Inc. v. Allen*, Unreported Mem. Dec. (Dist. Ct., San Juan Co., Utah, Oct. 6, 1956), *quoted in Globe Mining Co. v. Anderson*, 78 Wyo. 17, 318 P.2d 373 (1957).

123. It should be noted, however, that profitable extraction is not the test of a discovery of valuable mineral. See, e.g., *Chrisman v. Miller*, 197 U.S. 313, 322 (1905); *Adams v. United States*, 318 F.2d 861, 870 (9th Cir. 1963); *Denison v. Udall*, 248 F. Supp. 942 (D. Ariz. 1965); *United States v. Mouat*, 61 Interior Dec. 289, 293 (1954); *Castle v. Womble*, 19 Interior Dec. 455, 457 (1894). Hence, the *Ula Uranium* test imposes a more stringent requirement on the claimant to show the existence of a lode, than is traditionally required for discovery. The *Ula Uranium* test would be satisfactory if the boundaries were delineated by such impoverishment as would fail to meet the test of *Castle v. Womble* for discovery.

124. *Western Standard Uranium Co. v. Thurston*, 355 P.2d 377 (Wyo. 1960).

deposits required some substantial departure from familiar rules in order to characterize them as lodes seems in retrospect to have been somewhat hasty and unnecessary. Unfortunately, the premise that the deposits were not in lode formation under standard, existing criteria required the court's ultimate conclusion that the deposits were lodes to be based on other criteria. The result may have been the creation of new and equally difficult problems. It would appear from the quoted dictum that a formless mineralized area lacking boundaries may be held or *deemed* to be in place and, hence, a lode if it comes from one general source and was created by one process of deposit from solution. Since, by definition, the resulting constructive "lode" is formless and boundless, one wonders how the lode claimant may show, as the court indicated he must, that his samples come from within the lode, that is, from within rock in place.

There was testimony in *Globe* that at least some of plaintiff's samples were taken from "rock in place," and "mineralization in place." The court found the evidence to be uncontradicted and took it as conclusive proof of plaintiff's discovery of secondary uranium in a *vein* or *rock in place*, as to the particular claims covered in the testimony. But what would have been the result if the lode claimant's evidence had been contradicted? By the nature of the court's characterization of the deposit as formless and without boundaries, it would appear to be impossible to show that samples were taken either from within or without the "lode." A logically consistent extension of the court's conclusion produces equally impossible alternatives for a trial court. Either (1) samples taken from *anywhere* within the lode claim are admissible and suffice to prove a lode discovery (a conclusion the *Globe* court specifically rejected)¹²⁵ or (2) samples must be shown to have been taken from within the boundaries of a lode which by hypothesis has no definite boundaries.¹²⁶

125. 318 P.2d at 377n.3:

Plaintiff thus relying upon the discovery of uranium *within the sandstone layers* was obligated to identify the discovery samples as having been taken therefrom and if he failed to do so could not complain of the court's ruling that the samples were not shown to have been taken from a "vein or rock in place."

126. The court's emphasis that samples must be shown to have been taken from "within the sandstone layers," *supra* note 125, rather than from the lode or deposit itself, implicitly recognizes that what is "in place" is the sandstone formation, not the uranium deposit, and permits the claimant's proof

Other problems may exist as well. Factors not discussed by the *Globe* court may either assist in the lode-placer determination or make it more difficult. An example is the size of the mineralized area. If it is extensive, that fact may indicate that it is locatable as a placer, for the area required to cover an orebody with lode locations has been a matter which has troubled courts considering the question since the *Globe* decision. *Pepperdine v. Keys*¹²⁷ involved a gypsum deposit covering an area of five square miles. The California court took into account the extensive size of the deposit in holding that it should be located as a placer. Similarly, in *Titanium Actynite Industries v. McLennan*,¹²⁸ where the exterior boundaries of the area contested by lode and placer claimants covered eight to ten square miles, the size of the mineralized zone was a factor which the court considered in holding that it was placer ground. The court reviewed the statutes and the definitions set out in the older cases. Then it said:¹²⁹

It is quite evident here that plaintiffs' claim covered no well-defined veins or lode as those terms are ordinarily used, *unless it can be said that the entire area was a single lode*. The record discloses that we are dealing with a large, shapeless, closely grained mass of ore, which, with the possible exception of the disintegrated top portion, is "in place" in the sense that it is in a fixed position. However, the mass extends over several miles of country and has no known dimension of boundaries and none of the ordinary lode characteristics, not even as to the method of recovering the minerals. The theory that the entire mass is a lode in place with undetermined boundaries would create a single lode covering somewhere between 8 to 12 square miles.

