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The Origin and Development of the Rules of Discovery

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In this article the author examines the origin and development of the rules of mineral discovery. Mr. Reeves concludes that the rules, as presently applied, are not to be found in the mining laws of the United States, but rather reflect a policy decision by the Department of Interior designed to prevent passage of title from the United States to the mineral claimant.

THE ORIGIN AND DEVELOPMENT OF THE RULES OF DISCOVERY

*George E. Reeves**

I. INTRODUCTION

THE imminent amendment or repeal of the mining laws portends instant obsolescence for a large part of the learning which mining lawyers have been accumulating for over a century. To attempt now to add to that body of learning may seem to be, and may indeed be, an academic exercise. But whether the mining laws be amended or repealed, it is certain that rights acquired under the existing laws will be recognized. These rights have their inception in discovery, and since discovery is, of all the requisites of a valid mining claim, the one most vulnerable to attack, the law of discovery will no doubt be of special importance during the period of transition from the old laws to the new.

The law of discovery as it is applied by the courts in controversies between one mineral claimant and another has remained relatively stable, and there is little to be added to the

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discussions contained in the standard authorities.[1] The only recent developments of note relate to the discovery of radioactive minerals.[2] On the other hand, the law of discovery now being administered by the Department of the Interior in controversies between mineral claimants and the United States is not to be found in the law enacted by Congress in 1872.[3] In the course of a long line of decisions rendered by the Secretary of the Interior,[4] the law of discovery has evolved from the rudimentary concepts of the pre-*Castle-Wombel* period into two separate rules, the prudent man rule and the marketability rule, and the emergence of a third rule, the development rule, may be discerned in the decisions of the last decade. The evolution of the rules of discovery has been unaccompanied by any change in the bare-bones language of the 1872 statute, which merely provides, "[N]o location of a mining claim shall be made until the discovery of the vein or lode within the limits of the claim located."[5]

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1. *See* BARRINGER & ADAMS, MINES & MINING 214 (1897); 1 SNYDER, MINES, §§ 340-360 (1902); COSTIGAN, MINING LAW §§ 40-46 (1908); 2 LINDLEY, MINES §§ 335-339, 437-438c (3d ed. 1914); MORRISON, MINING RIGHTS 20-33, 255-257 (16th ed. 1936); RICKETTS, AMERICAN MINING LAW §§ 591-623 (4th ed. 1943); 1 AMERICAN LAW OF MINING §§ 4.13-4.18 (1960).
2. *See* Annot., 66 A.L.R.2d 560 (1959).
3. An Assistant Director of the Bureau of Land Management once candidly admitted:

   > There can be no gainsaying the Mining Law of 1872 is not administered as it was originally written and intended. There has been a definite trend in decisions toward more stringent requirements to establish the validity of a claim. The requirements are innovations which have been superimposed on the basic law by the need for standards which can serve to prevent the subversion of the law for nonmineral purposes. Examples of these may be found in the narrowing application of the rule of discovery, the employment of the rule of marketability, the definition of "common varieties," and the concern for economic values . . . . Hochmuth, *Government Administration and Attitudes in Contest and Patent Proceedings*, 10 ROCKY MT. MIN L. INST. 467, 473 (1965).

   Compare the attitude once held by the Secretary of the Interior, as expressed in Louise Min. Co., 22 L.D. 663, 665 (1896): "[Discovery of mineral] . . . is a statutory requirement that cannot be enlarged or abridged by regulations." [Land Decisions herein cited as L.D.]
4. The Secretary of the Interior is hereinafter referred to as the Secretary. In 1952, the authority of the Secretary with respect to the disposition of appeals in proceedings relating to public lands was delegated to the Solicitor of the Department of the Interior. 17 Fed. Reg. 6793, 6794 (1952); 24 Fed. Reg. 1348 (1959). In 1970, this authority was taken from the Solicitor and delegated to the Board of Land Appeals. 35 C.F.R. § 4.1(3) (1972). Decisions of the Solicitor and of the Board of Land Appeals are herein considered to be decisions of the Secretary, and are referred to as such.
5. 30 U.S.C. § 23 (1970) (originally enacted as Act of May 10, 1872, ch. 152, § 2, 17 Stat. 91). The Placer Law of 1870 does not specifically require a discovery, and the legislative history of the Act indicates that it was not contemplated that a discovery was to be a prerequisite to a placer patent. CONG. GLOBE, 41st Cong., 2d Sess. 3054 (1870) (remarks of Senator Stewart).

The prudent man rule, permitting the mineral claimant to predicate his claim upon a reasonable prospect of success, replaced the rule which theretofore had required him, in controversies with nonmineral claimants, to prove the mineral character of the land by showing actual production of mineral from the land. The prudent man rule then came to be utilized in controversies between mineral claimants and the United States, not only where an application for a mineral patent had been filed, but also where the validity of the claim was contested by the United States. In recent years, the prudence required of the prudent man has become so great that the "reasonable prospect of success" has virtually been replaced by the requirement that economic feasibility be presently demonstrable. The marketability test,[6] originally used to determine whether a particular substance was a valuable mineral, became a rule of discovery, but the metamorphosis was obscured by the inextricable intertanglement of the concepts of "valuable mineral" and "valuable mineral deposit."[7] Having become a rule of discovery, the marketability rule was generally acknowledged to be an additional requirement over and above the requirements of the prudent man rule. It was then challenged by a mineral claimant on the ground that, being an additional requirement, it was unauthorized by the statute, which provided no basis for a distinction between minerals for which present marketability at a profit must be shown and for those for which it need not be shown. In meeting this challenge, the Supreme Court held that the marketability rule was not in fact an additional requirement, but merely a "logical complement" to, or a "refinement" of, the prudent man rule.

However, it cannot now be doubted that a discovery is a prerequisite to the existence of a valid placer claim. Donnelly v. United States, 228 U.S. 243, 244 (1913); Union Oil Co. of Calif. v. Smith, 249 U.S. 337 (1919).

6. The term "marketability test" is used herein to refer to the test for determining whether a particular substance is a valuable mineral, and the term "marketability rule" is used herein to refer to the rule of discovery requiring present marketability at a profit. This usage is not found in the decisions, but has been devised by the author of this article as a method of distinguishing between the two widely diverse meanings with which the word "marketability" has been freighted.

7. The Secretary has recognized the distinction between a "valuable mineral" and a "valuable mineral deposit" where the distinction supported a determination that a mining claim was null and void. *See* United States v. Melluzzo, 70 I.D. 184 (1963) [Interior Department Decisions herein cited as I.D.].

Although the Secretary frequently refers to the prudent man rule as the "time honored test,"[8] it is merely the verbal formula which has remained unchanged, not its application in practice. Similarly, although the marketability rule is said to have been applied "for many years,"[9] the leading decision did not hold that marketability at a profit was a necessary prerequisite to the existence of a discovery, but merely that such a showing was sufficient to establish a discovery.

Legal research is essentially a bracketing technique. The cases holding one way on a certain set of facts are compared to cases holding the contrary on a different set of facts. The researcher can then, by considering the pertinent differences in the facts upon which the decisions were based, arrive at a line of demarkation between those factual situations which will produce one result and those which will produce a different result. Unfortunately, this technique breaks down when applied to the law of discovery as administered by the Department of the Interior for the reason that in recent years decisions holding that a discovery has been established are virtually nonexistent.[10] This circumstance lends itself to the interpretation that the decision-making process in the Department of the Interior is being used to enforce a Department policy designed to prevent passage of title from the United States to the mineral claimant.

The purpose of this article is to examine the origin and trace the development of the various rules of discovery, with the hope that lawyers, administrative agencies, and courts alike may be afforded a better understanding of the law of discovery, an understanding which will enable them to bring to the law of discovery, as it is applied in controversies between mineral claimants and the United States, that measure of certainty which will assure the parties to such controversies that it is the *law* of discovery that is being interpreted and administered by the Department of the Interior and the courts, and not a departmental policy.

8. *See, e.g.*, United States v. Baranof Exploration & Dev. Co., 72 I.D. 212 (1965).
9. United States v. Barrows, 76 I.D. 299 (1969).
10. Notable exceptions are United States v. Mouat, 61 I.D. 289 (1954) and United States v. Kosanke Sand Corp., 3 IBLA 190 (1971).

II. MINERALS AND MARKETABILITY

Since 1866 the mining laws have provided that "lands valuable for minerals" are reserved from sale except as otherwise expressly directed by law.[11] The Mineral Location Law of 1872 provides "[A]ll valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and purchase."[12] In determining whether land is "valuable for minerals" or whether it contains "valuable mineral deposits," it must first be determined whether the land does in fact contain minerals. If a substance is not a mineral, the land is not mineral land and is not subject to location even if it is more valuable for the use or extraction of that substance than for any other purpose.[13]

A. "Recognized by Standard Authorities"

Section 2 of the Lode Law of 1866[14] provided for the location of veins or lodes of quartz or other rock in place bearing "gold, silver, cinnabar, or copper." Section 2 of the Mineral Location Law of 1872[15] adds lead and tin to the metals named, together with the words "other valuable deposits." It would not have been unreasonable, using the rule of *ejusdem generis,* to have interpreted the 1872 Law as being applicable to metalliferous minerals only.[16] Such an interpretation, it now ap-

11. 30 U.S.C. § 21 (1970) (originally enacted as Act of July 4, 1866, ch. 166, § 5, 14 Stat. 86).
12. 30 U.S.C. § 22 (1970) (originally enacted as Act of May 10, 1872, ch. 152, § 1, 17 Stat. 91).
13. United States v. Toole, 224 F. Supp. 440 (D. Mont. 1963) (peat and organic soil); Dunluce Placer Mine, 6 L.D. 761 (1888) (brick clay); South Dakota Min. Co. v. McDonald, 30 L.D. 357 (1900) (stalactites, stalagmites, and other "natural curiosities"); King v. Bradford, 31 L.D. 108 (1901) (brick clay); Lovely Placer Claim, 35 L.D. 426 (1907) (saline baths); Holman v. Utah, 41 L.D. 314 (1912) (clay and limestone); Hughes v. Florida, 42 L.D. 401 (1913) (shell rock); Earl Douglass, 44 L.D. 325 (1915) (fossil remains of prehistoric animals); Opinion of the Solicitor, M-36625 (Aug. 28, 1961) (geothermal steam). *See* United States v. Elkhorn Min. Co., 2 IBLA 383 (1971) (radon gas). *Cf.* United States v. Barngrover, 57 I.D. 533 (1942) ("silt" or "drilling mud" held locatable).
14. Act of July 26, 1866, ch. 262, § 2, 14 Stat. 251.
15. 30 U.S.C. § 23 (1970) (originally enacted as Act of May 10, 1872, ch. 152, § 2, 17 Stat. 91).
16. *See* Pacific Coast Marble Co. v. Northern Pac. R.R., 25 L.D. 233 (1897) where this theory was advanced by the nonmineral claimant. In 1896 the Secretary held that petroleum was not subject to location and was not a mineral within the mineral exception of an Act of Congress granting certain land to a railroad on the ground that "it was only contemplated that

pears, would have avoided many of the problems inherent in the application of the mining laws to nonmetalliferous minerals. But in mining law, as in other branches of the law, trends are set by cases which, had they not been cases of first impression, may have been decided otherwise.

The question of the locatability of nonmetalliferous minerals was first presented shortly after the enactment of the Mineral Location Law of 1872 when the Acting Secretary requested of the Attorney General an official opinion as to whether land containing diamonds could be located and purchased under the mining law. The Attorney General replied:

> Diamonds, then, are clearly "valuable mineral deposits," and the provisions of said act are as applicable to lands containing them, as to lands containing gold or other precious metals. Comprehensive words, no doubt, were used to include as well what might afterward be discovered, as what might be overlooked in an enumeration of minerals in the statute.
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> . . . .
>
> I think these acts ought to be most liberally construed, so as to facilitate the sale of such lands; for in that way, and not otherwise, can they be made to contribute something to the revenues of the Government, and controversy and litigation in mining localities, to a great extent, be prevented.[17]

This opinion was transmitted by the Acting Secretary to the Commissioner of the General Land Office[18] with instructions that the view expressed in the opinion should "guide your official action in cases of this character."[19] With this opinion the trend was set, and the early decisions of the Commissioner uniformly held that nonmetallic minerals were subject to location under the mining law.[20]

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lands containing the more precious metals enumerated in section 2320, Revised Statutes, gold, silver, cinnabar, etc., that should be excluded." Union Oil Co., 23 L.D. 222 (1896). On review this decision was reversed. 25 L.D. 351 (1897). In the meantime the Oil Placer Act of 1897, 29 Stat. 526, had been enacted. *Cf.* Northern Pac. Ry. v. Soderberg, 188 U.S. 526 (1903).

17. 14 OP. ATT'Y GEN. 115, 116 (1872).
18. The Commissioner of the General Land Office is hereinafter referred to as the Commissioner.
19. Letter from Acting Secretary Smith to Commissioner Drummond, Sept. 3, 1872, COPP, MINERAL LANDS 89 (2d ed. 1882).
20. Commissioner's Ruling (Apr. 18, 1873), COPP, MINERAL LANDS 100 (2d ed. 1882) (borax); Commissioners Ruling (July 10, 1873), *Id.* at 121 (fire

In 1873, the Commissioner was called upon to determine whether borax, nitrate of soda, carbonate of soda, sulphur, alum, and asphalt were locatable minerals. In holding that these minerals were locatable, he said:

> In the sense in which the term minerals was used by Congress, it seems difficult to find a definition that will embrace what mineralogists agree should be included. The several authorities consulted in this connection seem to find it an easier task to determine what is not, than what is, mineral. However, in all the works on mineralogy that have come under my notice, borax, nitrate and carbonate of soda, sulphur, alum, and asphalt, are classified and discussed as minerals.
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> Alger's edition of Phillip's Mineralogy speaks of "the crust of the globe as consisting chiefly of earths and earthy minerals." Between earths and minerals there is a clear line of demarkation, and, though difficult to express in a few words, chemical composition and crystallization are the principal means of tracing the distinction. Webster seems to be the most accurate in his definition of a mineral, for he recognizes chemical composition as the important consideration. He defines a mineral to be "any organic species having a definite chemical composition."
>
> From a careful examination of this matter, the conclusion I reach as to what constitutes "a valuable mineral deposit" is this:
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> That whatever is recognized as a mineral by the standard authorities on the subject, where the same is found in quantity and quality to render the land sought to be patented more valuable on this account than for purposes of agriculture, should be treated by this office as coming within the purview of the mining act of May 10, 1872.
>
> The language of the statute is so comprehensive, and capable of such liberal construction, that I can-

clay); Commissioners' Ruling (Oct. 23, 1874), *Id.* at 143 (slate); Commissioner's Ruling (Jan. 30, 1875), *Id.* at 160 (petroleum); Commissioner's Ruling (Jan. 30, 1875), *Id.* at 161 (umber); Commissioners' Ruling (June 28, 1875), Id. at 176 (limestone and marble); Commissioner's Ruling (June 28, 1875), *Id.* (kaoline); Commissioners' Ruling (Dec. 3, 1875), *Id.* at 182 (mica).

> not avoid the conclusion that Congress intended it as a general mining law, "to promote the development of the mining resources of the United States," and to afford a method whereby parties holding the possessory right under local laws and regulations could secure title to tracts containing valuable accretions or deposits of mineral substances, except where a special law might intervene, reserving from sale, or regulating the disposal, of particularly specified mineral-bearing lands.[21]

The metallic minerals and certain crystalline nonmetallic minerals came well within the ambit of "whatever is recognized as a mineral by the standard authorities." Lands valuable for phosphate[22] and guano[23] and lands more valuable for marble,[24] fire clay,[25] petroleum,[26] sandstone,[27] gypsum,[28] slate,[29] limestone,[30] and salines[31] than for agriculture were held to be mineral lands. From time to time, however, some doubt was expressed about such substances as clay,[32] stone,[33] and sand and gravel,[34] which may lack a definite composition, or a crystalline structure, or both. For these substances there were developed two additional criteria: (1)

21. Circular (July 15, 1873), COPP, MINERAL LANDS 50, 51 (2d ed. 1882).
22. Florida C. & P. R.R., 26 L.D. 600 (1898).
23. Richter v. Utah, 27 L.D. 95 (1898).
24. Pacific Coast Marble Co. v. Northern Pac. R.R., 25 L.D. 233 (1897); Schrimpf v. Northern Pac R.R., 29 L.D. 327 (1899).
25. Alldritt v. Northern Pac. R.R., 25 L.D. 349 (1897).
26. Union Oil Co., 25 L.D. 351 (1897); McQuiddy v. California, 29 L.D. 181 (1899).
27. Hayden v. Jamison, 26 L.D. 373 (1898); Beaudette v. Northern Pac. R.R., 29 L.D. 248 (1899).
28. Phifer v. Heaton, 27 L.D. 57 (1898); McQuiddy v. California, 29 L.D. 181 (1899).
29. Schrimpf v. Northern Pac. R.R., 29 L.D. 327 (1899); Roy McDonald, 40 L.D. 7 (1911).
30. Morrill v. Northern Pac. R.R., 30 L.D. 475 (1901). *But see* Holman v. Utah, 41 L.D. 314 (1912).
31. Elliott v. Southern Pac. R.R., 35 L.D. 149 (1906).
32. Dunluce Placer Mine, 6 L.D. 761 (1888); King v. Bradford, 31 L.D. 108 (1901); Bettancourt v. Fitzgerald, 40 L.D. 620 (1912); Holman v. Utah, 41 L.D. 314 (1912) (recognizing possibility that deposits of clay and limestone may be of such exceptional nature as to warrant patenting under the mining laws); Hare v. French, 44 L.D. 217 (1915) (bauxite). Common clay or brick clay, even if marketable at a profit, has never been held to be locatable under the mining laws. *See* United States v. Mattey, 67 I.D. 63 (1960).
33. Conlin v. Kelly, 12 L.D. 1 (1891); Clark v. Ervin, 16 L.D. 122 (1893); South Dakota v. Vermont Stone Co., 16 L.D. 263 (1893); Gray Trust Co., 47 L.D. 18 (1919).
34. Zimmerman v. Brunson, 39 L.D. 310 (1910).

classification as a mineral product in trade or commerce, and (2) "special or peculiar value in trade, commerce, manufacture, science, or the arts."[35] The first of these criteria merely modifies the "standard authorities" test by adding to the authority of the mineralogist that of the economic geologist. The second criterion dispenses entirely with the opinion of standard authorities and focuses not upon the value of the land to the miner, but directly upon the value of the substance to the user.[36] It is, in effect, the marketability test.

