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Valid Mining Rights and Wilderness Areas

*Kathryn Toffenetti**

On January 1, 1984, almost all the national forest wilderness areas were withdrawn from mineral claim location. Like any public land withdrawal, however, this withdrawal under the Wilderness Act of 1964 was subject to "valid rights then existing." A mining claim can still be located in a wilderness area if a claimant can show that his claim satisfied all of the elements of location on the date of withdrawal.

In this article, the author examines the elements of claim location, especially the discovery element. She analyzes decisions of the Department of the Interior and the federal courts in order to ascertain the Interior Department's discovery test. She then explains how wilderness designation has affected and will affect a claimant's ability to prove that he has discovered a valuable mineral deposit on or before the date of withdrawal.

It is difficult to imagine two more incompatible uses of federal land than mining and wilderness preservation. Although the policies behind permitting these uses seem completely opposed, there are many thousands of mining claims in national forest wilderness areas.[1] Mining interests have

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1. There are no exact figures available for the total number of claims in wilderness areas. Some Forest Service regions, however, have estimated the number of claims within their wilderness areas. The estimates are as follows: 1,226 in Region 1 (Northern Region). Letter from Buster Lamoure, Director of Minerals and Geology, Northern Region (Aug. 4, 1984); 2,270 in Region 3 (Southwest Region). Letter from M.J. Hassell, Regional Forester, Southwest Region (Aug. 3, 1983); 552 in Region 6 (Pacific Northwest Region). Letter from David Scott, Director of Recreation, Pacific Northwest Region (Aug. 2, 1983); 4,346 in Region 10 (Alaska Region). Letter from John Sandor, Regional Forester to Forest Supervisors, Alaska Region (April 4, 1983). Amy Haak, a graduate student in geography at the University of Idaho, has made a study of the mining claims in wilderness in parts of Idaho and Montana which are in Region 4 (Intermountain Region). She has counted approximately 1,950 claims in these areas. Interview with Amy Haak (Nov., 1983). Figures are not available for Colorado, Wyoming, Utah, Nevada or California.

been accommodated on wilderness land through the mining exception to the Wilderness Act of 1964.[2] Until January 1, 1984, mining claims could be staked and mineral exploration undertaken in many national forest wilderness areas. After that date, no new claims could be established[3] and further exploration became unlawful. As with all mining land withdrawals, however, the withdrawal of wilderness areas was "subject . . . to valid rights then existing."[4] A claim that was valid on January 1, 1984, the date of withdrawal, may be developed and mined.

The requirements for a valid right in a mining claim have been in contention since passage of the mining law. A reexamination of these requirements is timely today because over the next few years many claimants will attempt to validate pre-1984 wilderness claims.

In this article, I will review the origin of the wilderness mining exception, the meaning of a valid right under the mining law, and the proof required to establish that right. Although the Wilderness Act's mining exception applies to both mineral location[5] and leasing, I will be concerned only with the former, that is, mining activities subject to the 1872 Mining Law.

MINING, WILDERNESS, AND THE WILDERNESS ACT

Mineral development and wilderness preservation represent two inconsistent policies held by the federal government in its administration of the public lands. The older policy, of which the Mining Law is a part, focuses on developing the nation's natural wealth. Wilderness preservation is part of a later policy to conserve and preserve land.

Early in our history the federal government recognized the advantages of putting public lands into private ownership. The federal government paid its debts in land[6] and raised cash by selling land.[7] The government recognized, too, that transfer of the public domain into private hands helped the nation's economy grow.[8]

The federal mineral policy was developed in this era of land disposal and shaped by the government's acquiescence to the private appropriation of public domain during the gold rushes. The Mining Law of 1872

2. 16 U.S.C. §§ 1133(d)(2), (3), 1134(b) (1982). The story of the mining exception's inclusion in the Wilderness Act is told in J. Hession, The Legislative History of the Wilderness Act (1967) (San Diego State College, unpublished M.A. thesis). *See also* McCloskey, *The Wilderness Act of 1964: Its Background and Meaning,* 45 ORE. L. REV. 288-321 (1966). *See also* R. NASH, WILDERNESS AND THE AMERICAN MIND (3d ed. 1982).

3. 16 U.S.C. § 1133(d)(3) (1982).

4. *Id.*

5. Location is the means by which one acquires the right to mine under the Mining Law of 1872. 30 U.S.C. § 22 (1976). In general, it pertains to the right to mine non-fuel, nonfertilizer minerals on public or national forest lands.

6. *See, e.g.,* Act of August 10, 1790, ch. 40, 1 Stat. 182 (1790). This act provided for bounties of Ohio Territory land to Virginia veterans of the Revolutionary War.

7. *See, e.g.,* Act of August 4, 1790, ch. 34, 1 Stat. 138 (1790). Proceeds from the sale of lands of the western territories were to be used to discharge debts of the United States.

8. C. ALLIN, THE POLITICS OF WILDERNESS PRESERVATION 3-5 (1982).

simply made official what had been done for years without authorization.[9] The Mining Law declared that "all valuable mineral deposits in lands belonging to the United States . . . shall be free and open to exploration and purchase, and the lands in which they are found to occupation and purchase . . . under regulations prescribed by law."[10]

The statute has been amended in some respects and it now begins with the cautionary words, "[e]xcept as otherwise provided,"[11] but it remains the policy of the federal government to permit citizens to go upon federal lands to search for, discover, and develop valuable mineral deposits for their personal benefit.[12] By the time Congress passed the Wilderness Bill, the mining industry had long been accustomed to entering, exploring, and mining the public lands.

The concept of wilderness preservation began later, and developed more slowly, than the Mining Law philosophy.[13] In the colonial era and the early years of the republic, wilderness was so frighteningly vast that few thought it might need protection. Only when people were not surrounded by wilderness did they consider preserving it.[14] The federal government, engrossed in its policy of national development, was slow to respond. It first acted by establishing Yellowstone National Park in 1872.[15] More parks followed, but the greatest opportunity for wilderness preservation occurred within the millions of acres of the National Forest System.[16] The first wilderness area was established by a district forester in the Gila National Forest in 1924.[17] By the Wilderness Act's passage in 1964, the National Forest System contained over 14.6 million acres of wilderness, wild, and primitive areas.[18]

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9. The history of federal minerals policy is told in P. GATES & R. SWENSON, HISTORY OF PUBLIC LAND LAW DEVELOPMENT (1968).

10. General Mining Law of 1872, ch. 152 §§ 1-16, 17 Stat. 91 (1872) (current version at 30 U.S.C. §§ 22-54 (1976)).

11. 30 U.S.C. § 22 (1976).

12. *See* Mining and Mineral Policy Act of 1970, § 2, 30 U.S.C. § 21a (1976).

13. *See* R. NASH, *supra* note 2, for an account of the development of a preservation attitude in America.

14. As early as 1832, George Catlin, who recorded the lives of Plains Indians in paintings and writings, suggested a "magnificent park" in the northern plains to preserve the Indians, buffalo, and their wilderness. R. NASH, *supra* note 2, at 101.

15. Act of March 1, 1872, ch.24, 17 Stat. 32 (1872) (codified at 16 U.S.C. § 21 (1982)).

16. Section 24 of the Forest Reserve Act of 1891, ch. 561, 26 Stat. 1103 (1891) (codified at 16 U.S.C. § 471 (1982)) (repealed 1976), provided a mechanism whereby the President could reserve timber lands. The Organic Act of 1897, ch. 2, 20 Stat. 34 (codified at 16 U.S.C. 476-482 (1982)) established the National Forest System.

17. G. ROBINSON, THE FOREST SERVICE, A STUDY IN PUBLIC LAND MANAGEMENT 157 (1975).

18. Aspinall, *Underlying Principles of Wilderness Legislation as I See Them*, THE LIVING WILDERNESS, Spring-Summer 1964, at 6-9.

"Wilderness" areas, which could only be designated by the Secretary of Agriculture, were areas consisting of 100,000 acres or more. "Wild" areas, which could be designated by the Chief of the Forest Service, contained less than 100,000 acres. "Primitive" areas were those areas for which the Forest Service had not made a final determination of status but which were being preserved as wilderness pending permanent classification. G. ROBINSON, *supra* note 17, at 161.

Agency designation of wilderness had its drawbacks, however. The Forest Service, for example, was unable to abrogate the statutory right to prospect, explore, and mine in national forests.[19] Only Congress could withdraw these areas from operation of the mining laws.[20]

A statutory wilderness system was first proposed in 1947,[21] but it was not until 1956 that the first wilderness bills were introduced by Hubert Humphrey of Minnesota in the Senate and John Saylor of Pennsylvania in the House of Representatives.[22] It would take eight years, and twenty different versions of sixty-six Senate and House bills before wilderness areas were given statutory protection.[23]

Immediate withdrawal of wilderness areas from operation of the Mining Law was an obvious measure through which Congress could retain the "primeval character and influence"[24] of those areas and make the imprint of man's work "substantially unnoticeable."[25] But the mineral industry proved to be a formidable force in the debate over wilderness management and it found a sympathetic audience in the House Committee on Interior and Insular Affairs. Enthusiasm for a wilderness bill was noticeably lacking among many committee members whose constituents were often engaged in industries dependent upon federal lands.[26] With this committee controlling the House wilderness legislation, immediate withdrawal was out of the question. Instead, the bill which was reported out of the committee and passed by the House in July of 1964, authorized the continued operation of the mining and mineral leasing laws in wilderness areas for twenty-five years.[27]

The Senate wilderness bill, by contrast, had provided for immediate withdrawal.[28] At the conference to reconcile the two bills, the Senate con-

19. For wilderness advocates, other disadvantages of relying on the Forest Service to preserve wilderness were the slow pace of agency classification after World War II, hostility by some within the Forest Service toward permanent reservation of lands from development, and the Forest Service practice of removing valuable timber lands from primitive areas (often through acre for acre exchanges of valuable valley timber lands for lands above timberline). Skepticism grew about the Forest Service's willingness to permanently preserve lands in the face of a growing demand for forest products. G. ROBINSON, *supra* note 17, at 158.

20. 16 U.S.C. § 478 (1982) specifically provided that those national forests reserved from land subject to the mining laws, that is, formed from public lands, were to remain subject to mineral entry. In general, the result was that western national forests were open to mining. Eastern national forests, formed from acquired lands, were never open to mining. Acquired lands are "those granted or sold to the United States by a State or citizen. . . ." Wallis v. Pan American Petroleum Corp., 384 U.S. 63, 65 n.2 (1966).

21. J. Hession, The Legislative History of the Wilderness Act 7 (1967) (unpublished M.A. thesis, San Diego State College which recounts the long effort to establish a statutory wilderness system). *See also* McCloskey, *supra* note 2, at 288-321; Mercure & Ross, *The Wilderness Act: A Product of Congressional Compromise*, in CONGRESS AND THE ENVIRONMENT 54-55 (R. Cooley & G. Wandesforde-Smith ed. 1970).

22. Humphrey, *The Wilderness Bill*, 21 THE LIVING WILDERNESS, Winter-Spring 1956-57, at 13.

23. McCloskey, *supra* note 2, at 298.

24. 16 U.S.C. § 1131(c) (1982).

25. *Id.*

26. Mercure & Ross, *supra* note 21, at 54-55.

27. Hession, *supra* note 21, at 204.

28. *Id.* at 174.

ferees gave more ground than did the House conferees and the resulting Wilderness Act provided for operation of the mining laws to the same extent as before wilderness designation, until midnight, December 31, 1983.[29]

The Wilderness Act designated as wilderness the fifty-four "wild," "wilderness," and "canoe" areas in the National Forest System.[30] By January 1, 1984, 215 wilderness areas and additions to existing wilderness areas had been added from the National Wildlife Refuge System, and the National Park System, as well as the National Forest System.[31]

All the units in the National Park System and the National Wildlife Refuge System that contained wilderness areas were closed to mining before any of their lands were designated as wilderness. The mining exception thus has no application to these areas.[32] Eastern national forests and their wilderness areas are also not subject to the mining laws.[33]

The mining exception was incorporated into most western national forest wilderness areas as they were added to the system,[34] but there were some exceptions. The Sawtooth and Hell's Canyon Wilderness areas and their surrounding national recreation areas were withdrawn from operation of the mining laws on the dates they were established.[35] The Boundary Waters Canoe Area in northern Minnesota was withdrawn from mining in 1978.[36] The Misty Fjords and Admiralty Island National Monuments of Alaska and their wilderness areas, administered by the Forest Service, were established on December 2, 1980, and withdrawn from mining on the same day.[37]

In two Idaho wilderness areas, the mining exception was modified to the advantage of the mining industry. In the Gospel Hump Wilderness, created by the Endangered American Wilderness Act of 1978, withdrawal is not until January 1, 1988.[38] The River of No Return Wilderness was created with a "Special Management Zone" within which there will be

29. *Id.* at 206; 16 U.S.C. § 1133(d)(3) (1982).

