

UNITED STATES

v.

KAYCEE BENTONITE CORP. ET AL.

IBLA 79-445

Decided May 27, 1982

Appeal from decision of Administrative Law Judge Robert W. Mesch,
declaring 5 mining claims null and void and 125 mining claims valid.

W-22183, W-22184, W-22227, W-22228, W-24294, W-24295, W-24299, W-10269,
W-10270, W-10271, W-10272.

Affirmed.

1. Mining Claims: Common Varieties of Minerals:
Generally -- Mining Claims: Locatability of
Mineral: Generally -- Mining Claims: Specific
Mineral(s) Involved: Clay

In determining whether a deposit of clay is locatable as a valuable mineral deposit under the mining laws, there is a distinction between a deposit considered to be common or ordinary clay, which is not locatable, and a locatable deposit having exceptional qualities useful and marketable for purposes for which common clays cannot be used.

2. Mining Claims: Common Varieties of Minerals:
Generally -- Mining Claims: Locatability of
Mineral: Generally -- Mining Claims: Specific
Mineral(s) Involved: Clay

Common clay includes clay usable for structural and other heavy clay products, for pressed or face brick, as well as ordinary brick, tile, and pipe, for pottery, earthenware, stoneware, and cement.

3. Administrative Authority: Generally -- Regulations:
Force and Effect as Law

A Bureau of Land Management instruction memorandum is merely a document for internal use by BLM employees. Such documents are not regulations and have no legal force or effect.

4. Mining Claims: Common Varieties of Minerals:
Generally -- Mining Claims: Locatability of
Mineral: Generally -- Mining Claims: Specific
Mineral(s) Involved: Clay

A deposit of bentonite which can profitably be removed and marketed for pelletizing taconite is an exceptional clay locatable under the mining laws, even though blending and additives are necessary to make the deposit suitable for such use.

5. Mining Claims: Determination of Validity -- Mining
Claims: Discovery: Generally

Mining claims are properly declared invalid where the mining claimants fail to show that the mineral deposits on the claims can be mined, removed, and marketed at a profit.

6. Mining Claims: Contests -- Mining Claims:
Determination of Validity -- Mining Claims:
Discovery: Generally

A prima facie case against the validity of a mining claim is established by the testimony of an expert witness who has examined the mineral deposit on the claims

and the costs of mining that deposit, and who concludes that the mineral deposit cannot be mined, removed, and marketed at a profit.

7. Mining Claims: Contests -- Mining Claims: Determination of Validity -- Mining Claims: Discovery: Generally

A presumption is raised that mining claimants have failed to discover a valuable mineral deposit if there has been little or no development or operations on the claims over a long term. This presumption can be overcome by evidence that the mineral deposits can be mined, removed, and marketed at a profit.

8. Mining Claims: Determination of Validity -- Mining Claims: Discovery: Generally

A mining claimant has not made a discovery of a valuable mineral deposit where further exploration is necessary to determine whether there is a reasonable prospect of success in developing a valuable mine.

9. Mining Claims: Common Varieties of Minerals: Generally -- Mining Claims: Contests -- Mining Claims: Determination of Validity -- Mining Claims: Locatability of Mineral: Generally

Even if a mining claimant establishes that a deposit of bentonite is the same quality as other deposits sold for pelletizing taconite, the claimant must establish that his deposit can be marketed for this purpose rather than for a purpose for which common clay can also be used. The claimant must establish that the material on his claim, not some other claim, may be mined, removed, and marketed at a profit.

APPEARANCES: Lowell L. Madsen, Esq., Office of the Solicitor, Department of the Interior, Denver, Colorado, for the Bureau of Land Management, appellant; Randy L. Parcel, Esq., and Bonnie Starr Mandell, Esq., Denver, Colorado, for

appellees, Kaycee Bentonite Corporation, James R. Harlan, Joanne H. Harlan, Virginia R. Keith, Elden L. Keith (a.k.a. Leon Keith), Emily B. Keith, Lee E. Keith, R. L. Greene, and Rose Greene; Richard S. Dumbrill, Esq., Newcastle, Wyoming, for contestees, Henry L. Martens, Thelma V. Martens, Jay E. Engle, Martha Engle, Chester S. Jones, Maurine E. Jones, Robert A. Martens, Ann Martens, Lucille C. Dumbrill, and Richard S. Dumbrill; Don H. Sherwood, Esq., and William R. Marsh, Esq., Denver, Colorado, for intervenor, Wyo-Ben Products, Inc.