B. The Marketability Test

In several relatively early decisions regarding building materials,[37] the Secretary was unwilling to regard as a mineral a substance which has no "peculiar property or characteristic giving it a special value"[38] and whose chief value derived from the proximity of the deposit to the market. The fact that the extraction, removal, and marketing of the material would yield a profit and would render the land more valuable

35. Stanislaus Electric Power Co., 41 L.D. 655 (1912). The quoted language is an amplification of Northern Pac. Ry. v. Soderberg, 188 U.S. 526, 536-37 (1903): "[M]ineral lands include . . . all such as are chiefly valuable for their deposits of a mineral character, which are useful in the arts or valuable for purposes of manufacture."
See 1 LINDLEY, MINES § 98 (3d ed. 1914):

> The mineral character of the land is established when it is shown to have upon or within it such substance as—
>
> (a) Is recognized as a mineral, according to its chemical composition, by the standard authorities on the subject; or—
>
> (b) Is classified as a mineral product in trade or commerce; or—
>
> (c) Such a substance (other than the mere surface which may be used for agricultural purposes) as possesses economic value for use in trade, manufacture, the sciences, or in the mechanical or ornamental arts;—
>
> And it is demonstrated that such substance exists therein or thereon in such quantities as render the land more valuable for the purpose of removing and marketing the substance than for any other purpose, and the removing and marketing of which will yield a profit; or that it is established that such substance exists in the lands in such quantities as would justify a prudent man in expending labor and capital in the effort to obtain it.

The first portion of *Lindley's* definition was quoted with approval in Earl Douglass, 44 L.D. 325 (1915).

36. For a foreshadowing of the marketability test, see Circular (July 15, 1873), COPP, MINERAL LANDS 50, 51 (2d ed. 1882): "The meaning of the word valuable need not be discussed. Anything a person is willing to give money for, or that is useful or precious, or that has merchantable qualities, is valuable."
37. Conlin v. Kelly, 12 L.D. 1 (1891); King v. Bradford, 31 L.D. 108 (1901); Zimmerman v. Brunson, 39 L.D. 310 (1910).
38. Zimmerman v. Brunson, 39 L.D. 310, 313 (1910). At another point in the opinion the Secretary said: "The word 'gravel' there used [i.e., in the prescribed form of nonmineral affidavit] refers rather to gravels bearing gold or other metallic substances, giving the gravel a peculiar value therefor."

for such purposes than for agriculture was not sufficient to permit the substance to be regarded as a mineral or the lands as mineral lands.[39] These decisions did not meet with unanimous acceptance,[40] particularly the decision that building stone was not locatable under the mining laws, a decision which resulted forthwith in the enactment of the Building Stone Law of 1892.[41]

A foreshadowing of the marketability test may perhaps be discerned in *Northern Pac. Ry. v. Soderberg,*[42] in which the Supreme Court held that land chiefly valuable for granite "of good and merchantable quality"[43] was mineral land within the exception of the grant to the railroad.[44]

In several decisions handed down after *Soderberg* the Secretary held that the fact that material extracted from a mining claim had actually been marketed was indicative of the mineral character of the land.[45] In none of these decisions does profitability appear to have been an important factor,[46] nor does the Secretary appear to have given any weight to the fact that the material was sold at a price below the average market price as indicated by published statistics.[47] Whe-

39. King v. Bradford, 31 L.D. 108 (1901).
40. *See* 2 LINDLEY, MINES § 424 (3d ed. 1914).
41. Act of Aug. 4, 1892, ch. 375, §§ 1-3, 27 Stat. 348. *See* Pacific Coast Marble Co. v. Northern Pac. R.R., 25 L.D. 233, 244 (1897):
> It would thus seem that Congress regarded even the ruling in that case [Conlin v. Kelly] as a departure from the liberal construction theretofore adopted by the Land Department, to such an extent as to demand legislative action disapproving the result thereof.
42. 188 U.S. 526 (1903).
43. The quoted language is from the agreed statement of facts upon which the case was tried. *See* Northern Pac. Ry. v. Soderberg, 104 F. 425 (9th Cir. 1900).
44. *See also* Meiklejohn v. F. A. Hyde & Co., 42 L.D. 144 (1913).
45. Bennett v. Moll, 41 L.D. 584 (1912); Stephen E. Day, Jr., 50 L.D. 489 (1924) (trap rock); Layman v. Ellis, 52 L.D. 714 (1929) (gravel).
46. Profitability is discussed in a very oblique manner in these decisions. In Stephen E. Day, Jr., *supra* note 45, although profitability is discussed in connection with other decisions no mention is made of whether the trap rock involved was marketed at a profit. Similarly, in Layman v. Ellis, *supra* note 45, although the Secretary discusses profitability generally, and in discussing *Stephen E. Day, Jr.*, assumes that the trap rock involved in that decision was "profitably marketable," he never squarely states that the gravel involved in *Layman* was marketed at a profit.
47. In Bennett v. Moll, *supra* note 45, the pumice produced was sold for a price of $1.75 to $2.25 per ton f.o.b. cars at the railroad station or siding nearest the land. The published statistics showed that for five years, 69,257 tons of pumice were produced of the total value of $218,237, or $3.15 per ton. In Layman v. Ellis, *supra* note 45, the mineral claimant extracted, sold, and delivered (apparently between November, 1925, and April, 1928) 40,000 cubic yards of gravel of the value of $20,000 or $0.50 per cubic yard. The opinion suggests that a cubic yard is equivalent to 1⅓ tons, so that the

ther profitability was a factor in these decisions or not, they all involved the application of what might be called affirmative aspect of the marketability test, that is, the marketability of the material was sufficient, but apparently not necessary,[48] to establish its locatability. An objection was raised to the application of this principle, that it would render facile the acquisition of title to areas containing mineral substances of wide occurrence for purposes other than mining. This objection was answered by the Acting Solicitor:

> [T]he objection mentioned is not of much force when it is considered that the mineral locator or applicant, 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.[49]

This opinion contains a subtle but far-reaching change in emphasis, from the marketability of the substance which renders it a mineral subject to location, to the marketability at a profit of the deposit, which satisfies what has come to be known as the marketability rule of discovery.

Unfortunately there have been but few decisions in which the question of whether a particular substance is a mineral has been discussed independently of the questions of whether the lands are mineral lands or whether a discovery exists. *United States v. Barngrover,* for example, is notable for the facility with which it slips from a discussion of the marketability of a substance which renders it a mineral to the marketability at a profit of the mineral deposit which renders it subject to location:

> [T]he test as to whether a substance . . . will be regarded as a mineral under the mining laws depends on its [the substance's] marketability, or, as it is

value of the gravel extracted was $0.37½ per ton. In 1927, the average value of the gravel sold in the United States was $0.67 per ton. In the same year California (where the claims were located) produced 2,460,072 tons of gravel of the value of $1,177,086, or about $0.48 per ton.

48. *Cf.* United States v. Iron Silver Min. Co., 128 U.SC. 673 (1888).

49. Opinion of the Acting Solicitor, 54 I.D. 294, 296 (1933). *See* United States v. Barngrover, 57 I.D. 533 (1942): "[A]ny substance found in nature, having sufficient value, separated from its situs as part of the earth, to be mined, quarried, or dug for its own sake or its own specific uses is locatable and enterable under the mining laws."

> sometimes expressed, on its positive commercial value. Since the evidence was not controverted that the deposit in question was being marketed at a profit, it would appear that it [the deposit] is clearly subject to location and entry under the mining laws.[50]

With decisions such as *Barngrover* providing guidance to the local officers, it is not surprising that the Solicitor should say that "our decisions may have been misunderstood and an undue rigidity ascribed to them."[51] In attempting to explain the position taken by the Department on the question of marketability, the Solicitor said:

> The Department and the courts have, we believe, rightly held that a prudent man would not be justified in developing a mineral deposit if the extracted minerals were not marketable. This marketability test is in reality applied to all minerals, although it is often mistakenly said to be applied solely to nonmetallic minerals of wide occurrence. Many minerals are deemed intrinsically marketable.
>
> An intrinsically valuable mineral by its very nature is deemed marketable, and therefore merely showing the nature of the mineral usually meets the test of marketability. On the other hand, where we are concerned with a nonmetallic mineral found in a great many places, application of the prudent man test requires that a market for the mineral be shown by the locator. The extreme example is probably sand and gravel, which are found in every State. There is a demand for sand and gravel, but in many areas the available deposits far exceed the market. In such cases we must insist that the locator show that there is a market actually existing for his minerals. To validate any sand and gravel claim proof of present marketability must be clearly shown.
>
> Other cases fall between the two extremes of the intrinsically valuable mineral on the one hand and sand and gravel on the other hand. Each case must be judged on its own merits. When a nonmetallic mineral is not of extremely wide occurrence and when a general demand for that mineral exists, it may be

50. 57 I.D. 533 (1942).

51. Opinion of the Solicitor, 69 I.D. 145 (1962).

> enough, instead of showing an actually existing market for the products of that particular mine, to show that a general market for the substance exists of a type which a reasonably prudent man would be justified in regarding as one in which he could dispose of those products.[52]

Since the word "marketable" has sometimes been used to mean merely "marketable," that is "merchantable" or "saleable,"[53] and at other times has been used to mean "marketable at a profit," it is important to note that in this opinion the word is given the former meaning. This usage is evidenced by the mention of "intrinsically marketable" minerals, for although a mineral may be intrinsically "marketable," in the sense that the mineral, if extracted from the land, may be disposed of in the marketplace, it makes no sense to speak of a mineral being intrinsically "marketable at a profit," for no mineral, not even gold, is intrinsically profitable.[54] Whether a mineral can be sold in the marketplace is a question independent of the further question of whether a profit would result from the sale, a matter not adverted to in the Solicitor's opinion. In other words, the opinion does not, even remotely, discuss the marketability rule of discovery, which requires present marketability at a profit.

Unfortunately, the limited scope of the Solocitor's opinion was so underemphasized as virtually to invite the precise sort of "undue rigidity" of interpretation which the opinion was designed to correct. Far from being the corrective influence that it should have been, the opinion stands as one of the last official recognitions that the marketability test of *Layman v. Ellis* is a test to determine whether a particular substance is a mineral, and not a rule of discovery. Thus, although the Solicitor's opinion dealt solely with the marketability test,

52. *Id.* at 146.

53. *See* United States v. Pierce, 75 I.D. 270, 278 (1968):
> Pierce contends that the deposits were "marketable" prior to July 23, 1955, because they were in the dictionary sense of the word capable of being sold, or were "saleable" or "merchantable". For purposes of the mining law, "marketable" has a more specialized meaning.

54. *But see* United States v. Coleman, 390 U.S. 599, 603 (1968): "[P]recious metals . . . sell at a price so high as to leave little room to doubt that they can be extracted and marketed at a profit."

it has been consistently misconstrued as being a discussion of the marketability rule of dicovery.[55]

C. Common Varieties

Section 3 of the Multiple Surface Use Act of 1955 provides:

> No deposit of common varieties of sand, stone, gravel pumice, pumicite, or cinders . . . shall be deemed a valuable mineral deposit within the meaning of the mining laws of the United States so as to give effective validity to any mining claim hereafter located under such mining laws: *Provided, however,* That nothing herein shall affect the validity of any mining location based upon discovery of some other mineral occurring in or in association with such a deposit. "Common varieties" . . . does not include deposits of such materials which are valuable because the deposit has some property giving it distinct and special value and does not include so-called "block pumice" which occurs in nature in pieces having one dimension of two inches or more.[56]

This section of the Act was designed to prohibit the location and removal, under the mining laws, of substances which are really building materials and not minerals such as were contemplated to be handled under the mining laws.[57] Even prior to the enactment of the Multiple Surface Use Act, with the exception of common building stone, no deposit without "some property giving it distinct and special value" was locatable under the mining laws,[58] although it must be admitted that some decisions were more than liberal in finding a "special property."[59] The Multiple Surface Use Act re-

55. *See, e.g.,* United States v. Denison, 71 I.D. 144 (1964). The exception which proves the rule is United States v. Anderson, 74 I.D. 292 (1967), a decision written by the author of the 1969 Solicitor's opinion.

56. 30 U.S.C. § 611 (1970). This section is sometimes referred to as the "Common Varieties Act." It should be noted that the Secretary has construed the word "property" used by Congress to mean "unique property." *See* United States v. U.S. Minerals Dev. Corp., 75 I.D. 127, 134 (1968); United States v. Melluzzo, 76 I.D. 160, 166 (1969); United States v. Chas. Pfizer & Co., 76 I.D. 331 (1969); United States v. Thomas 1 IBLA 209 (1971).

57. 101 CONG.REC. 8743 (1955) (remarks of Mr. Engle).

58. Dunluce Placer Mine, 6 L.D. 761 (1888); Conlin v. Kelly, 12 L.D. 1 (1891); Holman v. Utah, 41 L.D. 314 (1912).

59. *See* Stephen E. Day, Jr., 50 L.D. 489 (1924) (trap rock used for railroad ballast); Layman v. Ellis, 52 L.D. 714 (1929) (sand and gravel).

pealed, by implication, the Building Stone Law of 1892,[60] but otherwise it is little more than a codification of the pre-existing decisional law.[61]

By regulation, the Secretary has provided that deposits valuable for use in trade, manufacture, the sciences, or in the mechanical arts, which do not possess a distinct special economic value for such use over and above the normal uses of the general run of such deposits, are "common varieties."[62] Thus, building stone,[63] sand and gravel,[64] and cinders[65] used for road building purposes are common varieties. Furthermore, if the special use to which a material may be adapted is one for which common varieties of other materials, are equally adaptable, and if the price commanded by the material is no greater than that commanded by the other materials, it is a common variety.[66]

The mere fact that minerals are uncommon varieties does not make them locatable, for they must also be capable of being extracted, removed, and marketed at a profit.[67] Conversely, even though a mineral may be extracted, removed, and marketed at a profit, it cannot be located if it is a common variety.[68]

III. THE PRE-*Castle v. Womble* PERIOD

Prior to *Castle v. Womble*[69] the word "discovery" had not yet become a word of art. It referred merely to the physical act of finding minerals, without regard to the question of value.[70] Nevertheless, the discovery of minerals was not with-

60. United States v. Coleman, 390 U.S. 599 (1968); McClarty v. Secretary of the Interior, 408 F.2d 907 (9th Cir. 1969).
61. *See* United States v. Mattey, 67 I.D. 63 (1960); United States v. Chornous, A-28577 (July 14, 1961).
62. 43 C.F.R. § 3711.1(b) (1972).
63. United States v. Roberts, A-30941 (Oct. 15, 1968).
64. United States v. Hensler, A-29973 (May 14, 1964).
65. United States v. Chapman, A-30581 (July 16, 1968).
66. United States v. Thomas, 1 IBLA 209 (1971).
67. United States v. DeZan, A-30515 (July 1, 1968). See United States v. Pierce, 75 I.D. 255 (1968).
68. United States v. Mt. Pinos Dev. Corp., 75 I.D. 320 (1968).
69. 19 L.D. 455 (1894).
70. Noyes v. Mantle, 127 U.S. 348 (1888); United States v. Iron Silver Min. Co., 128 U.S. 673 (1888); Iron Silver Min. Co. v. Mike & Starr Gold & Silver Min. Co., 143 U.S. 394 (1892); Sullivan v. Iron Silver Min. Co., 143 U.S. 431

out significance, for even prior to the enactment of the mining laws, the mining district rules recognized discovery and appropriation as the source of the miner's title.[71] The Lode Law of 1866[72] and the Mineral Location Law of 1872[73] continued in effect the concept of possessory title based upon discovery. On the other hand, the mineral claimant, to obtain a patent, was required to show not only that he had discovered minerals within the boundaries of the claim but further, that the land was mineral in character.[74] During this period the law was developing in three similar but distinct areas, each of which influenced, to a greater or lesser degree, the formulation of the prudent man rule of discovery. These areas involved the "known mines" exclusion contained in certain public land statutes, the "vein or lode . . . known to exist within the boundaries of a placer claim" exception contained in placer patents, and the determination of the character of land as being mineral or nonmineral.