30. *The National Wilderness Preservation System*, LIVING WILDERNESS, Spring-Summer 1964, at 19, 23.

31. *See* 16 U.S.C. § 1132 (1982).

32. Most of the components of the National Park System (including national monuments) were withdrawn from entry under the mining laws from the time they were added to that system. Their inclusion into the wilderness system did not affect this. Opinion of the Solicitor, The Wilderness Act, 74 I.D. 97, 104 (1967). The few exceptions were closed to entry in 1976 before any part within them became designated wilderness. Those areas of the National Wildlife Refuge System designated wilderness were withdrawn from mining before their inclusion in the wilderness system. Their designation as wilderness did not reopen them to operation of the mining law. *Id.*

33. Oklahoma v. Texas, 258 U.S. 574, 599-600 (1922); Rawson v. United States, 225 F.2d 855, 858 (9th Cir. 1955), *cert. denied*, 350 U.S. 934 (1956).

34. *See, e.g.*, Act of October 28, 1978, Pub. L. No. 95-546 § 3, 92 Stat. 2062 (1978) (designating the Great Bear Wilderness, Montana).

35. 16 U.S.C. §§ 460aa-1, -9 (1982) (Sawtooth National Recreation Area and Wilderness); 16 U.S.C. §§ 460gg-1, -8 (1982) (Hell's Canyon National Recreation Area and Wilderness).

36. Act of October 21, 1978, Pub. Law No. 95-495 § 11, 92 Stat. 1649 (1978).

37. Alaska National Interest Lands Conservation Act, Pub. Law No. 96-487, § 503(f)(1), 94 Stat. 2370 (1980). The Act permits continued exploration under certain circumstances on claims staked but not yet proved valid.

38. Pub. L. No. 95-237, § 5, 92 Stat. 40 (1978).

no withdrawal from mining with respect to cobalt and associated minerals.[39]

For the most part, mineral exploration in wilderness areas ceased on January 1, 1984. The withdrawal is "subject to valid rights then existing," however.[40] Wilderness claims valid on January 1, 1984 may be developed. Whether a valid right has been acquired is determined by the Mining Law.

ESTABLISHMENT OF VALID RIGHTS IN MINING CLAIMS

"Valid Rights then Existing"

It is well established that as against all others, including the United States, one acquires a right to develop a mineral deposit only upon "location" of a valid claim.[41] Location is a four-part process in which a miner must discover a valid mineral deposit, monument the claim's boundary on-site, record the claim at the county courthouse, and file notice of the claim with the pertinent Bureau of Land Management (BLM) Office.[42] The intent behind the Mining Law is that discovery occur first and monumenting later, but as a practical matter, monumenting usually occurs first. The location is not valid, however, until discovery.[43]

With valid location, one acquires the exclusive right of possession and enjoyment of the mineral deposit discovered.[44] Upon performance of a certain amount of labor on the claim and payment of a nominal sum per acre,

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39. Pub. L. No. 96-312, § 5(d), 94 Stat. 948 (1980).

40. 16 U.S.C. § 1133(d)(3) (1982). Withdrawal of land or minerals from mineral entry is not a novelty, and it is customary for a withdrawal to except valid existing rights from operation of the withdrawal. For example, the Act of July 23, 1955, ch. 375, § 3, 69 Stat. 368 (1955) (now codified at 30 U.S.C. § 611 (1976)), withdrew common varieties of minerals from operation of the mining laws, and Pub. Land Order No. 848 withdraw an area in Yuma County, Arizona from operation of the mining laws for the use of the Department of the Army. *See* United States v. Connor, 72 IBLA 254 (1983). A right established before withdrawal continues thereafter as long as the requirements of the Mining Law are met.

41. Union Oil Co. v. Smith, 249 U.S. 337, 344, 346 (1919).

42. Cole v. Ralph, 252 U.S. 286, 296 (1920); 30 U.S.C. §§ 23, 27-28 (1976); 43 U.S.C. § 1744 (1976). 30 U.S.C. § 27 (1976) requires compliance with state laws, all of which require recording of claims. Section 314 of the Federal Land Policy and Management Act of 1976, 43 U.S.C. § 1744 (1982), has added the requirement of filing mining claims in the pertinent BLM office. Only three states, New Mexico, Colorado, and North Dakota, now require what is called discovery work. *See* N.M. STAT. ANN. § 69-3-3 to -4 (1978); COLO. REV. STAT. § 34-43-109 (1973); N.D. CENT. CODE §§ 38-2-04 to -06 (1980).

43. Union Oil Co. v. Smith, 249 U.S. 337, 344, 346 (1919). It has also been suggested that a claim should be considered valid when a discovery has not been made. "A valid mining claim is an unpatented lode or placer claim which has a . . . discovery . . . *or* is being held by the doctrine of pedis possessio. . . ." Letter from H. L. Bauer, Jr., Amoco Minerals Co. to Director of the BLM (February 25, 1983) (suggestion for revision of BLM regulations on the mining laws) (emphasis added).

44. 30 U.S.C. § 26 (1976). Right of possession in this paper refers to that right which results from discovery and which is good against the whole world, including the federal government. This not to be confused with the doctrine of pedis possessio (possession of a foothold) which protects a prospector exploring a claim from encroachment by other explorers. The doctrine holds that "upon the public domain a miner may hold the place in which he may be working against all others having no better right, and while he remains in possession, diligently working towards discovery, is entitled—at least for a reasonable time—to be protected against forcible, fraudulent, and clandestine intrusions upon his possession." Union *Oil Co. v. Smith*, 249 U.S. 337, 346-47 (1919).

one may also obtain a patent, or title, to the land.[45] Location of a valid claim is sufficient, however, to establish a right to mine and to exempt the claim from withdrawal. The right will exist as long as yearly assessment work is performed, and as long as the mineral deposit remains valuable.[46] A claim can lose its value through changed circumstances such as loss of a market for the mineral, a decline in mineral prices, or exhaustion of the deposit.[47]

It is easy to ascertain whether a claimant has monumented, recorded, or filed his claim, because evidence of these tasks is generally clear.[48] The satisfaction of the discovery requirement, however, is more difficult to prove.

Discovery Procedure

The Mining Law of 1872 simply states that there must be a discovery of a valuable mineral deposit before there can be a valid location.[49] But "valuable mineral deposit" and "discovery" are not defined in the statute nor in the mining regulations. The meaning of these concepts has been developed in case law.[50]

For the most part, the case law has grown within the BLM, which administers the Mining Law.[51] Claim contests are heard by administrative law judges in the Offices of Hearings and Appeals which are located in BLM state offices.

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45. 30 U.S.C. §§ 28-29 (1976). Under the Mining Law, a patent gives the claimant fee simple title to the claim. Upon obtaining a patent the claimant could then make any use of the property, deposit, and surface. The Mining Law applies, "except as otherwise provided," however, and the Wilderness Act modifies the patenting provision considerably. The Wilderness Act provides that a patent for a wilderness claim conveys title to the mineral deposit only. Use of other resources on the claim is permissible only as needed for mining operations. 16 U.S.C. § 1133(d)(3) (1982). Apparently the sole advantage to patenting a wilderness claim is that such a claim is free from future challenge to its validity.

46. Best v. Humboldt Placer Mining Co., 371 U.S. 334, 336 (1963); United States v. Colonna and Co. of Colorado, 14 IBLA 220, 226 (1974). Assessment work is required by 30 U.S.C. § 28 (1976).

47. United States v. Wichner, 35 IBLA 240, 241 (1978).

48. Under unusual circumstances these matters can become significant issues. March & King, *Staking Mineral Claims on Revoked Public Land Withdrawals: Issues and Alternative Strategies*, 30 ROCKY MTN. MIN. L. INST. (publication pending 1984).

49. 30 U.S.C. § 23 (1976).

50. In December, 1982, the BLM, which administers the mining law and adjudicates issues of claim validity, announced its intention to revise regulations dealing with acquisition of rights and development of mineral resources under the Mining Law. 47 Fed. Reg. 57,521 (1982). Possibilities for revision included the addition of definitions, consistent with existing case law, of "discovery," "valuable mineral deposit," "valid mining claim," and the showing required to support a mining claimant's allegation of discovery. 47 Fed. Reg. 57,522 (1982). The tentative publication date of these proposed rules is March, 1985. Telephone conversation with Roger Haskins, staff geologist, Division of Mining Law and Salable Minerals, BLM (July 20, 1984).

51. This is true even for national forests. When jurisdiction over the national forests was transferred to the Department of Agriculture from the Department of the Interior, excepted from the Secretary of Agriculture's duties was the execution of laws that affected "the surveying, prospecting, locating, appropriating, entering, relinquishing, reconveying, certifying or patenting of such lands." 16 U.S.C. § 472 (1982). Correspondence between the Secretaries of the Interior and Agriculture and the case law have left no question that the

When a disputed claim is on Forest Service land, a working arrangement between the BLM and the Forest Service, recorded in a 1957 memorandum of understanding,[52] operates. Under the arrangement, Forest Service mineral examiners investigate the claim. If the Forest Service recommends contesting the claim, then the BLM will honor that recommendation.[53] A Department of Agriculture attorney represents the government in the case.[54]

In a contest hearing, the government must make a prima facie showing of claim invalidity. The claimant then bears the burden of showing that the claim is in fact valid.[55] Where there has been a withdrawal of an area from mineral entry (such as a withdrawal that has occurred for wilderness areas) the claimant must show that his claim was valid at the time of the withdrawal and that it is still valid at the time of the hearing.[56] Appeals by the government or claimant may be brought to the Interior Board of Land Appeals (IBLA).[57] The decision of this body is final and binding upon the government, but an unsuccessful private litigant may seek judicial review in a United States district court.[58]

Discovery for Location and Patent

Before we examine the case law on discovery, we must consider the argument made by some commentators that there should be two levels of discovery. Many contend that the standard of discovery to establish valid rights to claims should be less strict than the standard required for patents.[59] In wilderness areas, a relatively lenient location standard would be necessary to allow mining development for some claims and thereby allow claimants to profit from their exploration investments.[60]

Secretary of the Interior alone is authorized to determine the validity of national forest mining claims. MEMORANDUM OF UNDERSTANDING ON WORK PROCEDURES GOVERNING ACTION ON APPLICATIONS OR CLAIMS FOR LANDS WITHIN NATIONAL FORESTS, FOREST SERVICE MANUAL § 1531.2 [hereinafter MEMORANDUM OF UNDERSTANDING]; United States v. Bergdal, 74 I.D. 245, 250 (1967).

52. MEMORANDUM OF UNDERSTANDING, *supra* note 51.

53. United States v. Bergdal, 74 I.D. 245 (1967).

54. MEMORANDUM OF UNDERSTANDING, *supra* note 51, at A(10).

55. Foster v. Seaton, 271 F.2d 836, 838 (D.C. Cir. 1959); United States v. Strauss, 59 I.D. 129, 136 (1945).

56. Best v. Humboldt Placer Mining Co., 371 U.S. 334 (1963); United States v. Gunsight Mining Co., 5 IBLA 62, 64 (1972).

57. The IBLA has been in existence since 1970. From 1952 until 1970 the Solicitor of the Department of the Interior handled appeals, and before 1952 the Secretary of the Interior issued final decisions of the department. Anderson, *Federal Mineral Policy: The General Mining Law of 1872*, 16 NAT. RESOURCES J. 601, 604-05 (1976).