to rest on this premise. An explicit recognition that the formation is in place and that mineral taken therefrom is *therefore* taken from a lode would have obviated the initial difficulties with which the court struggled in concluding that disseminated, epigenetic uranium *deposits* were in place, even though formless and without boundaries. The implicit recognition in the form of permissiveness in proof of discovery of mineral in rock in place by reference to its position in the *sandstone* inconsistently concedes that the *deposit*, i.e., the mineralized portions of the sandstone layers, need not be in place, notwithstanding the somewhat lengthy discussion which concludes that the deposit *constitutes* a lode (rock in place). This is in fact what the court indicated in *Western Standard Uranium Co. v. Thurston*, *supra* note 124, at 385, when it said: "The Upper Wind River formation is rock in place and where mineralization occurs it is a lode."

127. 198 Cal. App. 2d 25, 17 Cal. Rptr. 709 (1962).

128. 272 F.2d 667 (10th Cir. 1959).

129. *Id.* at 671 [Emphasis added].

Another example is the relative adaptability of conventional lode and placer methods to mining the deposit. Apparently the *Globe* court had no evidence of this sort before it, but indications one way or another have been and should be persuasive with the courts.¹³⁰

In the final analysis perhaps the choice of the first locator should weigh heavily in the determination, at least as against subsequent locators. We have earlier suggested¹³¹ that it may be unfair to place the burden of mistake on the locator who must initially decide what form of location is appropriate to a given deposit. It seems especially so in cases in which the courts themselves have difficulty in determining the question. One student of the matter has said:¹³²

If the first locator, from knowledge and information available to him at the time of claiming a given area, could reasonably believe that the deposit was lode in character, then his right of possession as against a subsequent placer locator, should be sustained even though there should be a conflict of opinion between other prospectors or between experts as to the character of the deposit.

Of course, there may always be problems connected with the *bona fides* of the first locator's choice,¹³³ but such problems are neither novel nor incapable of resolution in litigation.

The choice of the first locator was not made an issue in *Globe*. Indeed, both parties there assumed the lode law was applicable. But their choice is nevertheless felt in a case where a decision that mineral ground such as that claimed

130. In *United States v. Iron Silver Mining Co.*, 128 U.S. 673 (1888), the Supreme Court noted that placer deposits were those which are not "in place" but are in a loose state and may be collected by washing. Judge Van Fleet in *Duffield v. San Francisco Chem. Co.*, 198 F. 942 (D. Idaho 1912) [reversed on other grounds, 205 F.480] suggested that one of the characteristics of a lode is that it is mined by blasting. In *Titanium Actynite Industries v. McLennan*, *supra*, Judge Pickett noted, "the evidence is without conflict that the minerals can best be mined by traditional placer methods."

131. See text at notes 69-71 *supra*.

132. Note, 15 Wyo. L. J. 176, 178 (1961).

133. We suspect such problems might be more likely to arise where the first locator is an association and has made placer entry under 30 U.S.C. § 36 (1964). The courts' familiarity with problems of this sort is evidenced by a relatively well developed body of law, both statutory and decisional. See 30 U.S.C. § 36 (1964). See generally, *United States v. Chanslor-Canfield Midway Oil Co.*, 266 F.142 (S.D. Cal. 1918); *Durant v. Corbin*, 94 F.382 (C.C.D. Wash. 1899); *Mitchell v. Cline*, 84 Cal. 409, 24 P. 164 (1890).

was placer ground would have left both parties with the wrong kind of claims.

In summary, the characterization of any given mineral deposit as subject to one form of location as opposed to another should be dependent upon a number of factors: (1) Whether the area is generally considered by miners to be lode territory or placer territory; (2) whether conventional lode or placer mining methods are well-adapted to extracting the minerals involved; (3) the character of the surrounding country rock; (4) the character or substance of the mineral body; (5) the existence of a reasonable definition or boundary between the mineralized zone and the surrounding country rock; and (6) the size of the mineralized body and the depth at which it is found. While the Wyoming Supreme Court in a landmark decision has dealt with some of these factors and has thereby undoubtedly and commendably anticipated and thus forestalled expensive litigation in some instances, its treatment of the subject should be regarded as something less than a final solution admitting of no exception or modification, particularly where additional factors not considered by the court may exist.