A. Known Mines

Although the word "mine," properly used, means an opening or excavation in the earth for the purpose of extracting minerals, it is sometimes loosely used to mean any place from which minerals are extracted, or ground which it is

(1892); Silver Jennie Lode, 7 L.D. 6 (1888); Lincoln Placer, 7 L.D. 81 (1888); Creswell Min. Co. v. Johnson, 8 L.D. 440 (1889); Thomas J. Laney, 9 L.D. 83 (1889); Lone Dane Lode, 10 L.D. 53 (1890); Royal K. Placer, 13 L.D. 86 (1891); Waterloo Min. Co. v. Doe, 17 L.D. 111 (1893); *See* Field, J. (dissenting), in Iron Silver Min. Co. v. Mike & Starr Gold & Silver Min. Co., 143 U.S. 394, 422 (1892):

> For the reasons stated above it would seem that not merely must a discovery of mineral be made to constitute a known lode within the meaning of the statute, but that such development of its extent must be made to enable the applicant to comply with the law in tendering the requisite price.

See also the relatively recent decision in United States v. Mouat, 60 I.D. 473 (1951), in which the minerals "discovered" did not have sufficient value to constitute a discovery.

71. Jennison v. Kirk, 98 U.S. 453 (1878); Jackson v. Roby, 109 U.S. 440 (1883); Erhardt v. Boaro, 113 U.S. 527 (1885); O'Reilly v. Campbell, 116 U.S, 418 (1886).

72. Section 4 of the Lode Law of 1886 awarded "an additional claim for discovery to the discoverer of the lode." Act of July 26, 1866, ch. 262, § 4, 14 Stat. 252.

73. 30 U.S.C. § 26 (1970) (originally enacted as Act of May 10, 1872, ch. 152, § 3, 17 Stat. 91).

74. John Downs, 7 L.D. 71 (1888); Searle Placer, 11 L.D. 441 (1890); Morrill v. Margaret Min. Co., 11 L.D. 563 (1890) ("mineral in paying quantities").

hoped may be mineral bearing.[75] Congress has on occasion adopted the second meaning, using the word "mine" to refer to what more properly should have been designated "mineral deposit."[76] For example, Section 10 of the preemption law of 1841 provided, "[N]o lands on which are situated any known salines or mines, shall be liable to entry under and by virtue of the provisions of this act."[77] A definitive interpretation of the term "known mines" was given by the Supreme Court in *Colorado Coal & Iron Co. v. United States:*

> It is not sufficient, in our opinion, to constitute "known mines" of coal, within the meaning of the statute, that there should merely be indications of coal beds or coal fields of greater or less extent and of greater or less value, as shown by outcroppings. The Act of 1864 evidently contemplates a distinction between coal beds or coal fields excluded from the preemption act of 1841 as "known mines," and other coal beds or coal fields not coming within that description. We hold, therefore, that to constitute the exemption contemplated by the preemption act under the head of "known mines," there should be upon the land ascertained coal deposits of such an extent and value as to make the land more valuable to be worked as a coal mine, under the conditions existing at the time, than for merely agricultural purposes. The circumstance that there are surface indications of the existence of veins of coal does not constitute a mine. It does not even prove that the land will ever be under any conditions sufficiently valuable on account of its coal deposits to be worked as a mine. A change in the conditions occurring subsequently to the sale, whereby new discoveries are made, or by means whereof it may become profitable to work the veins as mines, cannot affect the title as it passed at the time of the sale. The question must be determined according to the facts in existence at the time of the sale. If upon the premises at that time there were not actual "known mines" capable of being profitably worked for their product, so as to make the

75. DEP'T. OF THE INTERIOR, A DICTIONARY OF MINING, MINERAL, AND RELATED TERMS 708 (1968).

76. *See, e.g.*, Act of May 18, 1796, ch. 29, § 2, 1 Stat. 464; Act of Sept. 4, 1841, ch. 16, § 10, 5 Stat. 453; 43 U.S.C. § 722 (1970) (originally enacted as Act of Mar. 2, 1867, ch. 177, 14 Stat. 541).

77. Act of Sept. 4, 1841, ch. 16, § 10, 5 Stat. 453, 456.

> land more valuable for mining than for agriculture, a title to them acquired under the preemption act cannot be successfully assailed.[78]

The Act of March 2, 1867, relating to townsites, provides that no title may be acquired under the townsite laws to "any mine of gold, silver, cinnabar, or copper," these being the minerals then subject to location.[79] This provision was discussed by the Supreme Court in *Dower v. Richards:*

> [I]n order to except mines or mineral lands from the operation of a town-site patent, it is not sufficient that the lands do in fact contain minerals, or even valuable minerals when the townsite patent takes effect; but they must at that time be known to contain minerals of such extent and value as to justify expenditures for the purpose of extracting them ....[80]

In these early decisions of the Supreme Court, particularly the decisions involving controversies between mineral claimants and townsite claimants, the terms "mines," "known mines," "lands valuable for minerals," and "valuable mineral deposits" found in the statutes, and various other similar expressions which the Court used from time to time, were casually intermingled.[81] Whether these terms were considered to be equivalent or not is not immediately apparent, and conflicting views have been expressed. The Secretary, citing *Deffeback v. Hawke*[82] and *Davis's Administrator v. Weibbold,*[83] among others, said, "[T]he court repeatedly used the terms 'lands known to be valuable for minerals,' or 'for mineral deposits,' and 'known mines,' or 'land containing known mines,'

78. 123 U.S. 307, 328 (1887).

79. 43 U.S.C. § 722 (1970). The Act of June 8, 1868, ch. 53, 15 Stat. 67, (codified as 43 U.S.C. § 722 (1970)) added to the townsite law the words "or to any valid mining claim or possession held under existing laws."

80. 151 U.S. 658, 663 (1894). The Court appears to have had well in mind the distinction between lands which contain valuable minerals and lands which contain valuable mineral deposits, a distinction which seems to have eluded the Court in United States v. Coleman, 390 U.S. 599, 602 (1968), where the the Court said: "Minerals which no prudent man will extract because there is no demand for them at a price higher than the cost of extraction and transportation are hardy economically valuable."

81. Steel v. St. Louis Smelting & Refining Co., 106 U.S. 447 (1882); Deffeback v. Hawke, 115 U.S. 392 (1885); Davis's Administrator v. Weibbold, 139 U.S. 507 (1891); Dower v. Richards, 151 U.S. 658 (1894).

82. 115 U.S. 392 (1885).

83. 139 U.S. 507 (1891).

as equivalent in meaning. . . .'"[84] On the other hand, Judge Ross, in *Cosmos Exploration Co. v. Gray Eagle Oil Co.*, cited the same two cases as authority for the proposition, "The words 'mineral lands' are certainly more general and much broader than the words 'lands on which are situated any known salines or mines'. . . ."[85]

Whatever may have been the correct interpretation at the time, it is clear now that the term "mineral lands" is more all-inclusive than the term "known mines," for in establishing the test now used to determine the mineral character of land, the Supreme Court distinguished the *Colorado Coal & Iron Co.* case by pointing out:

> [That case] . . . is essentially different from this in that there the court was dealing with a statute excepting from entry lands on which there were "mines" at the time, a matter particularly noticed in the opinion (p. 328), while here the exception is of "mineral lands" and "lands valuable for minerals."[86]

B. Known Lodes in Placers

Section II of the Mineral Location Law of 1872 provides:

> [W]here a vein or lode . . . is known to exist within the boundaries of a placer claim, an application for a patent for such placer claim which does not include

84. Brady's Mortgagee v. Harris, 29 L.D. 426, 433 (1900). *See also* United States v. Reed, 28 F. 482, 487 (C.C.D. Ore. 1886) where, after eulogizing the "industrious farmer and his growing family," characterizing a mineral claimant as "an old wandering, visionary miner, and out-of-door pauper," and denigrating the "vagrancy and uncertainty of mining for the precious metals," the court said:
> The statute does not reserve any land from entry as a homestead, simply because some one is foolish or visionary enough to claim or work some portion of it as mineral ground, without any reference to the fact of whether there are any paying mines on it or not. Nothing short of *known mines* on the land, capable, under ordinary circumstances, of being worked at a profit as compared with any gain or benefit that may be derived therefrom when entered under the homestead law, is sufficient to prevent such entry. Mere mineral prospect or hope, however pleasing or auspicious, shall not keep the land from the plow or the pruning-hook, and it is well that it does not.

85. 104 F. 20, 46 (C.C.S.D. Cal. 1900). *See also* Winscott v. Northern Pac. R.R., 17 L.D. 274, 276 (1893) (requirement that surveyor report the situation of "all mines" which come to his knowledge does not require him to report "that the lands indicate that valuable minerals are hid beneath their surface").

86. Diamond Coal & Coke Co. v. United States, 233 U.S. 236, 249 (1914). The statute interpreted in the *Colorado Coal & Iron Co.* case referred to "known mines," as did the case itself.

> an application for the vein or lode claim shall be construed as a conclusive declaration that the claimant of the placer claim has no right of possession of the vein or lode claim; but where the existence of a vein or lode in a placer claim is not known, a patent for the placer claim shall convey all valuable mineral and other deposits within the boundaries thereof.[87]

It is not sufficient that there be a lode or vein actually within the limits of the placer claim, the existence of which subsequent developments may prove, if it was not known to exist at the time of the application for the patent for the placer claim.[88] Mere belief, as opposed to knowledge, of the existence of the vein or lode is not sufficient,[89] nor is it sufficient that there be some indications, by outcropping on the surface, of the existence of lodes or veins or rock in place bearing gold or silver or other precious metals, but rather the lodes or veins must be clearly ascertained, and be of such extent as to render the land more valuable on that account and justify their exploitation.[90] It must be shown that the vein or lode claimed is a valuable lode deposit.[91]

To be a "known vein," the vein must have been known to the applicant for a patent to a placer claim, or to the community generally, or else disclosed by workings and obvious to anyone making a reasonable and fair inspection of the premises.[92]

Knowledge of the existence of a vein or lode within the boundaries of a placer claim may be obtained from its outcrop within such boundaries, from the developments of the placer claim previous to the application for a patent, by the tracing of the vein from another lode, or perhaps from the general condition and developments of mining ground adjoining the placer claim. Such knowledge may also be obtained

87. 30 U.S.C. § 37 (1970).
88. Sullivan v. Iron Silver Min. Co. 143 U.S. 431 (1892).
89. Iron Silver Min. Co. v. Reynolds, 124 U.S. 374 (1888); Sullivan v. Iron Silver Min. Co., 143 U.S. 431 (1892).
90. United States v. Iron Silver Min. Co., 128 U.S. 673 (1888); Sullivan v. Iron Silver Min. Co., 143 U.S. 431 (1892).
91. Largey v. Black, 10 L.D. 156 (1890).
92. Iron Silver Min. Co. v. Mike & Starr Gold & Silver Min. Co., 143 U.S. 394 (1892).

from the information of others who have made the necessary exploration to ascertain the fact.[93]

C. Mineral Lands: Profitability and Comparative Value

Since 1866 the mining laws have provided that lands valuable for minerals are reserved from sale, except as otherwise expressly directed by law.[94] Many of the public land laws of the United States specifically provide that public lands may not be disposed of if they are mineral in character,[95] and others require that, if the lands are mineral in character, a reservation of minerals be made.[96] Before public lands may be disposed of other than under the mining and mineral leasing laws, the appropriate federal agency must determine whether the lands are mineral or non-mineral.

Public lands returned on the survey records as mineral are presumed to be mineral until the contrary appears[97] and are withheld from entry as agricultural lands[98] until the presumption arising from the return is overcome.[99] Public lands returned as agricultural are open to entry as agricultural lands[100] and the presumption of the agricultural character of the lands continues until their mineral character is satisfactorily shown.[101]

93. Iron Silver Min. Co. v. Reynolds, 124 U.S. 374 (1888).
94. 30 U.S.C. § 21 (1970) (originally enacted as Act of July 4, 1866, ch. 166, § 5, 14 Stat. 86).
95. *See, e.g.*, 43 U.S.C. § 219 (1970).
96. *See, e.g.*, 30 U.S.C. § 121 (1970).
97. Cutting v. Reininghaus, 7. L.D. 265 (1888).
98. Many of the early decisions regarding public lands proceed on the assumption that land is either mineral land or agricultural land, although in proper cases, other classifications were recognized. However, the term "agricultural land" has become a convenient expression to refer to nonmineral land, and it is so used in this article.
99. Johnston v. Morris, 72 F. 890 (9th Cir. 1896) (school lands returned as mineral); Cutting v. Reininghaus, 7 L.D. 265 (1888); Richter v. Utah, 27 L.D. 95 (1898) (state selection of lands containing valuable guano deposits). *See* Cole v. Markley, 2 L.D. 847 (1883) (lands returned as "saline lands"). The agricultural claimant was not required to prove that the lands were valuable for agriculture but merely that they were not valuable for minerals. Mulligan v. Hansen, 10 L.D. 311 (1890).
100. Hooper v. Ferguson, 2 L.D. 712 (1883).
101. Dughi v. Harkins, 24 L.D. 721 (1883); Savage v. Boynton, 12 L.D. 612 (1891); Tinkham v. McCaffrey, 13 L.D. 517 (1891); Winters v. Bliss, 14 L.D. 59 (1892). Many of the early cases were concerned with the questions (1) upon which party is the burden of proof as to the character of the land, and (2) as of what time must the character of the land be shown. These questions are of subsidiary interest in the context of this article and will not be further pursued.

The first decision of the Supreme Court touching upon the question of profitability as between a mineral claimant and the United States was *United States v. Iron Silver Min. Co.*,[102] an action brought by the United States to cancel two placer mining claim patents. The evidence showed that loose gold and small nuggets had been found, mingled with earth, sand, and gravel, and that it was the opinion of experienced miners that if water could be brought from a neighboring creek, the ground could be successfully worked as a placer ground. It was also shown that there existed on the property a valuable growth of timber. The Court held that the fact that a prudent miner would not overlook such circumstances as the existence of timber on the claim, and the possible uses to which the land could be put when the mineral was exhausted, would not affect his claim to a patent, saying:

> If the land contains gold or other valuable deposits in loose earth, sand or gravel which can be secured with profit, the fact will satisfy the demand of the Government as to the character of the land as placer ground, whatever the incidental advantages it may offer to the applicant for a patent.[103]

It should be noted that the Supreme Court did not hold that it was necessary to show that the mineral could be "secured with profit." It held merely that such a showing was sufficient to sustain a location, without expressing an opinion as to whether a lesser showing would have sufficed. Nevertheless, the early decisions of the Secretary construed *United States v. Iron Silver Min. Co.* as making profitability a necessary condition and held that before land could be considered mineral land it must be shown not only that the land contained mineral in such quantities as to make it available and valuable for mining purposes, but also that the mineral could be secured at a profit by the usual modes of mining.[104] The mere fact that land contained particles of gold did not necessarily make it mineral land unless it also appeared that the land contained the metal in such quantities as to make it valuable for mining

102. 128 U.S. 673 (1888).
103. *Id.* at 684.
104. Caledonia Min. Co. v. Rowen, 2 L.D. 714 (1883); Cutting v. Reininghaus, 7 L.D. 265 (1888); Royal K. Placer, 13 L.D. 86 (1891); Tinkham v. McCaffrey, 13 L.D. 517 (1891).

purposes.[105] Under these decisions, the mineral character of the land had to be shown as a present fact,[106] based upon the actual production of mineral from the land.[107]

The comparative value test originated in the California case of *Ah Yew v. Choate,*[108] in which the issue was whether certain lands conveyed by a state patent were mineral lands. The first use of the comparative value test in conjunction with the federal mining laws appears to have been in a circular dated July 15, 1873, in which Commissioner Drummond discussed the term "valuable mineral deposit" and concluded:

> That whatever is recognized as a mineral by the standard authorities on the subject, where the same is found in quantity and quality to render the land sought to be patented more valuable on this account than for purposes of agriculture, should be treated by this office as coming within the purview of the mining act of May 10, 1872.[109]

This circular dealt with the nonmetallic minerals borax, carbonate of soda, nitrate of soda, sulphur, alum, and asphalt, and the early decisions of the Commissioner applying for the comparative value test dealt primarily with nonmetallic minerals, such as limestone,[110] marble,[111] and gypsum.[112] However, the rule was not limited to deposits of nonmetallic minerals,[113] and from an early date the determination of the character of land as mineral or nonmineral was made by a comparison of its relative value for each purpose.[114] Thus,

105. Cutting v. Reininghaus, 7 L.D. 265 (1888); Etling v. Potter, 17 L.D. 424 (1893). The original authority on this point is Alford v. Barnum, 45 Cal. 482 (1873).
106. Cutting v. Reininghaus, 7 L.D. 265 (1888); Kane v. Devine, 7 L.D. 532 (1888); Creswell Min. Co. v. Johnson, 8 L.D. 440 (1889); Peirano v. Pendola, 10 L.D. 536 (1890); John E. Williams, 11 L.D. 462 (1890); Walton v. Batten, 14 L.D. 54 (1892).
107. Dughi v. Harkins, 2 L.D. 721 (1883); Cleghorn v. Bird, 4 L.D. 478 (1886); Commissioners of Kings County v. Alexander, 5 L.D. 126 (1886); Magalia Gold Min. Co. v. Ferguson, 6 L.D. 218 (1887) ("mineral in paying quantities"); Warren v. Colorado, 14 L.D. 681 (1892); Jones v. Driver, 15 L.D. 514 (1892); Hayden v. Jamison, 16 L.D. 537 (1893).
108. 24 Cal. 562, 567 (1864): "Perhaps the true criterion would be to consider whether upon the whole the lands appear to be better adapted to mining or other purposes."
109. COPP, MINERAL LANDS 50, 51 (2d ed. 1882).
110. Commissioner's Ruling (June 28, 1875); COPP, *Id.* at 176.
111. *Id.*
112. W. H. Hooper, 1 L.D. 560 (1881).
113. Santa Clara Min. Ass'n. v. Scorsur, 4 L.D. 104 (1885).
114. *See* Secretary's Decision (July 10, 1872), COPP *supra* note 109, at 87.

in a controversy between a mineral claimant and an agricultural claimant,[115] where the land had been classified as agricultural, the mineral claimant was required to show not only that the land was not clearly agricultural, and that the land was valuable for minerals, but also that the land was more valuable for mining than for agricultural purposes,[116] for "when the statutes provide for mineral entries upon land valuable for minerals, and for agricultural entries upon lands clearly agricultural, there arises of necessity a comparison of their respective values whenever these two classes of claims come in conflict."[117] In some cases the agricultural value of the land was determined from the actual production of crops from the land,[118] which suggests that the rule requiring actual production of minerals was merely a corollary of the comparative value rule.