58. Strauss, *Mining Claims on Public Lands: A Study of Interior Department Procedures*, 1974 UTAH L. REV. 185, 251. Although it is typical for litigation involving the validity of claims to originate before a BLM administrative law judge, the government has the option of instituting suits in federal district court, to quiet title or for ejectment. These actions require a decision regarding the validity of claims on the land that is the subject of the litigation. United States v. Zweifel, 508 F.2d 1150, 1155 (10th Cir. 1975).

59. *See, e.g.*, Letter from Robin L. Rivett, Attorney, Pacific Legal Foundation, to Robert Burford, Director, Bureau of Land Management (Feb. 2, 1983) [hereinafter Rivett Letter].

60. Comments made in response to a BLM proposal to revise mining regulations reflect a concern for the fate of mining claims in withdrawn areas, including wilderness. *See supra*

Many commentators agree that the level of discovery required for patenting a claim should be set quite high. Their opinions vary, however, on the level of discovery that should be required to establish a valid location. Suggested standards for location discovery range from a mere inference of minerals indicated by geological data,[61] to a standard nearly as strict as that required to prove discovery in patenting applications.[62]

Prior to 1960, the Interior Department frequently denied patents for lack of discovery without voiding the underlying claims. A claim could be valid for location purposes but not for patenting purposes. The Department apparently employed a lesser standard of discovery for claim location than it did for the grant of patents. In *United States v. Carlile*,[63] a 1960 Interior decision, the Department reversed its policy and held that the same evidence of discovery is necessary to establish a valid location as is required for a patent.

Commentators have criticized the *Carlile* decision as a poorly considered change of policy,[64] but that criticism is unwarranted. The Mining Law, not just Interior Department policy, requires a single standard of discovery.

In *Carlile*, the Solicitor of the Department of the Interior analyzed the process by which miners obtained patents on mineral lands. He traced the process from exploration of the public lands for minerals, through acquisition of the right to mine upon valid location, to acquisition of fee simple title by patent. He concluded that when patent applications were rejected for lack of discovery, it was because the claimants had not acquired a valid location entitling them to possession in the first place. The very discovery required for valid location of a claim served as evidence of discovery when that claim went to patent. Because there was only one discovery finding in the entire process, there could be only a single discovery standard.

The Solicitor traced the history of the double standard and found that it was not well supported by judicial precedent. He found that the double standard of discovery had originated in the *Clipper Mining Company*

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note 50. One rather surprising holder of this concern is the former Alaska Regional Forester, John A. Sandor, who wrote the BLM:

> [W]e suggest that you consider adopting new regulations which would . . . allow diligent explorations to continue on promising prospects after the December 31, 1983 withdrawal date; even if "discovery" of a valuable mineral deposit has not yet been made. . . . This of course, will involve a new standard for establishing valid existing rights in wilderness.

Letter from John A. Sandor, Regional Forester, Alaska Region, to Robert Burford, Director, BLM (April 13, 1983).

61. Letter from E.A. Johnson, geological engineer, to William Condit, BLM (March 21, 1983).

62. Letter from S.A. Hoelscher, geologist, to Robert Burford, Director, BLM (Jan. 24, 1983).

63. 67 I.D. 417, 426 (1960).

64. Criticisms of *Carlile* among the BLM's request for comments included Reeves, The Law of Discovery in a Nutshell (unpublished paper Nov. 10, 1982); Rivett Letter, *supra* note 59.

cases[65] which involved a dispute between lode and placer[66] claimants over the same piece of ground. In the first case, *Searle Placer*, the Acting Secretary of the Interior denied a placer claimant's application for patent because he did not prove discovery—the presence of valuable placer mineral in the claim "in any appreciable quantity."[67] In the subsequent *Clipper* cases before the Department,[68] the lode claimants argued that the denial of patent for lack of discovery also invalidated the underlying placer claim for lack of discovery. The Interior Department held, however, that its decision in *Searle Placer* did not automatically void the placer claim. Rather, the placer claimant retained his right to possession until the Department declared the placer claim void.

The United States Supreme Court commented upon the Interior Department's *Clipper* holdings in the related case of *Clipper Mining Co. v. Eli Mining and Land Co.*[69] In that case, the Court stated: "Undoubtedly when the department rejected the application for a patent [in *Searle Placer*] it could have gone further and set aside the placer location . . . and restore[d] the land to the public domain."[70] The Supreme Court thus seemed to acquiesce to the two levels of discovery although it recognized that the double standard was not required.

The Solicitor relied, in his *Carlile* opinion, on the later case of *Union Oil Co. v. Smith,*[71] in which the Supreme Court discussed the process by which a person acquires a claim and then a patent. The process which the Court set out in that case clearly makes discovery an issue of initial claim location, not patenting. The Court did not suggest in *Union Oil* that a claimant making a discovery sufficient for location may yet have to prove discovery to a greater extent when applying for a patent.

It is clear from the Mining Law that the Solicitor's *Carlile* opinion was correct. The statute provides that one who locates a valid claim receives from the government the exclusive right to possession and enjoyment of the mineral deposit.[72] He has a possessory right in the property as against all other persons, including the United States.[73] He can, as the Supreme Court noted in *Union Oil Co. v. Smith,* extract the minerals until exhausted, with no payment of royalty. He need never obtain a

65. Searle Placer, 11 L.D. 441 (1890); Clipper Mining Co., 22 L.D. 527 (1896); Clipper Mining Co. v. Eli Mining & Land Co., 194 U.S. 220 (1904); Clipper Mining Co. v. Eli Mining & Land Co., 33 L.D. 660 (1905).

66. A lode claim is one which is "predicated upon 'veins or lodes of quartz or other rock in place'." Hill, *Placer Mining Claims-Selected Problems and Suggested Solutions*, 23 ROCKY MTN. MIN. LAW INST. 385, 392-93 (1977). A placer claim is one in which the mineral is not found in a vein but in " 'ground within defined boundaries which contains mineral in its earth, sand or gravel; ground that includes valuable deposits not in place. . . .' " *Id.* at 393 n.43, *quoting* United States v. Iron Silver Mining Co., 128 U.S. 673, 679 (1888).

67. Searle Placer, 11 L.D. 441, 442 (1890).

68. Clipper Mining Co., 22 L.D. 527 (1896); Clipper Mining Co. v. Eli Mining & Land Co., 33 L.D. 660 (1905).

69. 194 U.S. 220 (1904). This case involved a trespass action brought by the placer locator against the lode claimant.

70. *Id.* at 223.

71. 249 U.S. 337 (1919).

72. 30 U.S.C. § 26 (1976).

73. Union Oil Co. v. Smith, 249 U.S. 337, 348-49 (1919).

patent. A patent confers no greater right to mine than does the location of a valid claim.

Persons wishing to obtain a patent for their claims are not required to prove discovery by a different standard than that used for location. The Mining Law makes plain that a grant of a patent is based upon discovery made at location. Unless there is a challenge, a patent should issue upon a showing of compliance with the requirements of location, the performance of a certain amount of labor to improve the claim, and the payment of a nominal sum per acre.[74] Further, if there is a challenge to a patent application for lack of discovery, the question to be resolved is simply whether the patent applicant had made a valid location.[75]

Long before *Carlile* and *Union Oil*, the Mining Law was read to contain a single discovery standard. Ironically, in 1895, as the two-standard rule of the *Clipper* cases was developing, the Acting Secretary of the Interior repudiated the suggestion that there could be two discovery standards.[76] "There must be a discovery before location. But after discovery and location a subsequent compliance with the provisions of section 2325[77] of the Revised Statutes entitles the explorer to patent, and no showing beyond his first discovery is required by the mining laws or the regulations or decisions of this Department."[78]

Despite all the assertions that a lesser standard of discovery could validate a claim for purposes of possession, none of the *Clipper* cases contained a definition of the scope of this "lower" level of discovery. Nor has any proponent of this system explained the factors in the *Clipper* cases that marked the different discovery requirements.

Whether one seeks to establish a valid location or to obtain a patent, he must establish discovery of a valuable mineral deposit. Although there may be policy reasons to employ a lesser discovery standard for location than the discovery standard employed for patents, it is clear from the Mining Law that there can be only one standard. Describing the scope of this single standard is our next consideration.

DEVELOPMENT OF RULES OF DISCOVERY

The Prudent Man and Marketability Rules

It is a good thing that there is not a different level of discovery required for patenting than there is for claim location. It is a formidable task simply to determine the one standard that is applied.

The discovery standard is difficult to understand primarily because it has been set out in two different statements. First, there is the "prudent man test":

74. 30 U.S.C. § 29 (1976).
75. 30 U.S.C. § 30 (1976).
76. Tam v. Story, 21 L.D. 440 (1895).
77. Mining Law of 1872, § 6, 30 U.S.C. § 29 (1976).
78. Tam v. Story, 21 L.D. at 443 (citations omitted).

> [W]here minerals have been found and the evidence is of such a character that a person of ordinary prudence would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine, the requirements of the [Mining Law] have been met.[79]

Second, there is the "marketability test." This test, once an additional requirement[80] when discovery of certain minerals was at issue, is now applied to all minerals and is often called a "refinement"[81] of the prudent man rule. The marketability test requires a claimant to show that the minerals found on his claim "can be extracted, removed, and marketed at a profit."[82]

The tests are very much alike in some ways. Both are economic tests in which the value of the mineral deposit is weighed against costs associated with a mining operation. To meet the prudent man test, a claimant must show that the expenditure of "labor and means" is justified by the prospect of a profitable mine.[83] Under the marketability test the claimant must show profitability, which is a return in excess of costs.[84]

Both tests are to be applied objectively. There can be a discovery under the prudent man test only if the archetypical "person of ordinary prudence" would conclude that the mine's development is worthwhile.[85] As for the marketability test, its comparison of selling price and costs to determine profitability is certainly objective.

Both tests must be satisfied on the basis of present knowledge of a claim's contents. Under both tests a mineral deposit must actually have been found. Geologic implications or other indications giving rise to the hope that minerals exist on a claim are of no avail if no mineral is yet exposed.[86]

Proof of the economic value of a deposit must be based upon present facts. The use that can be made of economic facts, however, marks one of the distinctions between the prudent man and marketability tests. Under the prudent man test, the prospect of a profitable mine must be based on current information.[87] A reasonable prospect of success cannot

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79. Castle v. Womble, 19 L.D. 455, 457 (1894).
80. Foster v. Seaton, 271 F.2d 836, 838 (D.C. Cir. 1959).
81. United States v. Coleman, 390 U.S. 599, 602-03 (1968); United States v. Noyce, 59 IBLA 268, 273 (1982).
82. United States v. Noyce, 59 IBLA 268, 273 (1982). Another statement of the test is that the mineral must be capable of being "presently marketed at a profit." United States v. Ledford, 49 IBLA 353 (1980); United States v. Baker, 23 IBLA 319 (1976). The IBLA has also used the phrase "presently extracted, removed, and marketed at a profit." *See, e.g.*, United States v. Duval, 53 IBLA 341 (1981).
83. Cole v. Ralph, 252 U.S. 286 (1920); Castle v. Womble, 19 L.D. 455, 457 (1894).
84. United States v. Coleman, 390 U.S. 599, 602-03 (1968).
85. Castle v. Womble, 19 L.D. at 456-57.
86. United States v. Bechtold, 25 IBLA 77, 89-90 (1976); Castle v. Womble, 19 L.D. at 457.
87. United States v. Colonna and Co. of Colorado, 14 IBLA 220, 227 (1974); United States v. Estate of Denison, 76 I.D. 233, 240 (1969).

be founded upon speculation about future market prices or upon the hope that technological advances may reduce costs. It is legitimate, however, in prudent man analysis to consider the future as predictable from present facts.[88] For example, the price of a mineral on a given day may be low in relation to the cost of mining it. Judging from that price alone, a prudent man would not think of developing a mine. Other facts may show, however, that the market for the metal is a fluctuating one which is likely to improve. If a prudent man can expect a profit "based upon rationally predictable economic circumstances from present known facts and not upon mere speculation of possible substantial, unpredictable changes in the market place," then the test is satisfied.[89]

The marketability test is stated solely in terms of present facts. "*[P]resent* markets, *present* demand, *present* price, and *present* costs" bind the claimant.[90] Unlike the prudent man test, which speaks of prospects, the marketability test requires that the mineral *can*, at present, be developed at a profit. In order to show that a deposit *can* be mined, removed, and sold at a profit, the claimant must produce evidence with a high degree of certainty. He must have a very extensive knowledge of the mineral deposit and of the economics of development.