OPINION BY ADMINISTRATIVE JUDGE STUEBING

Henry L. Martens, et al., have appealed from a decision of Administrative Law Judge Robert W. Mesch declaring the Bowl, Rattlesnake, Bedspring, Wolftrap, and Horseshoe placer mining claims null and void. W-10269, W-10270, W-10271, and W-10272. 1/ Judge Mesch determined that regardless of whether the bentonite on these claims was an exceptional clay, it could not be mined and marketed at a sufficient profit to justify a person of ordinary prudence in the expenditure of his labor and means in mining the bentonite at the present time.

In the same decision, Judge Mesch held 125 mining claims valid because they contain deposits of exceptional clay. W-22183, W-22184, W-22227, W-22228, W-24294, W-24295, and W-24299. These claims are held by Kaycee

1/ Henry L. Martens is joined in this appeal by Thelma V. Martens, Jay E. Engle, Martha Engle, Chester S. Jones, Maurine E. Jones, Robert A. Martens, Ann Martens, Lucille C. Dumbrill, and Richard S. Dumbrill.

Bentonite Corporation (Kaycee) and others. 2/ Wyo-Ben Products, Inc. (Wyo-Ben), and N L Industries, Inc., 3/ participated as intervenors. The Bureau of Land Management (BLM) has appealed from that part of Judge Mesch's ruling declaring these claims valid; Kaycee and Wyo-Ben have filed extensive answers.

In 1973, BLM filed contest complaints against the bentonite claims involved in this appeal as well as other claims for which a patent application had been filed by another bentonite producer. 4/ During the 5-year period between the filing of the complaints and the hearing, the parties engaged in a protracted discovery process in connection with the administrative contest as well as related judicial proceedings. 5/

The hearing before Judge Mesch in January and February 1978, is recorded on over 2,000 pages of transcript supplemented by voluminous exhibits and briefs. Most of this evidence, however, is not concerned with the quality and quantity of bentonite on the claims and the marketability of those particular deposits. The bulk of the contestant's evidence has been

2/ Contests W-22183, W-22184, W-22227, and W-22228 were filed against Kaycee Bentonite Corporation and involve the KC Nos. 1 through 53, KC Nos. 55 through 65, KC Nos. 67 through 94, and KC Nos. 101 through 121 placer mining claims.

Contests W-24292 and W-24295 involving the Virginia No. 3 and the Jim Harlan Nos. 2 through 4 placer mining claims, were filed against James R. Harlan, Joanne H. Harlan, Virginia R. Keith, Elden L. Keith, Emily B. Keith, and Lee E. Keith.

Contest W-24299 involving the R. L. Greene Nos. 80 through 87 placer mining claims, was filed against Lee E. Keith, R. L. Greene, Rose Greene, Leon Keith, and Emily B. Keith.

3/ N L Industries has not appeared in this appeal.

4/ The complaint against Dresser Industries was dismissed on Dec. 5, 1977.

5/ Dresser Industries, Inc. v. United States, Civ. No. C-74-196 (D. Wyo.) (suit pending).

introduced to provide a basis for a new legal theory to govern the locatability of bentonite. Much of the evidence introduced by the contestees and intervenors is directed against the contestant's theory.

On April 26, 1979, Judge Mesch issued his decision. He summarized his findings as follows:

I find or include in this decision that (1) the test of the locatability of bentonite is the "exceptional/common clay" test; (2) the "exceptional/common clay" test of locatability is not the same as the "uncommon/common variety" test of locatability; (3) the Contestant is precluded in these proceedings from arguing that the bentonite is a "common variety" mineral under the Act of July 23, 1955, 30 U.S.C. § 601 et seq.; (4) in any event, bentonite is not subject to the "uncommon/common variety" test of locatability applied under the 1955 Act, supra; (5) the fact that bentonite may be of widespread occurrence has no bearing on the locatability issue; (6) the physical-chemical standards adopted by BLM to determine the locatability of bentonite have no relationship to the "exceptional/common clay" test of locatability; (7) the Contestant presented no evidence that the bentonite is a "common" rather than "exceptional" clay; (8) bentonite suitable for use in the taconite processing industry is an "exceptional" clay; (9) the bentonite within 125 of the claims is suitable for use in the taconite industry; (10) the suitability of the bentonite for use in the taconite industry is not affected by blending and/or chemical additives; (11) the 125 claims are valid and patents should issue; (12) the bentonite within five of the claims does not meet the prudent man-marketability test; (13) the five claims are invalid.

(Decision at 5-6).

Like the record that Judge Mesch reviewed, the greater part of his decision is directed at determining the proper legal standard applicable to bentonite claims.