The Building Stone Law of 1892[119] incorporated the comparative value test by providing that lands "chiefly valuable" for building stone were subject to entry under the placer mining laws. The Building Stone Law permitted the location of stone which was useful only for general building purposes.[120] Stone useful for ornamentation of buildings and for monuments and other commercial purposes remained locatable under the general mining laws.[121] The Building Stone Law was therefore not an addition to the mining laws, but rather a supplement to them, and lands chiefly valuable for stone

115. In controversies between mineral claimants and townsite claimants, comparative value was not involved, and the mineral claimant was required to show only that the land was valuable for minerals. Secretary's Decision (Mar. 4, 1879), COPP, *supra* note 109, at 234; North Leadville v. Searl (Apr. 17, 1880), COPP, *supra* note 109, at 274; Searle Placer, 11 L.D. 441 (1890). *See* Thomas J. Laney, 9 L.D. 83 (1889). Similarly, the value of the land for town lots, not under the townsite laws, is immaterial. Washington v. McBride, 18 L.D. 199 (1894).

116. United States v. Reed, 28 F. 482 (C.C.D. Ore. 1886); Caledonia Min. Co. v. Rowen, 2 L.D. 714 (1888); Creswell Min. Co. v. Johnson, 8 L.D. 440 (1889); Peirano v. Pendola, 10 L.D. 536 (1890); Savage v. Boynton, 12 L.D. 612 (1891); Tinkham v. McCaffrey, 13 L.D. 517 (1891); Winters v. Bliss, 14 L.D. 59 (1892); McGlenn v. Wienbroeer, 15 L.D. 370 (1892); Van Doren v. Plested, 16 L.D. 508 (1893).

117. Caledonia Min. Co. v. Rowen, 2 L.D. 714, 717-18 (1883).

118. Peirano v. Pendola, 10 L.D. 536 (1890); Winters v. Bliss, 14 L.D. 59 (1892).

119. Act of Aug. 4, 1892, ch. 375, § 1, 27 Stat. 348.

120. Since only common building stone was locatable under the Building Stone Law, the enactment of the Common Varieties Act, 30 U.S.C. § 611 (1970) resulted in a repeal by implication of the Building Stone Law. See United States v. Coleman, 390 U.S. 599 (1968).

121. McGlenn v. Weinbroeer, 15 L.D. 370 (1892); Van Doren v. Plested, 16 L.D. 508 (1893); Stephen E. Day, Jr., 50 L.D. 489 (1924).

locatable only under the Building Stone Law were not on that account considered mineral in character.[122]

A line of decisions beginning in the early 1890's gradually relaxed the stringency of the test for the mineral character of lands. First, it was suggested that actual production was not necessary and that the mineral character of land could be established by showing that "coal or mineral exists on the land in question in sufficient quantity to make the same more valuable for mining than for agriculture."[123] This rule was subsequently applied, and land appears to have been declared mineral land in the absence of production.[124] The rule requiring actual production was specifically repudiated in *Johns v. Marsh*:

> It is not necessary that to meet the requirements there should be upon the land a mine in working order, from which gold is being actually produced; it is sufficient if it be shown by satisfactory proof that mineral exists in paying quantities and such proof will usually be based on mining operations, or exploration.[125]

The "paying mine" theory was repudiated in *Casey v. Northern Pac. R.R.*, which mentioned for the first time the "prudent man":

> Where the development and its results display such promise that the prudent, reasonable man would be justified in expending money and labor in legitimate mining operations, untainted by an appearance of speculation, the land must be held mineral, within the meaning of that term, as used in the granting act. If it were held otherwise, the mining industry, so far as it pertained to odd sections within the grant, would be paralyzed. The rule is that paying mines are only shown to exist after years of labor and much money

122. Clark v. Ervin, 16 L.D. 122 (1893); South Dakota v. Vermont Stone Co., 16 L.D. 263 (1893); Hayden v. Jamison, 16 L.D. 537 (1893). *See* State of Utah, 29 L.D. 69 (1899). *But cf.* Northern Pac. Ry. v. Soderberg, 188 U.S. 526 (1903).

123. Savage v. Boynton, 12 L.D. 612, 615 (1891). *Accord*, Winters v. Bliss, 14 L.D. 59 (1892).

124. Tinkham v. McCaffrey, 13 L.D. 517 (1891).

125. 15 L.D. 196, 198 (1892). *Cf.* United States v. Verrue, 75 I.D. 300 (1968).

> are expended in their development. Prospectors don't find riches on the surface. Profit is not received from the grass roots down. They must have an opportunity given them to open the mine as their means will permit.[126]

IV. *Castle v. Womble* AND THE PRUDENT MAN

A. *Castle v. Womble*

The prudent man test[127] for determining the mineral character of land advanced in *Casey v. Northern Pac. R.R.* was amplified in the landmark case of *Castle v. Womble.*[128] Womble had filed a preemption declaratory statement for land in conflict with a lode mining claim located by Castle. In the hearing before the register and receiver, it was found that the mining claim contained "gold sufficient to justify further development," and on appeal to the Commissioner it was found that the mining claim contained "sufficient mineral to justify the belief that it will develop into a paying mine." The Secretary held that the ground contained within the mining claim could not be patented to the preemption claimant. The importance of the decision merits quotation from it at length:

> The law is emphatic in declaring that "no location of a mining claim shall be made until the discovery of the vein or lode within the limits of the claim located." (Revised Statutes, 2320.) And this Department said in the Cayuga Lode (S.L.D., 703); 5—"This is a prerequisite to the location, and, of course, entry of any mining claim. Without compliance with this essential requirement of the law no location will be recognized, no entry allowed. Has such discovery been made in this case?"

126. 15 L.D. 439, 440 (1892). This language is strikingly similar to the language of Judge DeWitt in *Shreve v. Copper Bell Min. Co.*, quoted at note 263 *infra*. The language in *Casep v. Northern Pac. R.R.* is that of the local officers of the Helena, Montana, land office, who were no doubt well aware of the *Shreve* case.

127. The term "prudent man test" is used herein to refer to the test for determining the mineral character of land, and the term "prudent man rule" is used to refer to the rule of discovery. Compare the similar usage adopted with respect to the terms "marketability test" and "marketability rule" in note 6 *supra*.

128. 19 L.D. 455 (1894).

In the case of Sullivan Iron Silver Mining Co. (143 U.S., 431), it was commonly believed that underlying all the country in the immediate vicinity of land in controversy was a horizontal vein or deposit, called a blanket vein, and that the patent issued was obtained with a view to thereafter develop such underlying vein. The supreme court, however, said, page 435, that this was mere speculation and belief, not based on any discoveries or tracings, and did not meet the requirements of the statute, citing Iron Silver and Mining Co. v. Reynolds (124 U.S., 374).

In the last cited case the court, on page 384, says that the necessary knowledge of the existence of minerals may be obtained from the outcrop of the lode or vein, or from developments of a placer claim, previous to the application for patent, or perhaps in other ways; but hopes and beliefs cannot be accepted as the equivalent of such proper knowledge. In other words, it may be said that the requirement relating to discovery refers to present facts, and not to the probabilities of the future.

In this case the presence of mineral is not based upon probabilities, belief and speculation alone, but upon facts, which, in the judgment of the register and receiver and your office, show that with further work, a paying and valuable mine, so far as human foresight can determine, will be developed.

After a careful consideration of the subject, it is my opinion that where minerals have been found and the evidence is of such a character that a person of ordinary prudence would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine, the requirements of the statute have been met. To hold otherwise would tend to make of little avail, if not entirely nugatory, that provision of the law whereby "all valuable mineral deposits in lands belonging to the United States . . . are . . . declared to be free and open to exploration and purchase." For, if as soon as minerals are shown to exist, and at any time during exploration, before the returns have become remunerative, the lands are to be subject to other disposition, few would be found willing to risk time and capital in the attempt to bring to light and

> make available the mineral wealth, which lies concealed in the bowels of the earth, as Congress obviously must have intended the explorers should have proper opportunity to do.[129]

With *Casey v. Northern Pac. R.R.* and *Castle v. Womble* came the end of the policy, based upon the doubtful authority of *United States v. Iron Silver Min. Co.*,[130] of requiring the mineral character of the ground to be shown as a present fact based upon actual production and the inauguration of a new and more liberal policy of determining the mineral character of the ground as viewed through the eyes of a prudent man.[131] The rule laid down in *Castle v. Womble* became the touchstone for determining the mineral character of land,[132] and the pre-*Castle v. Womble* test for the mineral character of land was, in 1936, referred to as "an erroneous and now thoroughly discredited and abandoned test."[133]

B. Mineral Lands: The Prudent Man Test

1. *Comparative Value*

The comparative value test for the mineral character of lands was not immediately replaced by the prudent man test, but continued to be used after *Castle v. Womble*.[134] In some decisions the comparative value test was used in conjunction with the prudent man test,[135] while in other decisions the pru-

129. *Id.* at 456-57.

130. 128 U.S. 673 (1888).

131. The prudent man rule is thus properly characterized as a test of "how much mineral must be found within the limits of the claim, and not how much." *See* United States v. Kiggins, A-30827 (July 12, 1968), where the mineral claimant so contended.

132. Aspen Consol. Min. Co. v. Williams, 23 L.D. 34 (1896); Goldstein v. Juneau Townsite, 23 L.D. 417 (1896); Walker v. Southern Pac. R.R., 24 L.D. 172 1897); Leach v. Potter, 24 L.D. 573 (1896); Magruder v. Oregon & Calif. R.R., 28 L.D. 174 (1899); Holter v. Northern Pac. R.R., 30 L.D. 442 (1901); Elliott v. Southern Pac. R.R., 35 L.D. 149 (1906); Central Pac. Ry., 43 L.D. 545 (1914).

133. United States v. California, 55 I.D. 532, 541 (1936). Nevertheless, the Secretary has resurrected the pre-*Castle v. Womble* cases as authority for the marketability rule. *See, e.g.*, United States v. Denison, 76 I.D. 233 (1969).

134. Long v. Isaksen, 23 L.D. 353 (1896); Quigley v. California, 24 L.D. 507 (1897); Pacific Coast Marble Co. v. Northern Pac. R.R., 25 L.D. 233 (1897); Coleman v. McKenzie, 28 L.D. 348 (1899); Tulare Oil & Min. Co. v. Southern Pac. R.R., 29 L.D. 269 (1899). *See also* the cases collected in notes 24 to 31 *supra*.

135. Leach v. Potter, 24 L.D. 573 (1896); McQuiddy v. California, 29 L.D. 181 (1899).

dent man test appears to have been considered to be an alternative to the comparative value test.[136]

The Oil Placer Act of 1897[137] and the Saline Placer Act of 1901,[138] both modeled after the Building Stone Law of 1892,[139] provided that lands "chiefly valuable" for petroleum or other mineral oils,[140] or for salt springs or deposits of salt, could be patented[141] under the placer mining laws.[142] Although the comparative value test diminished in importance after *Castle v. Womble,* the "chiefly valuable" requirement was fixed in these statutes, and by 1912 the "chiefly valuable" requirement was identified as a point of difference between the Building Stone Law of 1892 and the general mining laws.[143] However, even the "chiefly valuable" requirement seems to have lost some of its rigor with the passage of time, for in 1926 it was held that the Oil Placer Act of 1897 was intended merely to restore the rule and practice regarding petroleum that had prevailed before the 1896 decision in *Union Oil Co.,*[144] and the term "chiefly valuable" was held to refer to the relative value of the land for agricultural and mining purposes and not to the relative value of the land for petroleum as compared with other minerals.[145]

The comparative value test was repudiated in *Cataract Gold Min. Co.,* in which the Secretary said:

> There are a number of decisions of this Department which dispose of controversies between mineral and agricultural claimants upon the stated ground that the lands are more valuable for agriculture than for mining or *vice versa,* but a careful consideration of those opinions seems to support the view that the ex-

136. Magruder v. Oregon & Calif. R.R., 28 L.D. 174 (1899); Holter v. Northern Pac. R.R., 30 L.D. 442 (1901) (*semble*). *See* 1 LINDLEY, MINES § 98 (3d ed. 1914).
137. Act of Feb. 11, 1897, ch. 216, 29 Stat. 526.
138. Act of Jan. 31, 1901, ch. 186, 31 Stat. 745.
139. Act of Aug. 4, 1892, ch. 375, § 1, 27 Stat. 348.
140. Oil shale came within the purview of the Oil Placer Act of 1897. Instructions, 47 L.D. 548 (1920).
141. The Oil Placer Act of 1897 used the words "enter and obtain patent." The Saline Placer Act of 1901 used the words "location and purchase."
142. John McFayden, 51 L.D. 436 (1926).
143. Stanislaus Electric Power Co., 41 L.D. 655 (1912).
144. 23 L.D. 222 (1896).
145. John McFayden, 51 L.D. 436 (1926).

> pression used was based upon the fact that the land involved possessed a positive or greater value for the purpose for which the award was made and no practical or commercial value for the purpose for which patent was denied.[146]

The Secretary then held:

> [I]f a mineral claimant is able to show that the land contains mineral of such quantity and value as to warrant a prudent man in the expenditure of his time and money thereupon, in the reasonable expectation of success in developing a paying mine, such lands are disposable only under the mineral laws, notwithstanding the fact that they may possess a possible or probable greater value for agriculture or other purposes.[147]

Notwithstanding this unequivocal repudiation, from time to time the comparative value test has found its way back into decisions of the Secretary and the courts, particularly decisions involving lands within the national forests.[148]

2. *Disclosure of Mineral*

Prior to *Castle v. Womble* it had been held that one claiming land to be mineral in character "must show, not that neighboring or adjoining lands are mineral in character, or that in dispute may hereafter by possibility develop minerals in such quantity as will establish its mineral rather than its agricultural character, but that, as a present fact, it is mineral in character."[149] The trend away from requiring a showing

146. 43 L.D. 248, 252 (1914).
147. *Id.* at 254. *Accord,* United States v. Langmade, 52 L.D. 700 (1929); California v. Rodeffer, 75 I.D. 176 (1968).
148. United States v. Lillibridge, 4 F. Supp. 204 (S.D. Cal. 1932); Copper Belt Silver & Mining Co., 54 I.D. 475 (1934); United States v. Dawson, 58 I.D. 670 (1944); United States v. Gray,, A-28710 (Supp.) (May 7, 1964).
149. Dughi v. Harkins, 2 L.D. 721 (1883). *Accord,* Roberts v. Jepson, 4 L.D. 60 (1885); Cleghorn v. Bird, 4 L.D. 478 (1886); Commissioners of Kings County v. Alexander, 5 L.D. 126 (1886); Maglia Gold Min. Co. v. Ferguson, 6 L.D. 218 (1887); Savage v. Boynton, 12 L.D. 612, 614 (1891) ("the proof must show satisfactorily the coal character and not be based upon a theory"); Winters v. Bliss, 14 L.D. 59 (1892). *See* John E. Williams, 11 L.D. 462 (1890). On the other hand, in Erhardt v. Boaro, 113 U.S. 527, 536 (1885), the discovery of minerals in adjacent ground was said to be sufficient to support a discovery:

> There must be something beyond a mere guess on the part of the miner to authorize him to make a location which will exclude others from the ground, such as the discovery of the presence of the precious metals in it, or in such proximity to it as to justify a reasonable belief in their existence.

of the actual presence of mineral in the land in question began with an 1895 Act which provided for the examination and classification of certain lands in Montana and Idaho. The Act appointed commissioners to classify the lands and provided:

> That all said lands shall be classified as mineral which by reason of valuable mineral deposits are open to exploration, occupation, and purchase under the provisions of the United States mining laws, and the commissioners in making the classification hereinafter provided for shall take into consideration the mineral discovered or developed on or adjacent to such land, and the geological formation of all lands to be examined and classified, or the lands adjacent thereto, and the reasonable probabilities of such land containing valuable mineral deposits because of its formation, location, or character.[150]

Although the language of this Act appears to permit the classification of land as mineral in character solely on the basis of mineral discovered in adjacent land, the Secretary held that the Act did not eliminate the requirement that valuable mineral deposits must be found on the land in question.[151]

Finally, in 1914, the same year that the comparative value test was repudiated by the Secretary, the Supreme Court laid down the test still used to determine the mineral character of lands, the test being whether "the known conditions . . . were plainly such as to engender the belief that the land contained mineral deposits of such quantity as would render their extraction profitable and justify expenditures to that end."[152] Such belief may be predicated upon geological conditions, discoveries of mineral in adjacent land, and other observable external conditions upon which prudent and experienced men are shown to act.[153] It is not essential that ore be mined and shipped from the land, nor is it necessary that there be a market for minerals extracted, from the land:

150. Act of Feb. 26, 1895, ch. 131, § 3, 28 Stat. 683, 684.

151. Holter v. Northern Pac. R.R., 30 L.D. 442 (1901).

152. Diamond Coal & Coke Co. v. United States, 233 U.S. 236, 239-40 (1914). *Accord*, United States v. Southern Pac. Co., 251 U.S. 1 (1919); Monolith Portland Cement Co., 61 I.D. 43 (1952); Southern Pac. Co., 71 I.D. 224 (1964); United States v. Williamson, 75 I.D. 338 (1968).