The prudent man test, as we have seen, is stated in terms of a "reasonable prospect of success" which suggests no more than a possibility—albeit a strong one—that a profitable mine may result. Satisfaction of this requirement does not demand as complete a picture of the deposit as does the marketability test. It would seem that application of the two tests might lead to different conclusions about the validity of a claim. A claim might appear to meet the prudent man test but not the marketability test. Yet, those who apply the tests consider them to set the same standard of proof. The marketability test is said to be a "logical complement" of the prudent man test, and like the prudent man test, applicable to all minerals.[91]

A brief review of the origins and development of these tests will help explain their paths of development and their later merger.

The Origin of the Prudent Man Test

In the early years of the Mining Law little attention was directed to the quantity and quality of minerals necessary to support a discovery.[92] Then, in the 1894 case of *Castle v. Womble*,[93] the Department of the Interior devised the prudent man rule which required those seeking to

88. United States v. Colonna and Co. of Colorado, 14 IBLA 220, 227 (1974); United States v. Beal, 23 IBLA 378, 398 (1976).
89. *Colonna*, 14 IBLA at 227.
90. Reeves, *The Law of Discovery Since Coleman*, 21 ROCKY MTN. MIN. L. INST. 415, 427 (1976).
91. United States v. Coleman, 390 U.S. 599, 602 (1968).
92. *See, e.g.*, Book v. Justice Mining Co., 58 F. 106, 120 (C.C.D. Nev. 1893); Jupiter Mining Co. v. Brodie Consol. Mining Co., 11 F. 666, 675 (C.C. Cal. 1881).
93. 19 L.D. 455, 457 (1894).

establish location to show more than the bare existence of minerals on a claim. The rule emphasized the Mining Law's requirement that only valuable deposits can be claimed. The Supreme Court approved the rule in 1905 in *Chrisman v. Miller.*[94]

The Development of the Marketability Test

The prudent man test had the effect of increasing the difficulty of proving location. The marketability test is seen today as an additional test of claim validation that makes location even more difficult. It was originally devised, however, to broaden the application of the mining laws to allow the location of mineral varieties not previously locatable.

At one time mineral entry could not be made on sand and gravel deposits.[95] The Department of the Interior was concerned that people would use the location of sand and gravel claims as a pretext to acquire land for non-mining purposes. The Department reversed itself, however, in the 1929 case of *Layman v. Ellis,* and held that mineral entry could be made on land containing sand or gravel.[96] This location was possible, however, only if the gravel made the land more valuable for mining than for any other purpose, and only if the gravel "[could] be extracted, removed and marketed at a profit."[97] The marketability rule was created to permit sand and gravel location while preventing sham operators from improperly acquiring possession of public lands.

Four years after the *Layman* decision, the Acting Solicitor of the Department of the Interior issued an opinion letter entitled the "Taking of Sand and Gravel from Public Lands for Federal Aid Highways"[98] in which he adopted the *Layman* rule as Department policy. The marketability requirements, which the Acting Solicitor explicitly set forth in his opinion letter, ensured that location of sand and gravel could only occur in good faith.[99]

In 1955, the Mining Law was amended to prohibit locations of common varieties unless a deposit of a common variety had some characteristic giving it distinct and special value.[100] Furthermore, the United States was authorized to manage the surface resources, such as soil, timber, and water, found on mining claims. Surface resources on claims located after 1955 could not be used by the locators for any purposes other than those related to mining the claim. This amendment forced miners to locate claims in good faith for their minerals, and not as subterfuges to acquire valuable

94. 197 U.S. 313, 322 (1905).
95. *See* Zimmerman v. Brunson, 39 L.D. 310 (1910).
96. 52 L.D. 714 (1929) (an opinion much broader than its title would suggest).
97. Layman v. Ellis, 52 L.D. 714, 721 (1929).
98. 54 I.D. 294 (1933).
99. The locator, "to justify his possession, must show that by reason of accessibility, *bona fides* in development, proximity to market, existence of present demand, and other factors, the deposit is of such value that it can be mined, removed and disposed of at a profit." *Id.* at 296.
100. Act of July 23, 1955, ch. 375, 69 Stat. 368 (codified as amended at 30 U.S.C. §§ 611-615 (1976)).

surface resources. It thus obviated the original need for the marketability test. But the rule lived on as the test of discovery for those common varieties of distinct and special value which could still be mined. It also remained the test in contests regarding the validity of pre-1955 claims for common varieties.[101]

The marketability rule was reexamined by the Solicitor in 1962,[102] and the rule emerged from his analysis changed in scope and meaning. The Solicitor analyzed the relationship between the prudent man and marketability rules and found that the prudent man test gave effect to the Mining Law's requirement that only "valuable mineral deposits" could be located. The prudent man test could be met only by the discovery of marketable minerals. Otherwise a prudent man would not develop a mine.

The marketability test was merely one aspect of the prudent man test and applied to all minerals, not just those of widespread occurrence. The Solicitor further explained that the marketability aspect of the prudent man test, although applicable to all minerals, was to be applied with varying degrees of strictness, depending upon the mineral involved. Intrinsically valuable minerals, such as gold, always have a market, and thus they are always held to satisfy the marketability test. For non-metallic minerals of widespread occurrence, on the other hand, locators must show that a market for the mineral exists.[103]

The Solicitor had begun his opinion with the declaration that there was "no basis for making any change in the test which the Department applies to mining claims in determining whether there has been a valid discovery."[104] Yet, notable in his discussion of marketability is the absence of the concept of marketability *at a profit* which was central to the location of sand and gravel deposits. It is clear from the Solicitor's discussion that he considered marketable to mean only that a mineral could be sold. A prudent man would develop a mineral deposit only if he could sell his product. It would be possible for miners of abundant minerals, such as sand and gravel, to fail the prudent man test because they could not find buyers for their minerals.

As a practical matter, the Solicitor's reformulation of the marketability test caused few, if any, real changes. Intrinsically valuable minerals would invariably be marketable according to the Solicitor's definition. Claims for such minerals would be measured by the prudent man test after a pro forma inquiry into marketability. For sand and gravel, marketability in the narrower sense of present marketability would be applied as before. Finally, for minerals between the two extremes, the existence of a market would remain a relevant consideration in determining whether a prudent man would be justified in developing a mine.

101. *See, e.g.*, Foster v. Seaton, 271 F.2d 836 (D.C. Cir. 1959).

102. Opinion of the Solicitor, Marketability Rule, 69 I.D. 145 (1962) [hereinafter Marketability Opinion].

103. For common varieties, the market had to exist on the date of withdrawal. *Id.* at 146.

104. Marketability Opinion, *supra* note 102, at 145.

The Two Tests Merge

In 1968, the propriety of the marketability rule came before the United States Supreme Court in *United States v. Coleman.*[105] The Court analyzed both the Solicitor's 1962 opinion and the original marketability test. Not surprisingly, the Court created a new marketability rule different than the two rules that it analyzed.

Coleman involved the alleged discovery of a common variety building stone before the 1955 withdrawal. The claimant contended that compliance with the marketability test should not be required for such minerals. The Court held that the marketability test was indeed applicable because it was "an admirable effort to identify with greater precision and objectivity the factors relevant to a determination that a mineral deposit is 'valuable'."[106] Furthermore, the test prevented claims from being validated on behalf of those who really did not intend to mine.[107]

The Court rejected the argument that the marketability test was to be applied only to minerals of widespread occurrence. Rather, the Court thought it was "a logical complement to the 'prudent-man test' " which was applied to *all* mineral locations.[108] The Court stated that:

> While it is true that the marketability test is usually the critical factor in cases involving non-metallic minerals of widespread occurence [sic], this is accounted for by the perfectly natural reason that precious metals which are in small supply and for which there is a great demand, sell at a price so high as to leave little room for doubt that they can be extracted and marketed at a profit.[109]

The Court's marketability test departed from the original marketability test because the original test had only been applied in common variety locations. The Court's test also departed from the Solicitor's 1962 approach which had applied the marketability rule to all minerals, but which had varied the burden of proof of marketability depending on the mineral involved. In *Coleman,* the Court decided that a locator had to meet the same standard—marketability at a profit—regardless of the mineral that he was locating.

The *Coleman* decision thus stated a requirement for discovery that was without precedent. This is not to say that the prudent man test does not contemplate profit. As the Supreme Court stated in *Coleman,* a prudent man would not extract minerals if there is no demand for them at a price higher than the cost of extraction.[110] As explained earlier, however,

105. 390 U.S. 599 (1968).
106. *Coleman,* 390 U.S. at 602.
107. *Id.* at 603.
108. *Id.* at 602.
109. *Id.* at 603. This last statement was not part of the original marketability rule for common varieties, or the Solicitor's 1961 opinion on marketability. The statement is not even accurate as can be seen by the recent closings of precious metal mines due to low market prices. *See, Gulf Resources Decides to Close Idaho Mine,* Wall St. J., Aug. 26, 1981, at 4, col. 1 (relating decision to close Bunker Hill Mine at Kellogg, Idaho to low silver prices).
110. *Coleman,* 390 U.S. at 602.

the traditional prudent man test permits discovery if there is a reasonable prospect of a paying mine. If market prices of a mineral generally exceed the costs of producing it, then a prudent man will mine despite a fall in the market which temporarily prevents profits. But, as we have seen, even such a conservative reliance on the future has no place in the marketability rule. The marketability rule calls for a greater degree of certainty about a deposit's value than does the traditional prudent man rule which only requires "reasonable prospects." It is more than a refinement to require that locators prove that their mineral can be marketed at a present profit.

The *Coleman* decision provoked considerable confusion among adjudicators, administrators, and claimants. It appeared that the Supreme Court intended application of both the prudent man test and the present-marketability-at-a-profit test to determine discovery in all cases notwithstanding the inconsistencies in the two tests.

After fifteen years and scores of Interior Department and court decisions, there is still uncertainty as to how to apply the *Coleman* rule of discovery. One would think that the stricter marketability test would completely overwhelm the prudent man test and become the sole determinant of discovery. Shortly after *Coleman*, in *Converse v. Udall*, the United States Court of Appeals for the Ninth Circuit concluded that the application of the marketability test in all cases, as required by *Coleman*, "significantly tightened" the test for discovery.[111] Yet, in *Converse*, the court approved the analysis by a hearing examiner who "expressly followed the prudent man test [and] did not purport to follow the marketability test."[112]

The following statements regarding the Forest Service's position on wilderness claim discovery further illustrate the uncertainty surrounding the *Coleman* rule. A form letter sent by forest supervisors to wilderness claim holders in 1983 stated: "To have your 'find' qualify as a *discovery*, you must be able to show the Forest Service evidence . . . that you have found a locatable mineral deposit, and that it can be mined, removed, and marketed at a profit."[113] The letter thus states the classic marketability rule, but without its original limitation to common variety minerals.

A 1982 letter from the Chief of the Forest Service to Senator Malcolm Wallop of Wyoming advised that wilderness mining claims valid on December 31, 1983 may be operated after that date. A requirement of

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111. Converse v. Udall, 399 F.2d 616, 621 (9th Cir. 1968), *cert. denied*, 393 U.S. 1025 (1969).

112. *Id.* at 622. The *Converse* court was clearly uncertain how to apply the *Coleman* holding. The court stated:

> We think [that for non-common varieties] it is still the law that there need not be a full showing of marketability, such as the Secretary required in *Coleman*. . . . [T]he marketability test does permit the fact finder, even in the case of . . . gold, to consider somewhat more extensively than heretofore, the economics of the situation. . . . But this does not mean that the locator must prove that he will in fact develop a profitable mine.

The last statement, of course, ignores the marketability test's requirement that a claimant show that he can market his product at a present profit.