The contestant challenges the validity of the contested claims by asserting that the bentonite on the claims is a common clay not subject to location under the general mining laws. Contestees agree that compared with other deposits of bentonite, the deposits on the contested claims are not distinctive. (See Contestant's Exh. 27 at 18.) The contestees, however, contend that it is not appropriate to compare their deposits with other deposits of bentonite; rather, a comparison should be between their deposits and what has been traditionally regarded as common clay generally. The differing perspectives of the parties to this case help to explain their disagreement over this issue.

From the perspective of a Wyoming land manager whose concerns initially prompted the Government to take a close look at the legal status of bentonite under the laws relating to mineral development, there is no doubt that bentonite is widespread in the State of Wyoming. It is generally strip mined from beds near the surface, and its development poses the same problems to a surface manager in Wyoming as the development of other common variety minerals. From the surface manager's standpoint, there is no reason why bentonite should not be treated similarly. In his view, it was just such difficulties that the Surface Resources Act of 1955, 30 U.S.C. § 601 (1976), was intended to resolve. (See Exh. K 42, quoted infra.) From the perspective of the producers of bentonite and their customers, however, the situation is entirely different. Taconite producers in Minnesota and Canada cannot get a binder from a local clay pit which produces material for bricks, tile, pottery, and other similar products. The material they use must be shipped from Wyoming or perhaps Greece. They feel that this market pattern is more characteristic

of a mineral which has intrinsic value, rather than mineral which is a common variety. Eighty percent of the steel produced in the United States is made from pellets of taconite (Tr. 1629). Without the bentonite to make those pellets, the taconite mines would shut down. In a sense, their taconite owes its value to the availability of bentonite as a binder. Before exploring further the complex legal theories upon which the parties' competing assertions are based, it is helpful to offer a description of bentonite generally with particular attention to how it is used in pelletizing taconite, since that is the major purpose for which contestees contend their deposits can be marketed.

The following definition of bentonite is provided in Bureau of Mines, U.S. Department of the Interior, A Dictionary of Mining, Mineral, and Related Terms, 1968, at page 98:

A montmorillonite-type clay formed by the alteration of volcanic ash. It varies in composition and is usually highly colloidal and plastic. Swelling bentonite, for example, is so named because of its capacity to absorb large amounts of water accompanied by an enormous increase in volume. Bureau of Mines Staff. Occurs in thin deposits in the Cretaceous and Tertiary rocks of the Western United States. It is used for making refractory linings, water softening, decolorizing of oils, thickening drilling muds, and the preparation of fine grouting fluids. As a mud flush, bentonite is used at a concentration of about 3 pounds per cubic foot of water. Nelson.

There are two major types of industrial bentonites. The sodium-rich or "Wyoming" bentonites are capable of swelling in water and exhibit high dry-bond strength. 6/ Calcium-rich "Mississippi" bentonites have high green bond

6/ This swelling capability is often measured by mixing bentonite with water until it reaches a specified viscosity. The resulting number of 42-gallon barrels so produced from 1 ton of bentonite is called the "barrel yield."

strength and very low swelling capability. Claudia A. Wolfbauer, "Bentonite Resources in the Eastern Big Horn Basin, Wyoming" (Exh. K 198). In 1978-79, over 85 percent of the bentonite sold or used by producers in the United States was the swelling type. See Sarkis G. Ampian "Clays," U.S. Department of the Interior, Bureau of Mines, Minerals Yearbook (1978-79), page 223, Table 17. 7/ Over 85 percent of the swelling bentonites sold or used by producers in the United States during those years came from the State of Wyoming. (See id. at 221, Table 16). In 1979, 3,285,002 short tons of bentonite were sold or used by producers in Wyoming. This bentonite had a value of \$74,405,909. This compares with 3,846,583 tons of bentonite sold or used by producers in the United States as a whole, having a value of \$91,992,995. (See id., Table 16.) Of the 3,161,983 tons of swelling bentonite used domestically in 1979, 1,261,477 short tons were sold for drilling mud, 595,697 tons were used for foundry sand, and 888,204 tons were used for pelletizing iron ore. Of the 684,600 tons exported, 180,067 tons were sold for drilling mud, 250,066 tons were sold for foundry sand, and 172,515 tons were sold for pelletizing iron ore. (See id. at 223, Table 17). Thus, of all the bentonite produced or sold in the United States during 1979, over 85 percent was dedicated to these three end uses.