153. Southern Pac. Co., 71 I.D. 224 (1964); California v. Rodeffer, 75 I.D. 176 (1968).

> The acceptance of these circumstances as *criteria* for determining the mineral character of lands would be to make the determination of the character of the land dependent upon local economic and industrial conditions, and subject to change in character with the ephemeral shifts in economic supply and demand for that particular deposit—a view of the reservation of mineral land in grants to the States for which no authority has been found.[154]

Although a discovery within the boundaries of a lode mining claim evidences the mineral character of the land,[155] it is not essential that there be an actual discovery of mineral in the land.[156]

C. The Prudent Man Rule of Discovery

The prudent man rule of discovery did not emerge full-blown from *Castle v. Womble.* After that decision, as before, the word "discovery" was used generally to refer to the physical act of finding minerals.[157] Although a discovery was recognized as the source of the miner's title[158] and a prerequisite to obtaining a mineral patent,[159] in the decisions handed down by the Secretary shortly after *Castle v. Womble* it was held that the fact that a discovery had been made did not necessarily establish the mineral character of the land.[160] Conversely, a finding that the land did not contain mineral in such quantity as to render it subject to mineral entry did not necessarily imply that a discovery had not been made.[161]

154. United States v. Utah, 51 L.D. 432, 436 (1926).

155. Diamond Coal & Coke Co. v. United States, 233 U.S. 236 (1914); Crystal Marble Quarries Co. v. Dantice, 41 L.D. 642 (1913); United States v. California, 55 I.D. 532 (1936); Monolith Portland Cement Co., 61 I.D. 43 (1952); Southern Pac. Co., 71 I.D. 224 (1964); California v. Rodeffer, 75 I.D. 176 (1968).

156. Star Gold Min. Co., 47 L.D. 38 (1919).

157. Reins v. Murray, 22 L.D. 409 (1896); Louise Min. Co., 22 L.D. 663 (1896); Aspen Consol. Min. Co. v. Williams, 23 L.D. 34 (1896); Union Oil Co., 25 L.D. 351 (1897); Reid v. Lavallee, 26 L.D. 100 (1898); Paul Jones Lode, 31 L.D. 359 (1902).

158. Union Oil Co., 23 L.D. 222 (1896); Magruder v. Oregon & Calif. R.R., 28 L.D. 174 (1899); Bakersfield Fuel & Oil Co., 39 L.D. 460 (1911); Bay City Oil Co. v. Alvarado Oil Co., 43 L.D. 397 (1914).

159. Hughes v. Ochsner, 29 L.D. 396 (1898).

160. Michie v. Gothberg, 30 L.D. 407 (1901).

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

At first the prudent man test was applied only in controversies in which the mineral claimant sought to prevent the issuance of a patent to a nonmineral claimant.[162] Thus in *Tam v. Story,*[163] which was decided almost exactly one year after *Castle v. Womble,* the Secretary held that where the mineral character of the ground was not questioned, and a vein or lode had been discovered within the limits of the claim, the fact that the claim did not contain a valuable deposit of mineral was not sufficient reason to deny a patent. The Secretary said:

> [T]he value of the mineral deposit is a matter into which the government does not inquire after discovery and location, save in a controversy between mineral and agricultural claimants. If the explorer deemed the deposit of sufficient value to warrant the annual labor and expenditure required, he thereby shows his good faith, and a compliance with the other provisions of section 2325, Revised Statutes, entitles him, on application, to entry and patent.[164]

With reference to the requirement that the value of the mineral deposit must be shown, the Secretary then quoted with approval from *Book v. Justice Min. Co.*:[165]

> If this theory were adopted by the courts, it would invalidate many mining locations. Logically carried out it would prohibit a miner from making any valid location until he had fully demonstrated that the vein or lode of quartz or other rock in place, bearing gold or silver, which he had discovered, would pay all the expenses of removing, extracting, crushing, and reducing the ore, and leave a profit to the owner. If this view should be sustained, it is manifest that it would lead to absurd, injurious and unjust results, destructive of the rights of prospectors and miners, in their honest, patient, and industrious ef-

162. Aspen Consol. Min. Co. v. Williams, 23 L.D. 34 (1896) (protest against issuance of preemption patent); Goldstein v. Juneau Townsite, 23 L.D. 417 (1896) (protest against issuance of townsite patent); Walker v. Southern Pac. R.R., 24 L.D. 172 (1897) (contest against railroad indemnity selection); Magruder v. Oregon & Calif. R.R., 28 L.D. (1899) (protest against railroad grant); McQuiddy v. California, 29 L.D. 181 (1899) (protest against indemnity school selections).

163. 21 L.D. 440 (1895).

164. *Id.* at 442.

165. 58 Fed. 106 (C.C.D. Nev. 1893).

> forts to explore, discover and develop the veins and lodes that exist in the public mineral lands of the United States.[166]

It is significant that the prudent man rule of discovery was not applied in *Tam v. Story*. Indeed, it seems probable that *Castle v. Womble* was the "controversy between mineral and agricultural claimants" mentioned as being the sole case in which the United States would inquire as to the value of the mineral deposits. In these controversies between mineral and agricultural claimants the issue was whether the land in conflict was mineral in character, and the prudent man test appears to have been liberally applied in favor of the mineral claimant.[167]

In *H. H. Yard*[168] the prudent man test for the mineral character of land was transformed into a rule of discovery, and was applied in a controversy between the mineral claimant and the United States with respect to placer claims. In this case the Secretary made it clear that the United States was to be considered as a rival claimant to the ground.[169]

The prudent man rule was first applied to lode claims in *Jefferson-Montana Copper Mines Co.*, in which the rule was stated in the following oft-quoted form:

> 1. There must be a vein or lode of quartz or other rock in place;
>
> 2. The quartz or other rock in place must carry gold or some other valuable mineral deposit;

166. *Supra* note 163.

167. *See* McQuiddy v. California, 29 L.D. 181, 184 (1899):
> While it appears that the mineral deposits on the land in dispute have not been extensively developed, and no large results have been obtained therefrom, yet the fact that mineral has been discovered thereon and that further expenditures have been made in the development of the same, considered together with the admission of the State relative to the mineral character of the land and considered also together with the fact that the evidence submitted herein shows the land to have but very little if any agricultural value, it must be and is hereby determined that the agricultural return is overcome and the land shown to have a greater value for mineral than agricultural purposes.

168. 38 L.D. 59 (1909).

169. The Secretary said: "In a national forest, the Government occupies a position, so far as the mining claimant is concerned, very similar to that of an individual claimant upon the public domain under any of the nonmineral land laws . . . ." *Id.* at 67.

> 3. The two preceding elements, when taken together, must be such as to warrant a prudent man in the expenditure of his time and money in the effort to develop a valuable mine.
>
> It is clear that many factors may enter into the third element: The size of the vein, as far as disclosed, the quality and quantity of mineral it carries, its proximity to working mines and location in an established mining district, the geological conditions, the fact that similar veins in the particular locality have been explored with success, and other like facts, would all be considered by a prudent man in determining whether the vein or lode he has discovered warrants a further expenditure or not.[170]

The prudent man rule has two separate requirements. The first requirement is that valuable minerals, whether in a vein or lode, or in a placer deposit, be found within the limits of the claim. The second requirement is that the evidence be of such 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 first requirement is related to the facts as they exist at the time in question. The second requirement is related to the effect these facts would have upon the conduct of a reasonable man. In *Castle v. Womble* the Secretary said:

> [T]he necessary knowledge *of the existence of minerals* may be obtained from the outcrop of the lode or vein, or from developments of a placer claim, previous to the application for patent, or perhaps in other ways; but hopes and beliefs cannot be accepted as the equivalent of such knowledge [i.e., knowledge of the *existence* of minerals]. In other words, it may be said that the requirement relating to discovery refers to present facts, and not to the probabilities of the future.
>
> In this case the *presence of mineral* is not based upon probabilities, belief and speculation alone, but upon facts, which, in the judgment of the register and receiver and your office, show that with further work, a paying and valuable mine, as far as human fore-

170. 41 L.D. 320, 323 (1912). *See* Michie v. Gothberg, 30 L.D. 407 (1901).

> sight can determine, will be developed.[171] (Emphasis added.)

It is clear that the Secretary was here focusing his attention on the first requirement of the prudent man test, and was saying that the present facts must demonsrate the existence of minerals but that the existence of "a paying and valuable mine" was a matter of "judgment" and "human foresight." That there are in fact two separate requirements is frequently glossed over in those decisions which hold that speculation or conjecture is insufficient to establish a discovery, and which attempt to require the prudent man to prove, as a present fact, not only the existence of minerals, but also the existence of a paying and valuable mine.

1. *Vein or Lode; Mineral*

Controversies involving the requirement that a vein or lode, or mineral, be found within the limits of the claim fall generally into two groups. In the first group are those cases in which the substance upon which the claim is based has definitely been found within the limits of the claim, the question being whether that substance is a mineral subject to location under the mining law. The answer to this question is generally provided by the marketability test, or the Common Varieties Act, discussed above. In the second group are those cases in which the question is whether the vein or lode, or the mineral itself, rather than mere indications, has been found.

To constitute a valid discovery there must be actually and physically exposed within the limits of the claim a vein or lode or mineral-bearing rock in place, possessing in and of itself a present or prospective value for mining purposes.[172] A discovery cannot be predicated upon the exposure of worthless deposits or isolated bits of mineral on the surface of the claim, not connected with or leading to substantial values,[173]

171. 19 L.D. 455, 457 (1894).

172. East Tintic Consol. Min. Claim, 40 L.D. 271 (1911); United States v. Pressentin, 71 I.D. 447 (1964).

173. East Tintic Consol. Min. Claim, 40 L.D. 271 (1911); United States v. Miller, 59 I.D. 446 (1947); United States v. Carlile, 67 I.D. 417 (1960); United States v. Altman, 68 I.D. 235 (1961); United States v. Effenbeck, A-29113 (Jan. 15, 1963); United States v. Snyder, 72 I.D. 223 (1965); United States v. White, 72 I.D. 522 (1965); United States v. Mullin, 2 IBLA 133 (1971).

the finding of mere surface indications of mineral within the limits of the claim,[174] the discovery of valuable mineral deposits outside the claim,[175] or deductions from established geological facts relating to the claim.[176] Mere indications or belief in the existence of mineral on the claim,[177] or mere hopes or expectations that values will increase at depth,[178] are not sufficient to constitute a discovery. The particular deposit actually disclosed within the limits of a mining claim must be the one as to which there is reasonable prospect of success of developing a valuable mine.[179]

2. *Expenditure of Labor and Means*

The prudent man rule imposes an objective standard, and the fact that the claimant may be willing to expend his labor and means is not sufficient. The standard is that of the pru-

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It is not enough that the claimant may have shown that it is possible to detect the presence of minerals in material removed from the claim and that this material was removed from veins or fissures. United States v. Pressentin, 71 I.D. 447 (1964). *But see* United States v. Moorhead, 59 I.D. 192, 194 (1946): "[G]old and silver . . . have been found in appreciable quantities . . . in such a situation as reasonably leads to the inference that they came from rock in place on the claim upon which they were found." With respect to oil placer claims located prior to the enactment of the Mineral Leasing Law of 1920, 30 U.S.C. §§ 181-287 (1970), it was frequently held that surface oil seeps did not constitute a discovery of petroleum. *See, e.g.*, Southwestern Oil Co. v. Atlantic & Pac. R.R., 39 L.D. 335 (1910); Butte Oil Co., 40 L.D. 602 (1912).

174. East Tintic Consol. Min. Claim, 40 L.D. 271 (1911); Rough Rider and Other Lode Claims, 41 L.D. 242 (1911) (pyrite-bearing quartz and limonite indicative of copper mineralization at depth); Austin v. Mann, 56 I.D. 85 (1937) (iron-oxidized outcroppings indicative of ore at depth); United States v. Miller, 59 I.D. 446 (1947).

175. East Tintic Consol. Min. Claim, 40 L.D. 271 (1911); Austin v. Mann, 56 I.D. 85 (1937); United States v. Mouat, 60 I.D. 473 (1951); Monolith Portland Cement Co., 61 I.D. 43 (1952); United States v. Henrikson, 70 I.D. 212 (1963); United States v. McCall, 2 IBLA 64 (1971). *But see* Erhardt v. Boaro, 113 U.S. 527 (1885), quoted in note 149 *supra*.

176. Henault Min. Co. v. Tysk, 419 F.2d 766 (9th Cir. 1969); East Tintic Consol. Min. Claim, 40 L.D. 271 (1911); Rough Rider and Other Lode Claims, 41 L.D. 242 (1911); Gonzales v. Stewart, 46 L.D. 85 (1917); United States v. Bunker Hill & Sullivan Min. & Concentrating Co., 48 L.D. 598 (1922); Oregon Basin Oil & Gas Co., 50 L.D. 244 (1923); United States v. Arizona Manganese Corp., 57 L.D. 558 (1942); United States v. Strauss, 59 I.D. 129 (1945); Monolith Portland Cement Co., 61 I.D. 43 (1952); United States v. Snyder, 72 I.D. 223 (1965). *But cf.* Rough Rider and Other Lode Mining Claims, 42 L.D. 584 (1913).

177. United States v. Miller, 59 I.D. 446 (1947).

178. United States v. Duvall, 65 I.D. 458 (1958); United States v. Altman, 68 I.D. 235 (1961); United States v. Snyder, 72 I.D. 223 (1965); United States v. White, 72 I.D. 522 (1965).