113. *See, e.g*, Letter from Willaim Morden, Supervisor, Kootenai National Forest, to Pacific Coast Mines (March 28, 1983).

validity, the letter stated, included "discovery of a valuable mineral deposit in accordance with the 'prudent man concept'."[114] The Chief's reference to the prudent man rule does not indicate whether he meant the traditional prudent man rule or the rule containing the "refinement" of the marketability test.

In yet another communication, the Alaska Regional Forester wrote his forest supervisors in April, 1983 that a valid discovery is determined by the prudent man rule. He added that the *Coleman* decision requires the marketability test as a refinement of the prudent man test. "The reasoning behind this decision," he explained, "is that if a product cannot be marketed, it has no value, and the 'Prudent-Man Rule,' therefore has not been met."[115] This statement that the material must be merely marketable, not marketable *at a profit*, is reminiscent of the 1962 Solicitor's opinion.

The Interior Department, in virtually all of its decisions in claim contests, states that it applies the prudent man rule as refined by its "logical complement," the marketability test, regardless of the mineral involved.[116] The Department has also stated that the Supreme Court, in *Coleman*, "approved" or "refined" the prudent man test.[117] It is also frequently stated that the prudent man test implies a requirement that the miner show that his mineral can be mined, removed, and marketed at a profit.[118]

These formulas for discovery, recited over and over in the cases, do not provide very useful guidelines for claimants intending to establish the validity of their claims. The Department's analyses of evidence presented in the many cases since *Coleman* must be examined to understand what it actually requires as proof of discovery.

ELEMENTS OF DISCOVERY

The Mining Law requires discovery of "valuable mineral deposits."[119] In order to show discovery, a claimant must present evidence of the existence of a mineral deposit and evidence of economic factors which will prove the deposit valuable: the existence of a market, the costs of development, and the price that can be obtained for the mineral.

Proof of a Mineral Deposit

The first element of discovery that a claimant must prove is the presence of minerals on his claim. No matter how favorable the geologic indications or how strong the belief of the claimholder, there is no

114. Letter from R. Max Peterson, Chief, Forest Service, to Senator Malcolm Wallop (June, 1982).
115. Letter from John A. Sandor, Regional Forester, Alaska Region, to Forest Supervisors (April 4, 1983).
116. *See, e.g.*, United States v. Jones, 67 IBLA 225 (1982); United States v. Ramsey, 14 IBLA 152 (1974).
117. *See, e.g.*, United States v. Fox, 53 IBLA 333 (1981).
118. *See, e.g.*, United States v. Parker, 82 IBLA 344 (1984).
119. 30 U.S.C. § 22 (1976).

discovery if there has been no exposure of minerals on the claim.[120] If a claimant has a number of claims, then each claim, to be valid, must be shown to have minerals within it.[121]

The fact that minerals have once been exposed on a claim is not enough to prove validity if they are no longer exposed.[122] If the claim is a wilderness claim, then the claimant must prove exposure on both the date of withdrawal (January 1, 1984) and the date of the hearing.[123] Exploration work to acquire evidence of mineralization cannot be done after the date of withdrawal.[124] Samples may be taken after withdrawal, however, from minerals previously exposed.[125]

Whether a claimant has actually found minerals is rarely an issue in contests. More than mere presence of minerals, however, must be proved. The claimant must prove a mineral deposit of sufficient quality and quantity to be valuable.[126] Samples "representative of the the mineral deposit" provide evidence of the quality of the mineral.[127] But proving the quantity of a deposit is often a major obstacle which must be overcome before the claimant can even address the quality issue.

It has been held that a claimant need not provide physical evidence of the exact extent of his deposit.[128] There must only be evidence of mineralization to a "consistent extent," that is, marked by continuity.[129] The extent of the deposit can be estimated from geologic inference, evidence of successful development of similar deposits or of adjacent claims, and deductions from established fact.[130] A claimaint may introduce evidence of geologic inferences, however, only when there is "sufficient factual basis" to support such inferences; that is, when a deposit is shown.[131]

What constitutes a sufficient factual basis to allow admission of geologic inferences has not been altogether clear in the past. Recently, in *United States v. Feezor*,[132] the IBLA recognized a "tension" that had developed in the case law regarding the prerequisites to reliance upon geologic inferences.

In *Feezor*, the IBLA identified its earlier decision of *United States v. Edeline*[133] as a source of confusion of the issue. In *Edeline*, the exposure

120. Castle v. Womble, 19 L.D. 455 (1894).
121. Adams v. United States, 318 F.2d 861, 870 (9th Cir. 1963).
122. United States v. Mortenson, 7 IBLA 123 (1972).
123. *See supra* note 56 and accompanying text.
124. United States v. Chappell, 42 IBLA 74 (1979).
125. United States v. Gunsight Mining Co., 5 IBLA 62 (1972).
126. Thomas v. Morton, 408 F. Supp. 1361, 1371 (D. Ariz. 1976), *aff'd sub. nom.*, Thomas v. Andrus, 552 F.2d 871 (9th Cir. 1977); United States v. Edeline, 39 IBLA 236 (1979).
127. United States v. Bechtel, 25 IBLA 77, 88 (1976).
128. United States v. Hooker, 48 IBLA 22, 30 (1980).
129. Barton v. Morton, 498 F.2d 288, 291 (9th Cir. 1974).
130. United States v. Hooker, 48 IBLA 22 GFS(MIN) 126 (1980).
131. United States v. Edeline, 39 IBLA 236 (1979).
132. 90 I.D. 262, 74 IBLA 56 (1983).
133. 39 IBLA 236 (1979).

of spotty and discontinuous mineralization was held insufficient to prove a valuable mineral deposit. The IBLA held that geologic inference "cannot be used as a substitute for evidence sufficiently showing the existence of an ore body or bodies necessary to warrant a prudent man to develop a valuable mine."[134] This holding meant, in effect, that geologic inferences would be permitted only when they were unnecessary.

In *Feezor*, the IBLA rejected the *Edeline* rule and pointed out that, in fact, it had not been followed in later cases. A key distinction between *Edeline* and the other decisions, the IBLA explained, was in the use of the terms "mineral deposit" and "valuable mineral deposit." A mineral deposit meant, in the context of a lode claim, "that a mineralized area in a vein or lode [had] been disclosed. It [did] not necessarily mean that a *valuable* mineral deposit [had] been exposed."[135] A valuable mineral deposit, on the other hand, was a "mineral deposit of sufficient quantity and quality so as to justify a prudent man in expending both labor and money in developing a paying mine."[136] The case law established, the *Feezor* Board stated, that exposure of a *mineral deposit* was a sufficient precondition to the use of geologic inference. There had been cases, since *Edeline*, in which the IBLA seemed to suggest that there must be exposure of a mineral deposit to a certain extent—even to the extent that the exposed minerals themselves qualified as valuable—before geologic inferences could be used in evidence. The IBLA concluded in *Feezor*, however, that the Board had permitted geologic inferences in those cases but those inferences had been insufficient to establish the deposits as valuable.

As a matter of law, exposure of minerals permits the use of geologic inferences as evidence, but as a matter of fact, such evidence can be insufficient to establish the extent of a deposit. Geologic inference is most helpful to claimants when values are high and relatively consistent because it can be readily inferred that a sufficient quantity of mineralization exists beyond that already exposed. The Board erred in *Edeline* by holding that geologic inference was inadmissible even though minerals were exposed on the claim. As in other cases involving claims with isolated but high quality mineralization, geologic inferences should have been admitted even though they could not, in the end, establish that a valuable mineral deposit existed.

The IBLA pointed out in *Feezor* that geologic inference may not be used when minerals of only low value have been exposed. Low value mineralization is not considered a deposit. A claimant who can only show low mineralization does not give a sufficient factual basis for the use of geologic inference. The *Feezor* Board cited *Henault v. Tysk*,[137] to illustrate this point. In *Henault*, the mineralization found on the claim was low grade

134. *Id.* at 241.
135. United States v. Feezor, 90 I.D. 262, 273, 74 IBLA 56, 75 (1983).
136. *Id.* at 272-73, 74 IBLA at 75.
137. 419 F.2d 766 (9th Cir. 1969), *cert. denied*, 398 U.S. 950 (1970).

gold ore occurring in formations known as dikes.[138] Rich gold deposits had been found on both sides of the claim under the same type of dikes. It seemed logical to conclude that a valuable deposit also lay under the dikes within the contested claim. Because only low grades of gold had been exposed, however, the Board refused to allow geologic inference to establish existence of a high grade, or valuable, deposit.[139]

It is clear from the IBLA decisions that a valuable mineral deposit will be recognized only if enough is known, or can be inferred, about the physical make-up of a claim to justify a decision to mine.[140] If further exploration is necessary before such a decision can be made, then a valuable mineral deposit has not been discovered.[141] A claimant who is justified only in further investigation is a "prudent prospector," not a prudent miner.[142] The United States will not part with possession of land "merely because a mining claimant has found enough evidence of mineralization to stimulate his desire to take a blind risk in the unjustified hope that fate will be kind," the IBLA explained in *United States v. Gunsight Mining Co.*, a 1972 decision.[143] "A risk which relies upon chance to a disproportionate degree cannot be regarded as an endeavor in which a prudent man would be justified in investing with a reasonable expectation of success."[144]

The Interior Department cannot judge whether a prudent man would be justified in investing his money and labor in a deposit simply from evidence of the extent and grade of the deposit. In order for a mineral deposit to be located, it must also be valuable. The claimant must prove that it is economically feasible to develop his mine and economic feasibility depends upon the existence of a market for the mineral, the cost of extraction, and the price that can be obtained for the mineral.

Existence of a Market

A claimant must present evidence of a "present and continuing demand" for his product.[145] When there has been a withdrawal he must show that the demand existed at the time of the withdrawal, as well as the time of the contest.[146] A showing that the claimant is exploring possible future markets and uses for his mineral is insufficient.[147] Also insufficient is a showing that a mineral, unmarketable at present, would be marketable

138. A dike is "a long mass of igneous rock that cuts across the structure of adjacent rock." AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 369 (1978).

139. *Henault v. Tysk*, 419 F.2d at 766; *see also* Barton v. Morton, 498 F.2d 288 (9th Cir. 1974).

140. *See* United States v. Blue Bell Gold Mining Co., 17 IBLA 182 (1974); United States v. Woolsey, 13 IBLA 120 (1973).

141. *See* United States v. Tappan, 25 IBLA 1, 18 (1976); United States v. Ramsey, 14 IBLA 152, 156 (1974).

142. Henault Mining Co. v. Tysk, 419 F.2d 766, 769 (9th Cir. 1969), *cert. denied*, 398 U.S. 950 (1970).

143. United States v. Gunsight Mining Co., 5 IBLA 62, 69 (1972).

144. *Id.*

145. United States v. Rouse, 56 IBLA 36 (1981).

146. *See* United States v. Duval, 53 IBLA 341 (1981).

147. *Rouse*, 56 IBLA at 39.

in event of a war, the cut-off of cheap imported supplies, or some other contingency.[148]

For some minerals, a claimant need not specifically show that they can be sold. As noted by the IBLA in *United States v. Larsen,* minerals whose supply has never exceeded demand can always be marketed.[149] One cannot assume the existence of ready buyers, however, when a mineral is abundant. The claimant must therefore show that "by virtue of the quality of the material found on his claim, its proximity to a market, or some equally cogent factor, he will be able to capture a share of the market for that mineral."[150] If the mineral cannot be sold, it is not valuable.[151]

Minerals are often sold in captive markets. Such markets exist when a claim's product will be sold only if a contract can be made with a specific buyer. If there are only a few buyers requiring a limited amount of a mineral, then a claimant must present evidence that he can capture a part of the market. He must present evidence that specific buyers are interested in the purchase of his product.[152]

For minerals of widespread occurrence, it is generally necessary to show that the mineral can be produced and sold at a profit in the present market in competition with existing suppliers.[153] The mineral must be extracted and transported at a cost which will provide a profit "comparable to that which attaches to the material being successfully marketed by others."[154] Further, it must be shown that local demand can absorb the increased supply from the claimant's proposed production "and still permit an attractive profit to be realized."[155] This showing is made by comparing the total demand against the total supply. Total supply includes the claimant's supply and "all other known potentially competitive sources."[156] If total supply "amounts to a superabundance and so overwhelms the existing demand as to reduce the value or profit increment to a level below that which would prove attractive to a prudent man, the material cannot be said to be marketable at a profit."[157] When there is an abundance in supply the IBLA has declared that the claimant may need to show a superior quality product, lower production costs, or like advantages which would attract buyers to his product.[158]

In some instances, a claimant's mineral supply alone creates superabundance. There may be so much ore on a group of claims that all of

148. United States v. Jenkins, 75 I.D. 312 (1968). This case involved manganese, domestic stocks of which had never been sold except in wartime or because of some government stockpiling which was completed by the time of this case.
149. United States v. Larsen, 9 IBLA 247, 254 (1973).
150. *Id.* at 255.
151. Williamson v. Lapine Pumice Co., 87 I.D. 34, 50, 45 IBLA 264, 294 (1980).
152. United States v. Duval, 53 IBLA 341 (1981); Rodgers v. Watt, 726 F.2d 1376 (9th Cir. 1984).
153. Melluzzo v. Morton, 534 F.2d 860, 864 (9th Cir. 1976).
154. *Id.*
155. *Id.*
156. *Id.*
157. *Id.*
158. United States v. The Dredge Corp., 54 IBLA 281 (1981).

it cannot possibly be sold. In judging the validity of such claims, the Department considers how many of the claims are required to supply the market reasonably anticipated for the product.[159] Only that number of claims can be held valid.[160]

The reasonably anticipated supply includes a reasonable reserve which can be held without being mined at present.[161] The voided claims are said to hold "excess reserves."[162] In a contest brought upon application for patents for perlite claims, the IBLA explained its reason for voiding claims of excess reserves:

> It is difficult to see how the purposes of the mining laws would be accomplished by patenting all the mining claims, and thus depriving the United States and the public of any other use of the land, when there is no reasonable probability or even possibility that more than a fraction of the deposits could be exploited within the reasonably forseeable future, even making allowance for the reserves necessary to sustain a mining operation. Justification exists only for holding valid those claims which would supply contestees with the deposits necessary to carry on an operation of the size they contemplate for a reasonable period of time, for in a hard economic sense only those deposits have a reasonable prospect of a market.[163]

The United States Court of Appeals for the Ninth Circuit disagreed with the policy of voiding claims of excess reserves in the 1980 case of *Baker v. United States.*[164] In that case, the IBLA had invalidated two of claimant Baker's four cinder claims[165] even though each claim considered in isolation would have been valid. The total volume of Baker's claims would have given him a 270 to 400 year supply. The IBLA held that if this amount were added to the market, then the supply of cinders would far exceed the reasonably anticipated demand. By voiding two of the four claims, the IBLA left Baker with a 100 to 200 year supply.

On appeal, the court held that the "too much" rule, as it termed invalidation of claims with excess reseves, had no basis in the Mining Law. "The validity of a claim has always been determined by an inquiry into that particular claim, not by an examination of the individual's other claims," the court stated.[166] "[Congress] has never attempted to either limit the amount of mineral, or the overall number of claims, which can be patented by an individual."[167] Further, the court stated that the "too

159. United States v. Bunkowski, 79 I.D. 43, 5 IBLA 102 (1972).
160. *Id.*
161. *See* United States v. Oneida Perlite Corp., 88 I.D. 772, 780, 57 IBLA 167, 182 (1981).
162. *Id.* at 781, 57 IBLA at 183-84; United States v. Anderson, SO-1968-1 (Mining).
163. United States v. Anderson, SO-1968-1, 12 (Mining).
164. 613 F.2d 224 (9th Cir. 1980), *cert. denied sub. nom.* Andrus v. Baker, 449 U.S. 932 (1980) (3 justices dissenting).
165. United States v. Baker, 23 IBLA 319 (1976).
166. Baker v. United States, 613 F.2d at 229.
167. *Id.*

much" rule was "a wholly unreliable subjective analysis, resting too much in the eye of the administrative beholder."[168]

The IBLA has continued to void claims with excess reserves despite the *Baker* decision. In a 1981 case, *United States v. Oneida Perlite*, the Board invalidated 1,280 acres of a contestee's 1,860 acre perlite deposit because the 1,280 acres held "excess reserves."[169] The IBLA explained that it could lawfully void an excess supply of a mineral without exceeding its power:

> [A] reference to "excess reserves" does *not* describe a new rule of law invented by this Department.... It is nothing more or less than a descriptive phrase . . . [which] describes the location of claims for far more land and mineral than reason and prudence would allow because there is such a superabundance of the material that the market simply cannot accept all of it at a profit. Therefore, some of the deposits must be regarded as not valuable in an economic sense.... This concern for excess reserves is rooted in the basic statute, 30 U.S.C. § 22 (1976), and controlled by the "prudent man" test of discovery as complemented by the requirement that the economic value of the deposit be measured by a determination of whether it is presently marketable at a profit.[170]

While one could say that the claims in *Oneida Perlite* held "excess reserves," it could equally be said that there had been no discovery of a valuable mineral deposit, a matter, the IBLA made clear, that it was perfectly competent to judge.[171]

The IBLA also made clear in *Oneida Perlite* that the amount of material involved, not the fact that only one party claimed it, required invalidation of some of the claims. It would make no difference whether one person held fifty claims or fifty persons each held one claim. Had others claimed the voided acres in *Oneida Perlite*, those claims would still have been invalid because the supply of the mineral entering the market would have exceeded the demand, rendering the operation of additional claims unprofitable.[172]

The invalidation of claims because of "excess reserves" is consistent with the principle that a deposit cannot be valuable if it cannot be marketed. Value is a relative term, and as the IBLA recognizes, a commodity's value depends, in part, upon its scarcity. Notwithstanding the circuit court's disapproval, the *Oneida Perlite* decision is a warning that the "excess reserves" rule will continue to figure into the Interior Department's value analysis.

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168. *Id.*
169. United States v. Oneida Perlite Corp., 88 I.D. 772, 57 IBLA 167 (1981).
170. *Id.* at 787-88, 57 IBLA at 195.
171. *Id.*
172. For additional discussion of the "excess reserves" controversy involving the IBLA and the Ninth Circuit Court of Appeals, see McCall v. Andrus, 628 F.2d 1185 (9th Cir. 1980), *cert. denied*, 450 U.S. 996 (1981). *See also* BLM Instruction Memorandum No. 83-124 (1982).

Costs

The potential costs of mining a claim are important in determining the value of the mineral deposit. Realistic appraisal of a claim is not possible if costs are ignored.[173] If the quantity of a recoverable mineral is small or disputed, then the costs of extraction can be crucial to a determination of the claim's value.[174]

The costs to consider include all those that are likely to be incurred in developing a claim and they depend on the type of mining operation anticipated.[175] Costs must be considered objectively, without regard to any special cost-limiting factors particular to the claim being analyzed.[176] For example, the amortized cost of equipment already owned by a claimant must be added to the cost estimate even though he will not have to buy that equipment again.[177] Moreover, equipment must be valued on an objective basis even if the particular claimant can purchase or lease it below the going rate.[178]

Transportation costs must also be considered. Loading and transportation of ore can be major expenses of an operation,[179] as can the construction or rehabilitation of access roads and acquisition of easements over private land.[180]

The cost of water and water rights must be considered for some operations.[181] And in these times of high interest rates, the cost of financing is significant.[182]

The expense of environmental protection must be figured into the analysis. "To the extent federal, state, or local law requires that antipollution devices or other environmental safeguards be installed and maintained as part of [a mining operation]," the cost of these measures may be taken into account.[183] Costs incurred because of compliance with restrictions on mining activity in special areas must be included.[184] They should prove to be important in cost estimates for wilderness operations.

Claimants generally accept the fact that costs should be included in the determination of a claim's value. They often fail, however, to make estimates of the cost of their mining operations, or they fail to include certain costs. An operator's own wages are a frequently overlooked expense. In a small operation, where the owner is also the labor force,

173. United States v. McKenzie, 4 IBLA 97, 109 (1971).
174. United States v. Harris, 38 IBLA 137, 140 (1978).
175. United States v. Bechthold, 25 IBLA 77, 87 (1976).
176. United States v. Garner, 30 IBLA 42, 67 (1977).
177. *Id.*
178. *Id.*
179. United States v. Marion, 37 IBLA 68, 78 (1978).
180. United States v. Rouse, 56 IBLA 36 (1981).
181. United States v. Pittsburgh Pacific Co., 84 I.D. 282, 285, 30 IBLA 388, 394 (1977).
182. *Id.* at 288, 30 IBLA at 399.
183. United States v. Kosanke Sand Corp., 80 I.D. 538, 546, 12 IBLA 282, 299 (1973).
184. United States v. Rouse, 56 IBLA 36, 39 (1981). This case involved National Park Service restrictions. The claimant was trying to prove the claim was valid before the land was included in the National Park System and withdrawn from mining.

reasonable wages for the operator and his help must be allocated to costs. The IBLA has held that the value of a claimant's labor equals the value of hired labor.[185] This is so even if the claimant is willing to work for far less than miner's wages. Sometimes a mine provides only a small supplement to a miner's regular income. Claimants may consider such lifestyles "prudent."[186] The government, however, requires that a mine be capable of paying reasonable wages for the laborers needed to work it. Miner's wages for all who work on a claim must therefore be allocated to costs, even if some of the workers are friends lending gratuitous help.[187]

Price

The price for which a claim's minerals can be sold is an important factor in determining the claim's validity. Despite the marketability test's emphasis on the present, the Interior Department does not base its price estimate entirely on present market prices. For example, the Department does not require evidence of the market price on the exact date of withdrawal. Rather, the IBLA has referred in its opinions to average prices, over a period of time.[188] The IBLA recognizes that mineral prices often fluctuate and has held that "[n]ormal economic fluctuation is a factor which a prudent man would consider in determining whether he would invest in the development of a given mineral property."[189]

In *In re Pacific Coast Molybdenum Co.*,[190] the IBLA provided a well-stated guideline for acceptable evidence of price. The IBLA acknowledged that use of a mineral's price on a specific date could give a very unrealistic picture of a claim's value. The price on a given day could be atypically high or low. A truer picture of value is shown by the "relevant historic range" of prices the mineral has commanded on the market.[191]

By "relevant historic range" the IBLA means the historic price range under market conditions similar to those existing at the time of claim adjudication. If there has been a "major structural alteration in the market" or if there have been "technological breakthroughs" that render "irrelevant past economic experience," then reliance on the historic range of prices is improper.[192]

The manganese industry provides an example of changed circumstances which rendered the "historic range" irrelevant. Until 1959, the federal government stockpiled domestically produced manganese as a strategic mineral. Upon termination of this program the price of domestically produced maganese ore dropped from ninety dollars per ton

185. United States v. Kiggins, 39 IBLA 88, 90 (1979) (Burski, J., concurring); United States v. Gardener, 18 IBLA 175, 179 (1975).
186. *Gardener*, 18 IBLA at 179.
187. United States v. Stocker, 10 IBLA 158 (1973).
188. *See, e.g.*, United States v. Hooker, 48 IBLA 22 (1980).
189. United States v. Hines Gilbert Gold Mines Co., GFS-BLA-MIN-1971-2.
190. 90 I.D. 352, 75 IBLA 16 (1983).
191. *Id.* at 360, 75 IBLA at 29.
192. *Id.*

to about forty dollars per ton. The historic price of ninety dollars per ton thus became irrelevant to a determination of market price for claim adjudication.[193]

Frequently the IBLA will take judicial notice of price rises. In *United States v. Kinsley Ranch Resort* the Board noted that the price of gold, the mineral in issue, increased by five times while the appeal was pending.[194] The Board remanded the case to the administrative law judge for reconsideration of the discovery in light of the increased price.[195] It should be pointed out, however, that no withdrawal of the claim site from operation of the Mining Law was involved in *Kinsley,* so the price on a prior withdrawal date did not control the validity of the claim. If withdrawal had been involved, then the Board would not have considered the price increase that occurred after the date of withdrawal. At the time of withdrawal, the price increase would have been purely speculative.[196]

Proving a Valuable Mineral Deposit

A claimant attempting to locate a claim has the burden of establishing all of the elements discussed above. As we have seen, each element must be established with solid evidence. Typically, claims are held invalid because evidence on one or more of the elements is clearly insufficient.[197] The hearing examiner must rarely consider whether the combination of elements proves a valid claim.