179. Oregon Basin Oil & Gas Co., 50 L.D. 253 (1924); H. Leslie Parker, 54 I.D. 165 (1933), *rehearing denied*, 54 I.D. 601 (1934); United States v. Henault Min. Co., 73 I.D. 184 (1966).

dent man, who must be not merely willing, but justified, in the expenditure of his labor and means.[180]

3. *Reasonable Prospect of Success*

Not every operation on the public domain which has a reasonable prospect of success satisfies the requirement of the prudent man rule. The expenditure of labor and means must be for the benefit of a mining operation from which minerals can be extracted and marketed, and the marketable commodity must be the product of the mining operation.[181] A health resort or a tourist attraction operated in a mine or on a mining claim may be a profitable operation, but success in such a venture does not make the operation a "valuable mine" under the prudent man rule.[182]

Although the prudent man rule does contemplate an inquiry into the value of a mineral deposit, it does not require the actual disclosure of ore of commercial quality or quantity before a valid location can be made.[183] The nucleus of value which sustains a discovery must be such that with actual mining operations under proper management a profitable venture may reasonably be expected to result.[184] The value of a mineral deposit, however, will always remain a matter of uncertainty until the deposit has been exploited through actual mining operations.[185]

Whether the prudent man rule's "reasonable prospect of success" requires that the profitability of the operation be more probable than not is a question upon which the Secretary has displayed a certain amount of vacillation. At first,

180. H. Leslie Parker, 54 I.D. 601 (1933); United States v. White, 72 I.D. 522 (1965). *Contra*, Fresh v. Udall, 228 F. Supp. 738 (D. Colo. 1964).
181. United States v. Elkhorn Min. Co., 2 IBLA 383 (1971).
182. *Id.* (exacting an admission charge from persons who desire to enter a mine and breathe radon gas). *Cf.* South Dakota Min. Co. v. McDonald, 30 L.D. 357 (1900) (natural caves); Lovely Placer Claim, 35 L.D. 426 (1907) (saline baths).
183. East Tintic Consol. Min. Co., 43 L.D. 79 (1914); United States v. Bunker Hill & Sullivan Min. & Concentrating Co., 48 L.D. 598 (1922); Freeman v. Summers, 52 L.D. 201 (1927); United States v. Smith, A-30888 (Mar. 29, 1968).
184. United States v. Santiam Copper Mines, Inc., A-28272 (June 27, 1960); United States v. Pressentin, 71 I.D. 447 (1964); United States v. White, 72 I.D. 522 (1965).
185. United States v. Watkins, A-30659 (Oct. 19, 1967); United States v. Relyea, A-30909 (June 25, 1968).

he was of the opinion that the prudent man rule required that the mineral deposit be one which "can probably be worked profitably,"[186] the reason given being that "otherwise, there would be no inducement or incentive for the mineral claimant to remove the minerals from the ground and place the same in the market, the evident intent and purpose of the mining laws."[187] In subsequent decisions, however, the Secretary said that the prudent man rules does not require that profitability be more probable than not,[188] and recognized that to apply the test of whether a mineral deposit is one which is "capable or probably capable of sustaining a paying mining operation" would be to go beyond the requirements of the prudent man rule.[189] More recently, however, the Secretary has returned to the rule that the mining claimant must prove that a profitable mine will probably result.[190]

As originally formulated, the prudent man rule predicated a "reasonable prospect of success" upon geological information and other data which was available to the claimant at the time of location or which could be developed during the period allowed for performing the discovery work required by law in some states. The factors to be considered by the prudent man included:

186. Cataract Gold Min. Co., 43 L.D. 248, 254 (1914). *Accord*, United States v. Bullington, 51 L.D. 604 (1926). *See* Big Pine Min. Corp., 53 I.D. 410, 412 (1931): "Lands containing limestone or other mineral, which under the conditions shown can not probably be successfully mined and marketed, are not valuable because of their mineral content, nor subject to location under the mining law."

187. Cataract Gold Min. Co., 43 L.D. 248, 254 (1914).

188. United States v. Smith, 66 I.D. 169, 172 (1959):

> The mining laws do not require, as the Forest Service suggests, that the values shown must be such as will demonstrate that a claim can be worked at a profit or that it is more probable than not that a profitable mining operation can be brought about.

United States v. Altman, 68 I.D. 235, 239 (1961):

> The Acting Director's decision does not appear to be susceptible to the construction which the contestees attribute to it, that is, that the Acting Director has added to the prudent man test the necessity for showing that the deposit is one which is "capable or probably capable of sustaining a paying mining operation."

United States v. Devenny, A-30031 (June 19, 1964); United States v. White, 72 I.D. 522 (1965); United States v. Henault Min. Co., 73 I.D. 184 (1966). *But see* United States v. Gray, A-28710 (Supp.) (May 7, 1964) ("the showing must reveal the probability of a mineral deposit of commercial value which can be mined at a profit").

189. United States v. Altman, 68 I.D. 235 (1961). Since the marketability rule does require that a profitable operation can be conducted on the date in question, *Altman* is in effect a decision holding that present marketability at a profit is an additional requirement over and above the requirements of the prudent man rule.

190. United States v. New Jersey Zinc Co., 74 I.D. 191 (1967).

> The size of the vein, as far as disclosed, the quality and quantity of mineral it carries, its proximity to working mines and location in an established mining district, the geological conditions, the fact that similar veins in the particular locality have been explored with success, and other like facts . . . .[191]

Over the years, the number of factors which the prudent man must consider has increased, and his consideration of these factors has been required in ever-increasing depth. The prudent man must not only consider general geology, economic geology, results of drilling, sampling, and nature of mineralization, but now he must also consider such items as the likely mining method, estimated mining and milling costs, beneficiation or metallurgical processes, transportation factors, market data and analysis, sales price, costs, and so forth.[192] The probable cost of extracting, processing, and transporting the mineral product must be established before a discovery can exist. A mineral claimant can establish a discovery only upon a deposit that can be mined by "tested and conventional methods of extracting mineral,"[193] and by showing, from actual experiments, the success of the proposed milling process.[194]

In short, the Secretary now requires the prudent man to be so extraordinarily prudent that he will not feel justified in expending his labor and means until he has in hand an economic feasibility study showing that the mine will be a success.[195] This hypercautious prudent man is perhaps the individual one court had in mind when it referred to the prudent man rule as the "prudent investor" rule.[196] The term "prudent investor" was apparently borrowed from the law of trusts, where it is used in connection with the rule that a trustee is permitted to make "only such investments as a prudent man would make of his own property having in view the

191. Jefferson-Montana Copper Mines Co., 41 L.D. 320, 323 (1912).
192. DEP'T. OF THE INTERIOR, PATENTING A MINING CLAIM ON FEDERAL LANDS (1970).
193. United States v. Swain, A-30926 (Dec. 30, 1968).
194. United States v. New Jersey Zinc Co., 74 I.D. 191 (1967).
195. United States v. Swain, A-30926 (Dec. 30, 1968): "What is the 'prudent man' test basically? It is, in essence, an inquiry into the economic feasibility of a proposed mining operation on the mining claim in question."
196. United States v. Toole, 224 F. Supp. 440 (D. Mont. 1963).

preservation of the estate and the amount and regularity of the income to be derived."[197] Although the law of discovery does not yet appear to have evolved to the point where the locator is governed by the rules applicable to investment by a fiduciary, the trend in that direction is unmistakable.[198]

4. *The Development Rule*

The word "develop" means, generally, "[T]o bring through a succession of states or stages, each of which is preparatory to the next."[199] It has a technical meaning in the mining industry, "To prepare for extracting the ore by driving mine workings or exploratory openings to determine the limits of an ore occurrence, and by providing passageways."[200]

In *Castle v. Womble* it was found, in the hearing before the register and receiver, that the mining claim contained "gold sufficient to justify further development,"[201] and on appeal to the Commissioner it was found that the mining claim contained "sufficient mineral to justify the belief that it will develop into a paying mine."[202] The Secretary's decision contains the phrase, "in the further expenditure of his labor and means . . . in developing a valuable mine." Any doubt that the Secretary was using the word "developing" in its general rather than its technical sense is allayed in the next sentence but one, in which he says:

> For, if as soon as minerals are shown to exist, *and at any time during exploration,* before the returns have become remunerative, the lands are to be subject to other disposition, few would be found willing to

197. RESTATEMENT (SECOND) OF TRUSTS § 227 (1959).

198. One hearing examiner has held:

> [P]ublic lands cannot be acquired under the mining laws simply because the mining claimant is willing, for one reason or another, to undertake the development of a mine and (1) receive no remuneration for his time and labor, or (2) *receive a rate of return on his investment which would be less than could be obtained by investments in Government bonds. The test is whether a person of ordinary prudence would invest his labor and means in the particular property after a full consideration of the available alternatives, including the labor and investment markets.*

United States v. Oxford, 4 IBLA 236 (1972). On appeal to the Board of Land Appeals, the emphasized language was deleted. *Id.*

199. WEBSTER'S NEW INT'L DICTIONARY 618 (2d ed. 1971).

200. *Id.*

201. 19 L.D. 455, 456 (1894).

202. *Id.*

> risk time and capital in the attempt to bring to light and make available the mineral wealth, which lies concealed in the bowels of the earth, as Congress obviously must have intended the *explorers* should have proper opportunity to do.[203] (Emphasis added.)

Similarly, in *Charlton v. Kelly* the court considered the language of *Castle v. Womble* and rejected the idea that the word "development" was used in its technical sense to refer to the stage of operations following after exploration:

> The principal objection made to the charge on this branch of the case is that the court instructed the jury that the mineral discovered must, in order to constitute a discovery, be of such quantity and character and found under such circumstances as to justify a man of ordinary prudence in the expenditure of his time and money in the development of the property. It is argued that a discovery sufficient to justify the expenditure of time and money in the development of a mining claim must necessarily be greater than that which is necessary to justify the expenditure of money for the purpose of exploration, with the reasonable expectation that, when developed, the claim will be found valuable as a placer mining claim. Counsel for the plaintiffs in error have assumed for the word "development" a broader meaning than was intended in the charge. The court did not mean that, in order to comply with the law, there must be such a discovery as to justify the expenditure of time and money upon a claim to the extent of opening up the whole thereof and acquiring an exhaustive knowledge concerning its resources. The word as it was used by the court, and as in connection with the whole charge it must have been understood by the jury, was equivalent to the word "exploration," and was used in the sense in which it was employed in Chrisman v. Miller, 197 U.S. 313, 323, 25 Sup.Ct. 468, 470, 49 L.Ed. 770, in which the court thus quoted with approval the language of Mr. Justice Field in a prior case: "The mere indication or presence of gold or silver is not sufficient to establish the existence of a lode. The mineral must exist in such quantities as to justify the expenditure of money for the develop-

203. *Id.* at 457.

ment of the mine and the extraction of the mineral."[204]

Nevertheless, in what can best be described as a semantic blunder, the Secretary seized upon the word "developing" used in *Castle v. Womble,* and originated the development rule of discovery; the first statement of which in a reported decision of the Secretary is found in *United States v. Altman*:

> Nor is the Acting Director's statement that while a prudent man might be justified in further exploration work on these claims he would not be justified in further expenditure of his time and money with a reasonable prospect of success in developing a paying mine an enlargement of the prudent man rule. There is, of course, a distinct difference between exploration and discovery under the mining laws. Exploration work is that which is done prior to discovery in an effort to determine whether the land contains valuable minerals. Where minerals are found it is often necessary to do further exploratory work to determine whether those minerals have value and, where the minerals found are of low value, there must be more exploration work to determine whether those low-value minerals exist in such quantities that there is a reasonable prospect of success in developing a paying mine. It is only when exploratory work shows this that it can be said that a prudent man would be justified in going ahead with his development work and that a discovery has been made. It would appear that what the Acting Director was saying here was that while the land might be worthy of more exploratory work the claims had not been explored to such a point that discovery had been achieved under the prudent man rule.[205]

The Secretary has attempted to sidestep *Charlton v. Kelly* on the ground that it was a controversy between mineral claimants, and hence not authority in a controversy between a mineral claimant and the United States.[206] While it is true

204. 156 F. 433, 436 (9th Cir. 1907).

205. 68 I.D. 235, 237-38 (1961). *Accord,* United States v. Converse, 72 I.D. 141 (1965); United States v. Snyder, 72 I.D. 223 (1965); United States v. Henault Min. Co., 73 I.D. 184 (1966); United States v. Myers, 74 I.D. 388 (1967); United States v. Mullin, 2 IBLA 133 (1971); United States v. Federal Materials, Inc., 2 IBLA 161 (1971).

206. United States v. Converse, 72 I.D. 141 (1965); United States v. Henault Min. Co., 73 I.D. 184 (1966).

that in a controversy between mineral claimants a lesser showing of discovery is now required than in a controversy between a mineral claimant and the United States, it does not follow (as the Secretary seems to suggest) that the word "develop" has a general meaning in one context and a technical meaning in the other.

The development rule has, understandably, generated a great deal of confusion and frustration, particularly among unsuspecting claimants and their witnesses who read *Castle v. Womble* as saying that a discovery might be made "as soon as minerals are shown to exist," and that the prudent man might be justified in the further expenditure of his labor and means "during exploration." This confusion would certainly not be abated by consulting the Department of the Interior's authoritative *A Dictionary of Mining, Mineral, and Related Terms,* which offers the following definitions:

> Explore—"To search, develop, or prospect."
> Develop—"To open a mine and ore; more or less, to search, prospect, explore."

A noted mining authority, after defining the terms prospecting, exploration, development, and exploitation, says:

> These terms are used loosely. It is often difficult to distinguish between prospecting and exploration, or between exploration and development, as the different kinds of work usually grade into one another; an arbitrary differentiation between them is usually established at a given property.[207]

The Secretary likewise makes an arbitrary differentiation between exploration and development,[208] by defining exploration as that which takes place before discovery and development as that which takes place after discovery.[209] The diffi-

207. 1 PEELE, MINING ENGINEERS' HANDBOOK § 10-03 (3d ed. 1941).
208. The Secretary, of course, denies that the distinction between exploration and development is "an artificial or arbitrary distinction fabricated by the Department." United States v. Henault Min. Co., 73 I.D. 184, 191 (1966).
209. United States v. Altman, 68 I.D. 235 (1961); United States v. New Mexico Mines, Inc., 3 IBLA 101 (1971). This differentiation may be based upon the requirement imposed by some states that a certain amount of "discovery work" or "development work" must be done on a claim after location. See Union Oil Co., 23 L.D. 222 (1896). If so, the reliance is misplaced, for the development work may precede discovery. Creede & Cripple Creek Min. & Milling Co. v. Uinta Tunnel Min & Transp. Co., 196 U.S. 337 (1905); Cole v. Ralph 252 U.S. 286 (1920).

culty with the development rule is that to determine whether a discovery has been made by resorting to the concepts of exploration and development, which are themselves defined in terms of discovery, involves a circularity which vitiates the entire reasoning process.

In the last analysis, the development rule is not very ueful—except perhaps insofar as it affords some insight into the decision making process within the Department of the Interior —and tends to obscure the problem at hand, rather than aid in its solution. The real question is not the distinction between exploration and development (or between exploration and discovery), but rather whether the exploration has resulted in a valid discovery.[210]

V. MARKETABILITY AND DISCOVERY

A. Marketability and the Prudent Man Rule

Although the prudent man rule does not require a showing that the minerals found *can* be extracted, removed, and marketed at a profit,[211] in determining whether he "would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine,"[212] the prudent man will certainly take into consideration whether there is a *reasonable prospect* that the minerals found can be extracted, removed, and marketed at a profit.[213] If there is no practical, economical method of working the claim, or if the known facts demonstrate that an expected mining operation could not be profitable, then a prudent man would not reasonably expend his money and time in such an operation.[214] On the other hand, it would

210. Converse v. Udall, 399 F.2d 616 (9th Cir. 1968).
211. United States v. Smith, 66 I.D. 169 (1959); United States v. Myers, 74 I.D. 388 (1967). In Freeman v. Summers, 52 L.D. 201, 206 (1927) the Secretary said: "It is not necessary, in order to constitute a valid discovery under the general mining laws sufficient to support an application for patent, that the mineral in its present situation can be immediately disposed of at a profit." The marketability rule does, of course, require such a showing. See the cases collected in Notes 221 and 222 *infra*.
212. Castle v. Womble, *supra* note 128, at 457.
213. United States v. Anderson, 74 I.D. 292 (1967); United States v. Jenkins, 75 I.D. 312 (1968); United States v. Denison, 76 I.D. 233 (1969); United States v. Guthrie, 5 IBLA 303 (1972).
214. Big Pine Min. Corp., 53 I.D. 410 (1931); United States v. McKenzie, 4 IBLA 97 (1971). *See* United States v. Bullington, 51 L.D. 604 (1926); United States v. Jones, 3 IBLA 177 (1971).

seem that a determination that the mineral is being extracted, removed, and marketed at a profit should make it unnecessary to consider whether a prudent man would be so justified, for the paying mine has already been developed and the success is no longer a prospect, but an actuality.[215] Nevertheless, in a curious reversal of emphasis, the Secretary requires not only a profit over and above the claimant's own wages,[216] but a profit above some as yet undefined level,[217] on the ground that if the profit is small, no prudent man would "invest his time and money to develop a deposit for such a meager return."[218]

The problem usually facing the mineral claimant is to show that the minerals exist in sufficient quality and quantity to satisfy the prudent man rule. However, in the few decisions which have applied the prudent man rule to minerals of widespread occurrence, the mineral claimant has been required to show that the reserves of mineral on the claims are not disproportionately large in relation to the market for that mineral.[219]

At one time the marketability rule was an alternative to the prudent man rule, and if the marketability rule could not be met, the claimant could rely on the prudent man rule and show that there was a reasonable prospect of success in developing a valuable mine.[220] The marketability rule did not,

215. United States v. Henrikson, 70 I.D. 212, 215 (1963):
> Here, at the time the patent application was made and at the time of the hearing, a paying mine had been developed on the claim and the products of the claim were still being extracted, removed, and sold at a profit to meet the current demand for sand and gravel.

216. United States v. White, 72 I.D. 522 (1965); United States v. Barnes, A-30506 (Mar. 28, 1966).

217. At one time the Secretary said, "[T]he Department has never prescribed a level of profit which must be contemplated in order to demonstrate a valuable mine . . . ." United States v. Verrue, 75 I.D. 300, 308 n.4 (1968). Nevertheless, in United States v. Barrows, 76 I.D. 299, 310 (1969), the Secretary said: "We do not believe a profit of as low as $245 per year would satisfy the prudent man test of discovery." *See also* Atchison, T. & S. F. Ry. v. Cox, 4 IBLA 279 (1972).