Occasionally, claimants do support each element of discovery with sufficient evidence so that the hearing examiner can proceed to judge whether the evidence as a whole proves the existence of a valuable mineral deposit. The hearing examiner must employ both the prudent man test and the present marketability test in his analysis. The Interior Department has fashioned a fairly workable analytical rule which it considers consistent with the Supreme Court's holding in *Coleman.*

A review of the cases shows that the Department has retained the flexible "reasonable prospect" language of the prudent man rule even though the Supreme Court seemed to require in *Coleman* that the Department employ the more rigid marketability language. In 1969, shortly after the *Coleman* and *Converse* decisions, the Interior Department Solicitor justified the Department's position by stating that:

> The whole question is one of semantics. In speaking of a "reasonable prospect of success in developing a valuable mine," the prudent man rule necessarily invokes a time concept . . . [W]hile

193. United States v. Denison, 71 I.D. 144 (1964), *rev'd and remanded sub nom.,* Denison v. Udall 248 F. Supp. 942 (D. Ariz. 1964), *reaff'd on remand,* United States v. Estate of Denision, 76 I.D. 233 (1969).

194. 20 IBLA 14 (1975).

195. *See also* United States v. Heard, 18 IBLA 43 (1974).

196. United States v. Gold Placers, 25 IBLA 368, 374 (1976).

197. Often the failure of evidence is in the lack of documentation to support a claimant's assertions, particularly about mineral grade, or production costs. *See, e.g.,* United States v. Arbo, 70 IBLA 244 (1983).

> reasonable prospect of success contains a connotation which has room for the future, it does not embrace a vague distant future.[198]

According to the Solicitor, the phrases "present marketability" and "a reasonable prospect of a future market" "[do] not express mutually exclusive concepts. The critical determination is whether, based on present facts, there is a reasonable prospect of success."[199]

The Department's test, despite the Solicitor's rationalization, is purely a "prudent man" analysis. Even if the hearing officer is limited to present facts, he is employing the prudent man test if those present facts indicate "prospects" of success. Ever since the prudent man test was first expressed in *Castle v. Womble,*[200] hearing examiners have been required to base their judgments of the "prospects" of claims upon present facts. As we have seen, the strict marketability test does not permit consideration of "prospects." In order to hold a claim valid the examiner must find that the mineral *can,* at present, be developed at a profit.

In the first case in which the newly formed IBLA addressed the issue of discovery, *United States v. Silverton Mining and Milling Co.,* the Board favored the prudent man prescription:

> In determining whether a mineral deposit is valuable the Secretary may require a showing that there is a reasonable expectation based upon the circumstances known at the time that the mineral can be extracted, removed, and marketed at a profit—that is that it is marketable at a profit. It need not be proved that the claim can in fact be operated at a profit. . . .[201]

Although the Board employed language from the marketability test ("that the mineral can be extracted, removed and marketed at a profit"), the Board qualified it with phrases from the prudent man test. The Board did not require the claimant in *Silverton* to show that his product could be marketed at a profit, but it simply required a showing that there be a reasonable prospect of a profitable mine. The IBLA thus bent the marketability test's strict grounding in the "present," and its requirement of certainty, in order to fit the marketability test within the prudent man rule.

In re Pacific Coast Molybdenum Co.,[202] contains the IBLA's latest discussion of the test for discovery and provides an important guide to the Board's interpretation of the present marketability requirement. The IBLA rejected the idea that an inquiry into present marketability tied a mineral to a particular price or to particular costs on a particular day. Many minerals such as molybdenum, the mineral in issue, "show marked price elasticity for both demand and supply fluctuations."[203] The IBLA

198. United States v. Estate of Denison, 76 I.D. 233 (1969).
199. *Id.*
200. 19 L.D. 455 (1894).
201. United States v. Silverton Mining & Milling Co., GFS-BLA-MIN-1970-1.
202. 90 I.D. 352, 75 IBLA 16 (1983).
203. *Id.*

explained that determining marketability from solely present conditions may create a very unrealistic picture of the long term market. This would be the case, according to the IBLA, unless the term "present" were given a broad interpretation:

> "Present marketability" had never encompassed the examination of either cost or price factors as of a specific, finite moment of time, without reference to other economic factors. Rather the question of whether something is "presently marketable at a profit" simply means that a mining claimant must show that, as a present fact, considering historic price and cost factors and assuming that they will continue, there is a reasonable likelihood of success. . . .[204]

The "present marketability" language of the marketability rule is here given such a broad interpretation that the original 1894 statement of the prudent man rule adequately describes the requirement for discovery. Evidence grounded in present facts justifies a prudent man in further expending money and labor, and present facts are those facts that are relevant to a decision to develop a mine.

This approach certainly makes good sense. Success or failure of a long term venture like mining is manifested over time. And of course, there can never be a complete guarantee of success. Though the words of the marketability test suggest otherwise, the IBLA has often disclaimed any requirement that a claimant prove that his mine is a sure money-maker.[205] The relevant historic range of prices and costs is probably the most realistic gauge by which to judge a claim's potential.

Perhaps it can be said that the marketability rule, as interpreted by the IBLA and the courts since *Coleman,* is a "logical complement" and "refinement" of the prudent man rule. It could also be said, however, that it is simply an unnecessary complication. Decisions since *Coleman* can be justified on the basis of the prudent man rule without the additional statement that one must prove that the mineral "can be extracted, removed, and marketed at a profit."[206]

The Interior Department has not specified the level of profitability necessary to prove a "valuable mineral deposit." In *United States v. Oxford,*[207] the IBLA rejected the proposition that the expected return from a mining operation must compare with the rate of return obtainable from investments in labor, government bond, or other markets. Claims upon which one would undertake an "apparently marginal enterprise" were held valid by the United States Court of Appeals for the Ninth Circuit in *Charleston Stone Products v. Andrus.*[208]

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204. *Id.* at 360, 75 IBLA at 29.
205. *See, e.g.,* United States v. Mannix, 50 IBLA 110 (1980).
206. *See supra* text accompanying note 82.
207. United States v. Oxford, 4 IBLA 236 (1972).
208. 553 F.2d 1209, 1215 (9th Cir. 1977), *rev'd on other grounds,* 436 U.S. 604 (1977). The IBLA had held most of these claims invalid. 9 IBLA 94 (1973).

If a small operation promises to be marginal, the IBLA may have to decide whether an owner-operator's wages should be considered as profits. Wages are properly assessed as costs in the discovery analysis, but they may also be the major part of an operator's return on his mine. If an owner's wages are called profits, then a claim which promises to support only a marginal operation may pass the prudent man test. The IBLA suggested in *United States v. Wells* that owner-operators who pay themselves the usual miner's wage can make their venture "profitable" even though the operation as a whole loses money.[209] In *United States v. Kiggins*, however, it was suggested that if an operation promises to merely break even after wages are disbursed, then the operation cannot be held profitable.[210] In a special concurrence, a member of the IBLA panel expressed concern about undervaluing the significance of the owner-operator's wage. The IBLA has not reviewed enough cases on this issue to establish a firm rule. From the objective viewpoint used in discovery analysis, it would seem that if a small operation can provide its owner with a comfortable living, then he would be prudent to engage in it.

Summary

In order to perfect a mineral claim on public lands under the Mining Law, one must monument it, record it in the county courthouse, file a notice of it with the BLM, and prove discovery of a valuable mineral deposit. Satisfying the discovery requirement is the most difficult of these steps.

A claimant must produce evidence of four elements in order for the Interior Department to determine that a discovery has been made. Initially, he must prove that a mineral deposit is actually on the claim. Minerals must be exposed, and the evidence must indicate mineralization to a consistent extent. Having established the presence of a deposit on his claim, the claimant must then produce evidence of the other factors which will prove the deposit valuable. He must show that there is a market for the mineral. For some minerals a market is understood to exist, and no specific showing is necessary. If the mineral in issue is abundant, or the market small, then proof of a market can be crucial. Also, the claimant must account for all costs that he will incur in his prospective mining operation. Finally, the claimant must present evidence of the price that can be obtained for the mineral. Because prices can fluctuate greatly, the Interior Department permits reliance upon a relevant historic range of prices.

The discovery determination depends on the relationship between these elements. Two tests of discovery have been formulated by the Interior Department and the courts. The first, the prudent man test, recognizes a discovery if minerals have been found and the evidence is

209. 11 IBLA 253, 261 (1973).

210. United States v. Kiggins, 39 IBLA 88 (1979). The claim in this case was without question invalid. The IBLA stated that even if the value of the mineral had been quadrupled, the operation would not break even. *See also* United States v. Cox, 4 IBLA 279 (1972).

of such a character that a person of ordinary prudence would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine. The second, the marketability test, recognizes discovery only if the claimant can show that the mineral *can* be marketed at a profit. Since the *Coleman* case, the two rules have been applied together as a single discovery test for all mineral claims on public lands. Although the cases recite both tests together, in practice the language of the marketability test is read so broadly that the analysis actually employed is the prudent man test.

DISCOVERY AND THE WILDERNESS

It would be a mistake to conclude that discovery is easily proved just because the prudent man test is the test actually applied by the Interior Department. It is no simple matter to prove that a claim shows a reasonable prospect of successful development. The vast majority of claims in cases reviewed by the IBLA are held invalid.

It will probably be more difficult for wilderness claimants to prove their claims valid than it is for claimants with claims on other public lands. There are a number of factors associated with wilderness claims which lessen the likelihood of discovery being proved on these claims. The January 1, 1984 withdrawal date, the physical remoteness of most wilderness areas, and Forest Service regulation of exploration and development have surely affected claimants' efforts to establish valid wilderness claims.

The withdrawal date needs only a short explanation. It was established under the Wilderness Act and it was incorporated into the management directives of most national forest wilderness areas of the West. As we have seen, exploration had to cease upon withdrawal of these areas on January 1, 1984. Wilderness claimants will have to prove discovery based upon knowledge of their claims amassed by that date.

Wilderness areas are remote, roadless,[211] at high elevations and snowbound for most of the year.[212] The work season at such elevations is short.[213] Such conditions must have made the discovery of most wilderness claims more difficult than discovery on non-wilderness sites.

Regulation of wilderness exploration and mining merit extensive discussion by themselves.[214] Briefly, the Wilderness Act authorizes the continued application of the Mining Law,

> subject, however, to such reasonable regulations governing ingress and egress as may be prescribed by the Secretary of Agriculture

211. 16 U.S.C. § 1133(c) (1982).

212. Comment, *Wilderness Act and Mining: Some Proposals for Conservation*, 47 ORE. L. REV. 447, 451 (1968).

213. *Id.*

214. *See* Ferguson, *Forest Service and BLM Wilderness Review Programs and their Effect on Mining Law Activities*, 24 ROCKY MTN. MIN. L. INST. 717-65 (1978); Haggard, *Regulation of Mining Law Activities on Federal Lands*, 21 ROCKY MTN. MIN. L. INST. 349-91 (1976);

consistent with the use of the land for mineral location and development and exploration, drilling, and production, and use of land for transmission lines, waterlines, telephone lines, or facilities necssary in exploring, drilling, producing, mining, and processing operations, including where essential the use of mechanized ground or air equipment and restoration as near as practicable of the surface of the land disturbed in performing, prospecting, [and] location, . . . as soon as they have served their purpose.[215]

Since 1974, the Forest Service has regulated mining activities in all national forests.[216] These regulations, applicable to wilderness and non-wilderness areas alike, are broadly stated with general guidelines applicable to all claim situations.

The general language of the regulations permits the Forest Service to make specific directives for the protection of surface resources on a claim-by-claim basis.[217] In general, the Forest Service applies its regulations more strictly in wilderness than it does in non-wilderness sit-

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Hubbard, *Ah, Wilderness! (But What About Access and Prospecting?)*, 15 ROCKY MTN. MIN. L. INST. 585-619 (1969); Maley, *Mineral Law Since NEPA*, 18 IDAHO L. REV. 73-95 (1982); Miller, *Recordation and Surface Management Regulations Affecting Mining in the National Forests, the National Park System, and on the Public Domain*, 23 ROCKY MTN. MIN. L. INST. 841-64 (1977); Noble, *Environmental Regulation of Hardrock Mining on Public Lands: Bringing the 1872 Law Up to Date*, 4 HARV. ENVTL. L. REV. 145-63 (1980); Note, *Wilderness Act of 1964—Right to Mine of Those Holding Mineral Claims in Federal Wilderness Areas*, 20 WAYNE L. REV. 1215-25 (1974); Short, *Wilderness Policies and Mineral Potential on the Public Lands*, 26 ROCKY MTN. MIN. L. INST. 39-73 (1980).

215. 16 U.S.C. § 1133(d)(3) (1982). The Wilderness Act contains two other provisions concerning regulation of mineral activities. Section 4(d)(2), 16 U.S.C. § 1133(d) (1982), provides that activity to gather information about mineral or other resources must be permitted, "if such activity is carried on in a manner compatible with the preservation of the wilderness environment." This section clearly allows less exploration activity on wilderness than does section 4(d)(3), 16 U.S.C. § 1133(d)(3) (1982). In a 1981 memorandum to the Director of the BLM, the Solicitor advised that the directive of 4(d)(3) should apply until withdrawal on midnight, December 31, 1983 at which time only such activity permitted by 4(d)(2) would be permissible. Solicitor's Memorandum, M-36941 (October 19, 1981).

Section 5(b) of the Wilderness Act, 16 U.S.C. § 1134(5)(b) (1982), authorizes access to valid claims within wilderness, subject to "reasonable regulations consistent with the preservation of the area as wilderness." The admonition that regulation of access must be "consistent with the preservation of the area as wilderness," is at odds with the directive in 4(d)(3) that ingress and egress (and other actions involved with mineral activities) shall be subject to regulation "consistent with the use of the land for mineral location and development and exploration, drilling, and production. . . ." 16 U.S.C. § 1133(d)(3) (1982). Because means of access may affect the feasibility (and thus validity) of development prospects, it will be necessary to resolve these apparently inconsistent provisions as claims are reviewed for determination of validity.

216. 36 C.F.R. §§ 228.1 - .15 (1983). The Forest Service's authority to regulate activities connected with mining operations was challenged in *United States v. Weiss*, 642 F.2d 296 (9th Cir. 1981), and upheld on the basis of the Organic Act. *See also* United States v. Richardson, 599 F.2d 290 (9th Cir. 1979), *cert. denied*, 444 U.S. 1014 (1980); *United States v. Curtis Nevada Mines*, 415 F. Supp. 1373, 1379 (E.D. Calif.), *aff'd in relevant part*, 611 F.2d 1277 (9th Cir. 1980) (which upheld the validity of the regulations without discussion).

217. Mining activity in national forests is predicated upon Forest Service approval of a prospector's or miner's "plan of operation" which, for prospecting, must outline the area involved, the means of exploration, the period over which the activity is to occur, the manner in which the environment is to be protected, and the existing or proposed access routes to be used. 36 C.F.R. § 228.4(c) (1983). For actual mine development another plan of opera-

uations.[218] For example, the Forest Service Manual advises foresters to give special attention to the means of transport and type of equipment to be approved for wilderness exploration.[219]

When wilderness claims come under review, after plans of operation are submitted for mine development, the combination of the exploration deadline, remoteness, and regulation may prove to have been an insurmountable obstacle to validation efforts.

Establishing the existence of a deposit of sufficient quality and quantity to justify a mine must have been more difficult in wilderness than in non-wilderness areas. The Forest Service could not have imposed conditions on plans of operation which made exploration impossible: The statutory right to prospect had to be honored during the period before withdrawal. Still, the extra care required for protection of sensitive wilderness sites and the restricted means of access undoubtedly made exploration more time consuming than it would otherwise have been. The remote location of many wilderness claims must also have affected the rapidity with which exploration work was accomplished. Moreover, the work season on claims at high elevations is short.[220] With such impediments to exploration, an extended timetable was called for. Instead, explorers labored with the discomforting awareness of the January 1, 1984 deadline.

The recent decision by the IBLA in *United States v. Feezor*,[221] may be of help to those claimants whose exploration was cut short by the deadline. A claimant who has not accomplished all his intended exploration work by the deadline, but who has exposed some mineralization of high quality can employ evidence of geologic inferences in the effort to prove his deposit valuable. Of course, as the IBLA cautioned in *Feezor*, the geologic inferences often fail, as a matter of fact, to prove the extent of a deposit. But at least, as a matter of law, the claimant is allowed to advance his case with geologic inferences.

The remote site of a prospect and the Forest Service's regulations and manual directives can affect a claimant's effort to prove his claim valid by raising costs of his proposed operation. Costs in developing a wilderness

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tion must be submitted for Forest Service approval. In wilderness "the rights of the minerals claimant must be met with the least possible impact on the wilderness resource." FOREST SERVICE MANUAL § 2323.7.

A plan of operation approved by the Forest Service is an agreement between the Service and the claimant setting out precisely what activities may be undertaken on a claim, and how they may be performed. "The operator agrees to observe necessary and reasonable precautions, spelled out in this plan, to reduce damage to surface resources during operations activities and to rehabilitate disturbed areas when feasible. In turn, the Forest Service agrees that protection of surface resources will be adequate if operations are carried out in accordance with the approved plan." Mining in the National Forests, U.S.F.S. Current Information Report 14, at 9 (1979).

218. Mining in the National Forests, *supra* note 217, at 11.

219. *See* Forest Service Manual §§ 2323.71(a)(1), (2), 2817.26.

220. Comment, *The Wilderness Act and Mining: Some Proposals for Conservation, supra* note 212, at 451.

221. 90 I.D. 262, 74 IBLA 56, (1979).

claim are bound to be high. Claims on regular national forest lands are often near established access roads, while those within wilderness areas are rarely near access roads because wilderness areas, by definition, are roadless. If a wilderness mine operator needs a road he must build it.[222] Everything, in fact, must be done "from scratch."[223] Further, any special Forest Service, state, or other statutes and regulations to protect wilderness qualities can be expected to add to costs. Thus, there must be a "reasonable prospect" that a wilderness operation can obtain higher gross profits than would be necessary elsewhere, if the wilderness operation is to be "profitable."

One possible difficulty facing claimants in their efforts to prove their wilderness claims valid might arise, not from regulations or the difficulty of working in remote areas, but from the reluctance of buyers to purchase the products of a wilderness mine. If a claimant holds a deposit of a mineral for which there must be shown a captive market, then he may find it difficult, if not impossible, to find a buyer willing to be connected with his controversial operation. In *United States v. Marion*,[224] the IBLA found it significant that a prospective buyer cancelled a contract to buy the product of a mine in a sensitive area. The prospective buyer's parent company "did not wish to be involved in the adverse publicity attendant to exploitation of these claims. . . ."[225] A wilderness claimant may find that his mineral deposit lacks value because there are no buyers.

In at least one important respect, a wilderness claimant is on the same footing as any other claimant. Each claimant must satisfy the same burden of proof in order to show a discovery. From 1913 until 1983 the Interior Department and the courts had held that evidence of the mineral values on national forest claims had to be "clear and unequivocal."[226] This rule was understood to require a greater showing to support national forest claims than to support claims on other federal land. In the 1983 case, *In re Pacific Coast Molybdenum*, an environmental group sought to extend the higher national forest standard to contested claims in national monuments. The group contended that a "stronger showing of marketability is required for important recreation areas . . . than for other public lands."[227] National forest wilderness areas, by virtue of both their national forest identity and their recreational value, would surely come under the rule. The IBLA, however, not only refused to extend this "rule" of evidence to non-national forest areas, but it repudiated the rule for all areas.

222. In some areas valuable mineral deposits are located just within wilderness. Access to these deposits will thus be possible from outside the wilderness area, and many development activities, not within the wilderness, may be regulated by the somewhat less strict supervision to which non-wilderness areas are subject. Deposits in the Cabinet Mountains may be developed in this manner. A. Haak, Conflicting Demands on a Finite Resource: Wilderness Preservation v. Mineral Development (1984) (unpublished M.S. Thesis, Univ. of Idaho).

223. Comment, *supra* note 212, at 451.

224. 37 IBLA 68 (1978).

225. *Id.* at 77-78.

226. United States v. Lavenson, 206 F. 755 (W.D. Wash. 1913); United States v. Wells, SO-1968-5 (Mining); United States v. Dawson, 58 I.D. 670 (1944).

227. 90 I.D. 352, 361, 75 IBLA 16, 32 (1983).

The rule had originated in cases involving national forests in which there were indications that claims were sought as a "mere subterfuge to acquire title to [mining sites]."[228] In those cases the government had required a strong showing that the claimants truly intended to mine. In later years, the rule "separated from its moorings in considerations of bona fides"[229] and became a rule for a higher standard for claims located in national forests. In *Pacific Coast Molybdenum,* the IBLA labeled "untenable" the "theory that the situs of the land alters the nature of the test applied."[230] It added, unequivocally, "where the mining laws apply, they necessarily apply with equal force and effect, regardless of the characteristics of the land involved. The test of discovery is the same whether the land be unreserved public domain, land in a national forest, or even land in a national park."[231] After *Pacific Coast Molybdenum,* the special status of a wilderness area should not affect a claimant's burden of proof when he attempts to prove discovery of a wilderness claim.

Although wilderness claimants need only carry the same burden of proof as non-wilderness claimants, the practical difficulties inherent in a wilderness setting are sure to hinder their efforts to validate their claims. Before withdrawal, wilderness claimants had to gather sufficient evidence of the physical contents of their claims. These claimants will also have to prove that the greater costs of wilderness mining will be more than offset by the price they can obtain for their product on the market. If their minerals are saleable only on captive markets, then they may be hard-pressed to find buyers willing to accept wilderness minerals.

CONCLUSION

We will probably not know for some time whether the mining exception to the Wilderness Act has benefited the mining industry. The time for wilderness mineral exploration is past, so future plans of operation submitted to the Forest Service will be for mine development. Determinations of claim validity or invalidity will be made when these plans are reviewed. It is clear that however one labels the "test" of discovery, proving the location of a valuable mineral deposit will be a difficult undertaking. For some wilderness claims, it may turn out that the modern interpretation of the Mining Law, the Forest Service regulations, and the limited time allowed for exploration have prevented valid location.

Perhaps it has been a proper development of federal land policy to require that mining activities, so long in the ascendant position in federal land use, compete with other concerns. After all, lands that became statutory wilderness have been open to mining for over a century. During most of that time, mining activities were free of regulation that could have hampered discovery efforts. Now that these lands are appreciated

228. *Id.* at 362, 75 IBLA at 32.
229. *Id.* at 363, 75 IBLA at 34.
230. *Id.*
231. *Id.*

for their natural state, should not developers pay a higher price for the right to exploit them for the developers' private benefit?

Present wilderness status does not preclude future development of mineral deposits. If development proves necessary, then Congress can remove an area's wilderness status. Wilderness designation preserves mineral deposits as well as other resources. Mining, on the other hand, is an act of man and fundamentally incompatible with a concept of a place "where the earth and its community of life are untrammeled by man . . . undeveloped [and] retaining its primitive character and influence."[232] Where mining occurs wilderness is lost. Should not the irreplaceable be preserved as long as possible? Should it not be reserved from other uses until there is no alternative?

Representative Millicent Fenwick of New Jersey voiced these concerns in the 1980 debate on the Central Idaho Wilderness Bill:

> Sometimes I feel that those who seek to stop wilderness areas feel that we are taking the land away and putting it on another planet.
>
> This does not mean that it will not eventually perhaps have to be used. It just means not now, not yet, and not until it has to be used.
>
> There is a prudence here. There is a caution, and a conservative approach to the uses of the resources of our Nation.[233]

The mineral industry is still much favored. The wilderness mining exception, the special concessions to the industry in some wildernesses, and even the Mining Law as it is now interpreted, are evidence of that. But in general federal land policy, it is no longer the favorite. Concern for protection of other resources has steadily eroded its importance. The result is a balance more accommodating to the needs of present American society.

232. 16 U.S.C. § 1131(c) (1982).
233. 126 Cong. Rec. 8052 (1980).