218. United States v. Melluzzo, 76 I.D. 181, 192 (1969). *Accord,* United States v. Barrows, 76 I.D. 299 (1969). *See* United States v. Henrikson, 70 I.D. 212 (1963).

219. United States v. Anderson, 74 I.D. 292 (1967).

220. United States v. Dawson, 58 I.D. 670, 679 (1944):
> In determining whether land is valuable for mineral it must be shown that the land is more valuable for the purpose of removing and marketing the substance than for any other purpose; that the removal and marketing will probably yield a profit; or that such substance exists in the land in such quantity as to justify a prudent man in expending labor and capital in the effort to obtain it.

See 1 LINDLEY, MINES § 98 (3d ed. 1914). *Cf.* Magruder v. Oregon & Calif. R.R., 28 L.D. 174 (1899); Holter v. Northern Pac. R.R., 30 L.D. 442 (1901).

however, remain an alternative to the prudent man rule, and present marketability at a profit developed into an additional requirement, over and above the requirements of the prudent man rule,[221] where nonmetalliferous minerals of widespread occurrence were involved.[222] One of the most lucid discussions of the difference between the prudent man rule and the marketability rule is found in *United States v. Heirs of John D. Stack*:

> There are two tests to determine whether a discovery has been made. The particular test to be applied depends upon the character of the minerals involved. Where the minerals are of limited occurrence, and in and of themselves have intrinsic value, such as gold, the "prudent man" test set forth in *Castle v. Womble,* 19 L.D. 455, 475 (1894), is applied. All that is required to validate a claim for minerals of this character is a showing that the minerals found within the claim would justify a person of ordinary prudence in the further expenditure of his labor and means with a reasonable prospect of success in developing a valuable mine. No showing that the ore is marketable is required. However, with respect to minerals of widespread occurrence, such as sand and gravel, it is necessary to show additionally that the deposit can be extracted, removed, and marketed at a profit. This includes a favorable showing as to the accessibility of the deposit, *bona fides* in development, proximity to market, and the existence of a present demand for the sand and gravel or other common variety of mineral. Thus, as to claims located

221. Foster v. Seaton, 271 F.2d 836 (D.C. Cir. 1959) ("the additional requirement of present marketability"); Denison v. Udall, 248 F. Supp. 942 (D. Ariz. 1965); United States v. Jungert, A-28199 (Apr. 14, 1959) ("a further showing"); United States v. Chamberlain, A-28610 (July 17, 1961); United States v. Altman, 68 I.D. 235 (1961); United States v. Henrikson, 70 I.D. 212 (1963) ("an additional requirement"); United States v. Bowman, 066677 (Nevada) (June 15, 1966), *approved* July 19, 1966 ("the additional requirement of present marketability").

222. United States v. Strauss, 59 I.D. 129 (1945); United States v. Foster, 65 I.D. 1 (1958) (sand and gravel); United States v. Black, 64 I.D. 93 (1957) (sandstone); United States v. Pumice Sales Corp., A-27578 (July 28, 1958) (pumice); United States v. Mulkern, A-27746 (Jan. 19, 1959) (gypsum); United States v. Jungert, A-28199 (Apr. 14, 1959) (building stone); United States v. Mattey, 67 I.D. 63 (1960) (clay); United States v. Chapman, A-30581 (July 16, 1968) (cinders); United States v. Pierce, 75 I.D. 255 (1968) (limestone); United States v. Roberts, A-30941 (Oct. 15, 1968) (decomposed granite). *See* United States v. Shannon, 70 I.D. 136, 139 (1963): "Because the mineral deposits . . . are nonmetalliferous minerals often of widespread occurrence, it is necessary . . . to show present marketability." For a similar statement, *see* United States v. Pierce, 75 I.D. 255 (1968).

> prior to July 23, 1955, for the common varieties of minerals, there is added to the "prudent man" test the additional requirements mentioned above, including present marketability of the deposits.[223]

After the marketability rule came to be recognized as an additional requirement, departmental decisions declaring null and void claims located on deposits of minerals of limited occurrence were frequently appealed from by the mineral claimants on the ground that the marketability rule had been erroneously applied to such deposits. In these cases, the Secretary recognized the validity of this ground for appeal, for in affirming the decisions appealed from, he was careful to point out that the marketability rule had not been applied, but merely the prudent man rule.[224] One example of the Secretary's position in this regard is the following:

> The appellants' second basic misconception is that the examiner required as an element of a discovery that a miner find a mineral deposit of such value that it can be mined at a profit or that it be physically connected with a deposit which can be mined at a profit. This is not what the examiner held. The examiner's decision cited as the test of discovery the established prudent man rule of *Castle v. Womble,* 19 L.D. 455, 457 (1894) that a discovery exists:
>
> > * * * where minerals have been found and the evidence is of such 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 * * *. (Italics added.)
>
> "A reasonable prospect of success" does not mean a sure thing. The word "prospect" itself does not connote a certainty. In *Adams v. United States,* 318 F.2d 861, 870 (9th Cir. 1963), Adams attacked a Departmental decision on the ground "that the agency decision required a demonstration on the part

223. A-28157 (Mar. 28, 1960).

224. United States v. Edgecumbe Exploration Co., A-29908 (May 25, 1964); United States v. Saurers, A-30097 (July 9, 1964); United States v. Nevitt, A-30030 (July 28, 1964); United States v. White, 72 I.D. 522 (1965); United States v. Myers, 74 I.D. 388 (1967); United States v. Fairchild, A-30803 (Jan. 19, 1968).

> of Adams that the deposits could be worked at a profit." The court did not agree that the Department made such a requirement. It stated that the Department considered the relevant evidence "* * * not to ascertain whether assured profits were presently demonstrated, but whether, under the circumstances, a person of ordinary prudence would expend substantial sums in the expectation that a profitable mine might be developed. The agency did not, in this regard, apply an improper standard."
>
> The examiner did not apply a standard of assured profitability. He applied no more than the rule in *Castle v. Womble* . . . .[225]

At times, it must be confessed, it is difficult to follow the Secretary's reasoning or to determine what rule he is applying. Frequently the parties are at cross purposes, with the claimant attacking the marketability rule while the Secretary is denying that the marketability rule was applied.[226]

Having become established as an additional requirement, the marketability rule was challenged on the ground that the mining laws provide no basis for a distinction between minerals of limited occurrence and minerals of widespread occurrence.[227] The Supreme Court, however, held that the marketability rule was merely a "refinement" of, or a "logical complement" to, the prudent man rule.[228] Thus the Supreme

225. 74 I.D. 388, 390 (1967). *See also* United States v. White, 72 I.D. 522, 526 (1965): "There is no merit to the applicants' contention that to take into account the financial cost of their own labors in applying the prudent man rule is to impose a marketability test to their operations."

226. *See* United States v. Fairchild, A-30803 (Jan. 19, 1968):
> He asserts that the hearing examiner demanded "a firmer assurance of profitability than a mere reasonable prospect of success," and that he applied a "new rule," based on a distinction between "exploration" and "development," which requires a showing of "present profitability." He states:
>
> > It has never been argued that the *Castle* case made economic considerations irrelevant, but it surely did not require that the claimant demonstrate profits to be a present certainty.
>
> Fairchild has set up a convenient straw man to knock down. The Department has never said that the rule of *Castle v. Womble* requires a demonstration of profits as "a present certainty" in order to establish the existence of a discovery.

227. The Secretary in United States v. Smith, 66 I.D. 169, 172 (1959), had recognized "The mining laws do not require . . . that the values shown must be such as will demonstrate that a claim can be worked at a profit . . . ."

228. United States v. Coleman, 390 U.S. 599 (1968). *See* United States v. Mt. Pinos Dev. Corp., 75 I.D. 320 (1968) ("elaboration or refinement" of the prudent man rule). See also United States v. Estate of Alvis F. Denison, 76 I.D. 233, 237 (1969):

Court attempted to eliminate the difference which had theretofore existed between the rule to be applied to minerals of limited occurrence and minerals of widespread occurrence, not by eliminating the additional requirement of present marketability at a profit imposed by the marketability rule in the case of minerals of widespread occurrence, but by attempting to extend the additional requirement of present marketability at a profit to all minerals.[229]

B. The Marketability Rule of Discovery

In any discussion of the marketability rule of discovery, it must be remembered that the word "marketable" as used by the Secretary does not always have its dictionary definition of "saleable" or "merchantable" but usually has a more specialized meaning, which includes the two additional concepts of "present marketability" and "marketability at a profit." In other words, the word "marketable" as used by the Secretary usually means "presently marketable at a profit."[230]

Prospective marketability does not satisfy the marketability rule,[231] for the marketability must exist on the date the discovery is claimed to exist. For example, if a claim was located for materals which were subsequently designated "common varieties" by the Multiple Surface Use Act of 1955,[232] it must be shown that the minerals could have been extracted, removed, and marketed at a profit prior to July 23, 1955, the

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Although in earlier decisions the Department sometimes referred to the marketability test as an "additional" test applicable to minerals of widespread occurrence, the test was in actuality only a refinement of the prudent man rule and a logical complement to it.

229. *See* Weinberg, *Public Domain Management After Coleman,* Mining Engineering, April, 1969, at 43, where the Solicitor said: "The recent Supreme Court ruling in the case of United States v. Coleman sets up an additional criterion to judge the validity of mining claims staked on the public domain." The Solicitor said that although the Court sets up an additional criterion, it is not establishing a new principal. *Id.* at 46. In other words, the verbal formula remains the same while its interpretation and application are changed.

230. *See* United States v. Pierce, 75 I.D. 270 (1968).

231. United States v. Foster 65 I.D. 1 (1958); United States v. Verrue, 75 I.D. 300 (1968) (" evidence of a possible or likely future market not being sufficient to demonstrate marketability"); United States v. Stewart, 5 IBLA 39 (1972).

232. 30 U.S.C. § 611 (1970).

date of the Act.[233] Similarly, in cases involving withdrawals, it must be shown that the minerals could have been extracted, removed, and marketed at a profit prior to the date of the withdrawal.[234] Not only must the minerals have been marketable at a profit on the critical date, but they must remain so continuously thereafter.[235]

The marketability rule does not require that a profitable mining operation must actually be conducted on the critical date, but it does require that a profitable operation could have been conducted on that date.[236] This distinction is not as meaningful as the Secretary's decisions would lead one to believe, for the showing that minerals from a particular claim *can* be marketed at a profit is virtually impossible in the absence of a showing that they *are* being so marketed, and although the Secretary takes pains to emphasize that he has never held that proof that minerals from a claim have actually been sold is an indispensable element in establishing marketability, he does recognize "the difficulty of proving marketability without showing any sales,"[237] pointing out that the fact that no sale has been made is not controlling, it "is persuasive that certain factors must be involved which prevented the sale."[238] Of course, one of those "certain factors" which prevent the development of the property and the sale of

233. United States v. Jungert, A-28199 (Apr. 14, 1959); United States v. Fife, A-28386 (Sept. 19, 1960); United States v. Chornous, A-28577 (July 14, 1961); United States v. Morgan, A-28702 (Aug. 21, 1962); United States v. Shannon, 70 I.D. 136 (1963); United States v. Henrikson, 70 I.D. 212 (1963); United States v. Converse, 72 I.D. 141 (1965); United States v. Pierce, 75 I.D. 270 (1968); United States v. Stevens, 76 I.D. 56 (1969); United States v. Melluzzo, 76 I.D. 181 (1969); United States v. Stewart, 1 IBLA 161 (1970); United States v. Thomas, 1 IBLA 209 (1971); United States v. McCall, 2 IBLA 64 (1971); United States v. Jones, 2 IBLA 140 (1971); United States v. Stewart, 5 IBLA 39 (1972).

234. United States v. Lopez, A-28172 (Jan. 28, 1960); United States v. Heirs of John D. Stack, A-28157 (Mar. 28, 1960); United States v. Chamberlain, A-28610 (July 17, 1961); United States v. Wilson, A-30787 (July 23, 1968); United States v. Verrue, 75 I.D. 300 (1968); United States v. Bartlett, 2 IBLA 274 (1971).

235. United States v. Speckert, 75 I.D. 367 (1968).

236. United States v. Verrue, 75 I.D. 300 (1968); United States v. DeZan, A-30515 (July 1, 1968); United States v. Chapman, A-30581 (July 16, 1968); United States v. Wurts, 76 I.D. 6 (1969).

237. United States v. Verrue, 75 I.D. 300, 307 (1968); United States v. Bartlett, 2 IBLA 274 (1971).

238. United States v. Foster, 65 I.D. 1, 7 (1958). *Accord*, United States v. Verrue, 75 I.D. 300 (1968); United States v. Barrows, 76 I.D. 299 (1969); United States v. Clear Gravel Enterprises, Inc., 2 IBLA 285 (1971); United States v. Stewart, 5 IBLA 39 (1972). *Compare* Johns v. Marsh, 15 L.D. 196 (1892).

minerals extracted from the property, may be the inability or unwillingness of the mineral claimant to make the large capital investment required without the security of tenure which, in recent years, has all but ceased to be an attribute of unpatented mining claims. Nevertheless, the Secretary attaches little importance to the insecurity of tenure which his own decisions have in a large measure created, and says:

> The excuse that any production and sales must await the issuance of patent is too pat. If that standard were to be adopted, it could lead to the patenting of one claim after another simply upon a paper showing of a profitable operation.[239]

Indeed, the Secretary has suggested that the failure of the claimant to conduct operations on his claim is indicative of a lack of good faith: "Before there can be *bona fides* in development there must be acts of development.... [*B*]*ona fides* in development can be demonstrated only by the performance of positive acts . . . ."[240] Although he need not show actual sales, the claimant must in fact have established a market for the sale of the mineral as of the critical date.[241] To satisfy the marketability rule, the claimant cannot simply show a general demand for the type of material in question, but must show the existence of a demand for the material on the particular claim in question.[242]

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239. United States v. Pierce, 75 I.D. 270, 283 (1968).

240. United States v. Verrue, 75 I.D. 300, 311 (1968).

241. United States v. Bartlett, 2 IBLA 274 (1971). In the absence of a market, deposits of commercial quantity and quality have been held not subject to location and purchase under the mining laws. United States v. Estate of Victor E. Hanny, 63 I.D. 369 (1956) (slate); United States v. Black, 64 I.D. 93 (1957) (sandstone); United States v. Morgan, A-28702 (Aug. 21, 1962) (flagstone).

242. United States v. Osborne, 77 I.D. 83 (1970); United States v. McCall, 2 IBLA 64 (1971); United States v. Bartlett, 2 IBLA 274 (1971); United States v. Clear Gravel Enterprises, Inc., 2 IBLA 285 (1971); United States v. Stewart, 5 IBLA 39 (1972). Under the rule formerly applied, if the materials were commonly disposed of locally, a local market had to be shown, but if the materials were commonly disposed of other than in the immediate proximity of the claim, then the showing of a general market for the material was sufficient. Compare the area within which the showing of a market was required in the following decisions: United States v. Anderson, 74 I.D. 292 (1967) (perlite—entire United States); United States v. Estate of Victor E. Hanny, 63 I.D. 369 (1956) (slate—State of Arizona); United States v. Black, 64 I.D. 93 (1957) (sandstone—Grasshopper Flat area). It should be noted that the *Anderson* decision applied the prudent man rule, and required only a reasonable prospect of a market.

It is not enough to show that a market exists for the mineral and that the mineral in a particular deposit is of such quality as to satisfy the standards of the market and that it occurs in such quantities as to make removal operations practicable, but it must be shown that minerals "from the particular deposit in question" can be extracted, removed, and marketed at a profit.[243]

To show that material from a particular deposit can be marketed at a profit, the claimant must show that the material is in a marketable form. If the material on the claim cannot be placed in a marketable form until a suitable plant is available to process it, the marketability rule is not satisfied until such a plant has been constructed or, perhaps, until there is a firm plan for the construction of a plant.[244] In most cases, a mining operation cannot produce a product which can be marketed at a profit until a mill, smelter, or other minerals beneficiation or treatment plant is constructed and placed in operation. Under these circumstances, it appears, the existence of a discovery is delayed until after large capital expenditures have been made.

The claimant must also show that each claim is capable of being operated independently of any other claim.[245] This requirement renders it virtually impossible to locate a valid mining claim on a disseminated, low-grade deposit, for even if a large open-pit or block-caving operation on such a deposit would be profitable, the operation most likely would not be economically viable if confined within the limits of one lode mining claim.

Since the marketability rule requires marketability at a profit, a "break-even" operation is not sufficient to support a discovery under the marketability rule.[246] Furthermore, the mineral claimant, in order to show a profitable operation, must take into account his own wages,[247] so that one who owns

243. United States v. Verrue, 75 I.D. 300, 306 (1968); *see* United States v. Wurts, 76 I.D. 6, 13 (1969).
244. California v. Rodeffer, 75 I.D. 176 (1968).
245. United States v. Melluzzo, 76 I.D. 181 (1969); United States v. Chas. Pfizer & Co., 76 I.D. 331 (1969); United States v. Bunkowski, 5 IBLA 102 (1972).
246. United States v. Chapman, A-30581 (July 16, 1968).
247. United States v. White, 72 I.D. 522 (1965); United States v. Erickson, A-30942 (Jan. 17, 1969).

and works a mining claim, making a bare living, has no discovery if he does not produce a profit over and above a certain "minimum wage" to be determined, presumably, by the Secretary.

C. *United States v. Coleman* and Its Aftermath

The 18 placer mining claims involved in the *Coleman* decision were located in the period 1949-1955. An application for patent was filed in January 1956, and on February 25, 1958, a contest was commenced on the charge, among others, that minerals had not been found in sufficient quantities to constitute a valid discovery. A hearing was held at which the only issue in dispute was the existence of a market for profitable sales before July 23, 1955, the date of the Multiple Surface Use Act. The hearing examiner held 13 of the 18 claims void. The Acting Director of the Bureau of Land Management modified the hearing examiner's decision and held an additional claim and 20 acres of another claim void. On appeal to the Secretary, all 18 claims were held void. In applying the marketability rule, the Secretary said:

> When the mineral claimed as a discovery is one of wide occurrence the Department has held that the characterization of a deposit of such material as a valuable mineral is dependent upon a showing that it can be extracted, removed and marketed at a profit....
>
> Furthermore, since the Congress withdrew common varieties of building stone, sand and gravel from location under the mining laws on July 23, 1955 (30 U.S.C., 1958 ed., sec. 611), it was incumbent upon Coleman to show that all the requirements for discovery of a valuable mineral deposit, including a showing that these materials could have been extracted, removed, and marketed at a profit, had been met by that date....
>
> The only issue in dispute at the hearing on September 16, 1958, was the existence of a market for profitable sales before July 23, 1955.... He was required to show that by reason of all pertinent factors, including the existence of a present demand before

> July 23, 1955, the deposit upon which his claim of discovery was based could be mined, removed and disposed of at a profit.[248]

In reviewing the Secretary's decision, the Court of Appeals for the Ninth Circuit held that the present marketability at a profit rule applied by the Secretary was inconsistent with the prudent man rule. The Court went on to say:

> This, of course, is not to suggest that the Foster v. Seaton guidelines of accessibility, bona fides in development, proximity to market and existence of a present demand and other factors are irrelevant as evidence bearing upon the ultimate issues of good faith and existence of a valuable mineral deposit. But these ultimate issues should be resolved in each case from the evidence as a whole and it is improper, in our view, to convert one aspect of relevant evidence into an absolute legal requirement with respect to a certain class of minerals in derogation of a time-honored, judicially approved test of "value" applicable to all locatable minerals.[249]

With the Secretary's decision that present marketability at a profit was an indispensable requirement for discovery and the Ninth Circuit Court's decision that present marketability at a profit was merely relevant evidence bearing upon the ultimate issue of discovery, the Supreme Court was presented with a well-defined issue. The Court upheld the Secretary, saying:

> [T]he marketability test is an admirable effort to identify with a greater precision and objectivity the factors relevant to a determination that a mineral deposit is "valuable." It is a logical complement to the "prudent man test" which the Secretary has been using to interpret the mining laws since 1894. . . . Minerals which no prudent man will extract because there is no demand for them at a price higher than the costs of extraction and transportation are hardly economically valuable. Thus, profitability is an important consideration in applying the prudent-man

248. United States v. Coleman, A-28557 (Mar. 27, 1962).

249. Coleman v. United States, 363 F.2d 190, 202 (9th Cir. 1966).

> test, and the marketability test which the Secretary has used here merely recognizes this fact.
>
> . . . .
>
> Finally, we think that the Court of Appeal's objection to the marketability test on the ground that it involves the imposition of a different and more onerous standard on claims for minerals of widespread occurrence than for rarer minerals which have generally been dealt with under the prudent-man test is unwarranted. As we have pointed out above, the prudent-man test and the marketability test are not distinct standards, but are complementary in that the latter is a refinement of the former. While it is true that the marketability test is usually the critical factor in cases involving nonmetallic minerals of wide occurrence, 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.[250]

In reversing the Ninth Circuit and upholding the Secretary, the Court squarely held that present marketability at a profit was not merely "relevant evidence . . . [but] an absolute legal requirement."[251] In this context, the Court's characterization of profitability merely as "an important consideration"[252] is such a misleading understatement of its holding as to suggest that it was not fully cognizant of the issue presented. One of the most amazing statements in *Coleman,* however, is the statement, "[P]recious metals . . . sell at a price so high as to leave little room for doubt that they can be extracted and marketed at a profit."[253] The statement betrays either a remarkable naivete as to the economic realities of the mining industry, or a fundamental misunderstanding of the marketability rule.

More troublesome than either of these questions was the effect of the Court's holding that present marketability at a profit was a requirement imposed with respect to all minerals, not merely minerals of widespread occurrence. This holding

250. United States v. Coleman, 390 U.S. 599, 602-03 (1968).
251. United States v. Coleman, *supra* note 249.
252. *Supra* note 250 at 602.
253. *Supra* note 250 at 603.

left the Secretary with the task of reconciling the concept of "present marketability at a profit" with the concept of "reasonable prospect of success," the latter of which did not require a showing that "a claim can be worked at a profit." In other words, the Secretary could require the claimants to show that the minerals from the claim could be extracted, removed, and marketed at a profit, so long as he did not require the claimant to show that the claim could be worked at a profit; he could require present "marketability at a profit" so long as he did not require "present profitability."[254] The resulting semantic gymnastics are indicative of the fundamental unsoundness of the idea that marketability at a profit is reconcilable with the prudent man rule. For example: "There is no distinct dichotomy between present value and future value or between present marketability and future profitability."[255] And again: "In determining whether a mineral deposit is valuable, the Secretary may require a showing . . . that it is marketable at a profit. (Citation omitted) It need not be proved that the claim can in fact be operated at a profit . . . ."[256] In this regard, it appears that the Secretary makes a distinction between a deposit which is "marketable at a profit" and one which "can *in fact* be operated at a profit,"[257] or as to which "profitable operations are *assured*"[258] or "mining will *positively* result in a profitable operation."[259] By his reliance on the distinction suggested by the italicized words, the Secretary merely confirms the irreconcilability of the marketability rule and the prudent man rule.

In the long run, however, the effect of *Coleman* upon the law of discovery appears to have been minimal, for even after *Coleman,* the Secretary has frequently applied the prudent man rule to deposits of metallic minerals[260] and reserved the

254. *Cf.* United States v. Fairchild, A-30803 (Jan. 19, 1968).
255. United States v. Estate of Avis F. Denison, 76 I.D. 233, 236 (1969).
256. United States v. Silverton Min. & Milling Co., 1 IBLA 15 (1970).
257. *Id.*
258. United States v. Wurts, 76 I.D. 6, 12 (1969).
259. Marvel Min. Co. v. Sinclair Oil & Gas Co., 75 I.D. 407, 414 (1968).
260. United States v. Kiggins, A-30827 (July 12, 1968); United States v. Erickson, A-30942 (Jan. 17, 1969); United States v. San Juan Exploration Co., A-30965 (Mar. 29, 1969); United States v. Fitzgerald, A-30973 (July 25, 1969); United States v. Gunsight Min. Co., 5 IBLA 62 (1972); United States v. Guthrie, 5 IBLA 303 (1972) ("reasonable prospect that gold can be extracted, removed and marketed at a profit").

marketability rule for application to deposits of minerals of widespread occurrence.[261] Particularly enlightening is *United States v. Calhoun & Howell of Oregon, Ltd.*,[262] affirming a post-*Coleman* decision at the Office of Hearings and Appeals which held, inter alia, "The examiner did not apply a requirement of proof of present marketability at a profit, and he employed nothing more than the 'prudent man' test . . . ."

VI. KNOWN MINES, MINERAL LANDS, AND DISCOVERY: THE CHANGING RELATIONSHIPS

The concepts of known mines, mineral lands, and discovery have been fluid, and over the past century the relationships between these concepts have changed, not only relatively but absolutely.

At first, "known mines" and "mineral lands" were equivalent terms, requiring for their establishment substantially the same evidence. "Discovery," on the other hand, required a lesser showing than was required to establish the mineral character of the land, with the result that the showing of a discovery sufficient to sustain the validity of a claim did not necessarily establish the mineral character of the ground, which was necessary to support the issuance of a mineral patent. A most persuasive discussion of the reason and necessity for the difference in the showing required was given by Judge DeWitt, dissenting in *Shreve v. Copper Bell Min. Co.*:

> There may be a vast difference between mineral ground which is valuable for exploitation and that which appears to be valuable for exploration. There are immense tracts which appear to the miner to be valuable for the latter purpose, and a large portion of which develops to be valueless for the former. This is evideced by the honeycombed and deserted mountains throughout the mining regions, where toil and wealth have been expended on leads which once attracted the miners' exploration; but where the sound of the pick and the drill is long since stilled. And it is just this

261. United States v. Stewart, 5 IBLA 39 (1972); United States v. Bunkowski, 5 IBLA 102 (1972). *See* Pruess v. Udall, 410 F.2d 750 (9th Cir. 1969).

262. A-31004 (Aug. 29, 1969).

fact that has made and will make the mines: the ever present and alluring appearance of value, and the occasional reward of development. Without prospecting, there will be no discovered mines. Without the privilege to claim and locate and hold a discovery, there will be no prospecting. A prospect not once in one hundred times is a mine in sight. If the locator must show a paying mine at location, the riches in these mountains are a locked treasury. The law does contemplate this. The mineral lands are open for two purposes,—for exploration, and for purchase. Exploration precedes purchase. It opens the way for purchase. Without exploration, purchase would be rare. A miner would desire to purchase the mineral lands at once, if they at once appeared to be of sufficient value to pay to work. He would desire to explore them, if they seemed sufficiently valuable to attract exploration. It is a rare claim that is a mine at the grass roots, or where the paying vein is first found at or near the surface. The history of the mining countries has shown that, in the vast majority of cases, years of toil and thousands of dollars have been required to demonstrate that a mineral vein will pay to work. And in many of them, even after years of immense production, when dead work, prospecting, and development is offset against output, whether they have paid to work is a doubtful proposition. Must the miner await large development and tremendous expenditure before he can take the first steps, by locating and recording, to secure to himself the right of possession, and of a grant from the government, when the great mine is developed? I think not.

Again, the government will not issue a patent for a mine at once upon discovery, no matter how valuable it then appears and actually is. It requires, first, the expenditure of $500 in improvement and development. For what purpose? In order to demonstrate that the claim is of that character that the government will grant the ground as a mine. Before the mining acts of congress, the miner was a trespasser upon the public domain. The acts of congress gave him rights upon the mineral lands. The object of the requirement of the expenditure of $100 annually before the issuance of patent, and of $500 in the aggregate before patent, was to develop the mines and demon-

> strate their character. If it were the ordinary nature of valuable mining claims to appear, upon the instant of discovery, to be of sufficient value to pay to work them, why make the requirements of these expenditures in development before the issuance of patent? The whole spirit of the statute, and the construction given by the learned tribunals that have considered them, is not that the prospector must find a paying mine before he can locate his claim. If it were, mining prospecting in these regions would suffer an instant and well-nigh total payalysis. If the fear be suggested that speculative locations may take the public domain, we can do no better than adopt the language of Mr. Justice Field, cited above from Erhardt v. Boaro, 113 U.S. 536, 5 Sup.Ct.Rep. 560, which he concludes with the remark that "a jury from the vicinity of the claim will seldom err in their conclusions on the subject."[263]

Recognition of the distinction between the showing required to entitle the claimant to the exclusive possession of his claim and the greater showing required to entitle him to a patent may be found in several early decisions of the Secretary, particularly the *Clipper* cases, in which, although an application for patent was denied on the ground that "the land was not distinctly valuable for placer mining,"[264] the Secretary held that since the claim had not been declared void, the locator's right of possession was unaffected.[265] The Supreme Court agreed with this interpretation, for, after quoting from *Clipper Min. Co.*,[266] the Court said:

> So far as the record shows—and the record does not purport to contain all the evidence—the placer location is still recognized in the department as a valid location. Such also was the finding of the court, and being so there is nothing to prevent a subsequent

263. 11 Mont. 309, 28 Pac. 315, 323 (1891). The dissent was as to another matter, Judge DeWitt saying, with respect to the discussion quoted in the text: "With these views I understand that the majority of the court agree . . . ." *Id.* at 324.

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

265. Clipper Min. Co., 22 L.D. 527, 528 (1896):
> The judgment of the Department in the Searle Placer case went only to the extent of rejecting the application for patent. The Department did not assume to declare the location of the placer void, as contended by counsel, nor did the judgment affect the possessory rights of the contestant to it.

266. *Id.*

> application for a patent and further testimony to show the claimant's right to one. Undoubtedly, when the Department rejected the application for a patent it could have gone further and set aside the placer location, and it can now, by direct proceedings upon notice, set it aside and restore the land to the public domain. But it has not done so, and therefore it is useless to consider what rights other parties might then have.[267]

The question was again presented to the Secretary who said:

> The rejection of the application, which fully answered the controlling issue involved, was based upon the conclusion, drawn from the evidence submitted at the hearing theretofore had, that the placer claimant (Searl) had failed to establish, as a then present fact, the presence in the claim of placer mineral deposits of such extent and value as to justify the issuance of patent: not upon a definitive finding of the non-placer character of the ground and of the total absence of discovery requisite to location.[268]

Another decision, perhaps more directly in point, is *Brophy v. O'Hare*:

> To sustain the application for mineral patent, as against persons alleging the land to be non-mineral, it must appear that mineral exists in the land in quantity and of value sufficient to subject it to disposal under the mining laws. In other words, the land applied for must be shown to contain valuable deposits of mineral, which means more than a mere discovery that might be sufficient to support a location in the first instance.[269]

This distinction between a discovery sufficient to support a location and the greater showing required for the issuance of a patent disappeared when, in the early 1900's, the United States assumed the role of a rival claimant of the land.[270] The greater showing was then required not only in patent proceedings but also in contest proceedings to which the United States was a party, and the same showing necessary to support the

267. Clipper Min. Co. v. Eli Min. & Land Co., 194 U.S. 220, 225 (1904).
268. Clipper Min. Co. v. Eli Min. & Land Co., 33 L.D. 660, 665 (1905).
269. 34 L.D. 596, 598 (1906). *Accord*, Cataract Gold Min. Co., 43 L.D. 248 (1914).
270. *See* H. H. Yard, 38 L.D. 59 (1909).

issuance of a patent became necessary to sustain a location.[271] The denial of a patent on the ground of no discovery is now held to be a declaration that the claim is invalid.[272]

As the showing necessary to sustain a discovery became more stringent, discovery rather than the mineral character of the land became the touchstone for the issuance of a mineral patent. Concommitantly, the showing necessary to establish the mineral character of land became less stringent, and now lands may be determined to be mineral in character even though there is no discovery sufficient to support a valid location.[273]

In recent years, the showing required to establish the existence of a discovery has come to be substantially identical to the showing formerly required to establish the existence of known mines, a circumstance evidenced by the recent tendency to cite, as authority on the law of discovery, cases dealing with known mines or known lodes in placers.[274]

VII. CONCLUSION

The Public Land Law Review Commission has found that there is "no certainty . . . as to what constitutes a discovery."[275] This state of the law is directly attributable to the fact that "Federal land agencies are poorly equipped to judge what is a prudent mining investment,"[276] with the result that the decisions rendered by the Secretary are more responsive to the Department of the Interior's policy that public lands are not to be "placed in private hands" where they will be "no longer

271. United States v. Carlile, 67 I.D. 417, 426 (1960): "A claimant cannot rely upon a lesser discovery to sustain the validity of his claim than is necessary to entitle him to a patent."

272. United States v. Carlile, 67 I.D. 417 (1960), *overruling* Clipper Min. Co., 22 L.D. 527 (1896) and Clipper Min. Co v. Eli Min. & Land Co., 33 L.D. 660 (1905), and *declining to follow* Clipper Min. Co. v. Eli Min. & Land Co., 194 U.S. 220 (1904); United States v. Baranof Exploration & Development Co., 72 I.D. 212 (1965).

273. *See, e.g.*, California v. Rodeffer, 75 I.D. 176 (1968).

274. *See, e.g.*, United States v. Denison, 76 I.D. 233 (1969), in which the Secretary relies upon Davis' Administrator v. Weibbold, 139 U.S. 507 (1891) and United States v. Reed, 28 F. 482 (C.C.D. Ore. 1882).

275. PUBLIC LAND LAW REVIEW COMMISSION, ONE THIRD OF THE NATION'S LAND: A REPORT TO THE PRESIDENT AND TO THE CONGRESS 124 (1970).

276. *Id.* at 128.

available for disposition or use for public purposes"[277] than they are to Congress' policy of promoting "the development of the mining resources of the United States."[278] So long as the law of discovery remains a reflection of the Department's policy rather than that of Congress, we may expect to find at the end of each departmental decision relating to discovery the all-too familiar paragraph reading: "Therefore, pursuant to the authority delegated . . . by the Secretary of the Interior . . . the decision holding the claim null and void is affirmed and the mineral patent application is rejected."

277. United States v. New Jersey Zinc Co., 74 I.D. 191, 196 (1967).
278. Act of May 10, 1872, ch. 152, 17 Stat. 91.