The high-swelling Wyoming bentonites make excellent drilling mud because their high viscosity enables rock cuttings to be carried up the drill hole and also helps to cool and lubricate the drill bit. The drilling mud helps prevent fluid loss and caving of the drill hole by forming a filter

7/ The chapter on clays from the 1975 edition of this publication was introduced as contestant's exhibit 40.

cake on the drill hole wall. Although the mud acts as a fluid when the drill is active, it gels when the drill is inactive, thereby preventing the settling of rock cuttings yet allowing quick resumption of the drilling process (Exh. K 198). This was perhaps the first major use of bentonite. Bentonite's bond strength makes it suitable as a binder in foundry sands. In the late 1950's, however, a new use was developed for bentonite, a use which now accounts for almost one-third of bentonite sales; i.e., as a binder in making taconite pellets. Since the claimants assert that the taconite industry is the major market for the material from these claims, it is important to understand how bentonite is used in the taconite industry to reach a proper determination whether the material on these claims is an exceptional clay or a common clay.

Taconite is a low-grade iron ore which remained undeveloped by the domestic iron and steel industry until the higher grade ores were depleted. At that point, the industry was forced to rely on high-grade deposits obtained from foreign mines, or develop an economic means of developing the low-grade taconite which could be mined domestically.

In processing taconite, the first problem is to find a way to concentrate the iron content. Huge pieces of the rock are blasted from the ground and are crushed to particles the size of small pebbles or coarse sand usually containing over 20 percent iron. This crude taconite is ground to a very fine consistency so the iron-bearing particles can be separated, often by means of powerful magnets. The resulting concentrate contains over 60 percent iron and resembles a fine black powder. It cannot feasibly be sent directly to the blast furnace. If sent in open cars, it would blow away; if added directly

to the blast furnace, much would escape up the chimney; and what remained would hamper the proper functioning of the furnace. Thus, it is necessary to form this powdery concentrate into pellets.

To form the pellets, the taconite concentrate is placed in a revolving drum with a bentonite binder. About 20 pounds of bentonite are added for each ton of concentrate. As the drum revolves, the taconite concentrate and the bentonite combine to form small pellets, about one-half inch in diameter, called "green balls." These green balls are conveyed to furnaces for hardening. The green balls must have sufficient strength to keep from breaking up during this handling and sufficient moisture retention to avoid fragmenting during the heating process. The hardened pellets are then shipped to steel plants, placed in a blast furnace, and converted to iron and steel (Tr. 1842-44). The hardened pellets must have sufficient strength to avoid fragmenting while being shipped to the steel plants and being placed in the blast furnaces.

The evidence illustrating the importance of bentonite in the taconite industry was summarized by Judge Mesch as follows:

The process is now used by plants in Minnesota, the Upper Michigan Peninsula, and in other relatively small operations scattered throughout the United States. (Tr. 1628-1631). Taconite pelletizing is also being done in foreign countries. Approximately 85 to 90 percent of the iron ore production in the United States is by way of the pelletization process. (Tr. 1164).

* * * * *

The birth of the taconite industry created an entirely new demand and use for bentonite by both national and international consumers. (Tr. 1628-1631, 1688, 1689, 1848, 2000, 2001, 2038, 2041). Bentonite has been used exclusively and consistently since the inception of the pelletizing process as the binding

material for the powdered taconite. (Tr. 716, 822, 999, 1169, 1848, 1930). It is the only known material of any sort economically suitable for use as a binder in the taconite industry. There is not and never has been any material of any nature that could function as a substitute for bentonite in the taconite industry. (Tr. 998-1000, 1043-1045, 1059, 1184, 1185, 1848, 1849, 1932, 2002, 2041, 2042). No clay of any sort is used, either to the exclusion of or in combination with bentonite, in connection with the taconite industry. This is true, even though many other clays have been tested for suitability to bind taconite. (Tr. 714, 715, 857, 996-999, 1166-1169, 1188, 1746, 1846, 1849, 1850, 1997, 2001, 2002, 2037, 2041, 2043, 2044). One company that operates seven taconite processing plants has experimented in its laboratories with some 60 different substances in an attempt to find a suitable substitute for bentonite. The company has not found anything that can be used in the place of bentonite. (Tr. 2042).

The bentonite used by the domestic taconite industry is almost exclusively "Wyoming" or "western" bentonite mined in Wyoming, with some supplied from Montana and South Dakota. (Tr. 1845, 1996, 2035, 2036). It is purchased from this area despite the facts that there are bentonite deposits in nearly every state and the cost of transportation often exceeds the price of the bentonite at the plant. (Tr. 288, 673, 1631, 2039). For example, Cleveland Cliffs Iron Company tried Saskatchewan bentonite in its Canadian operations, but, as it did not work out quality wise, they continue to ship bentonite from Wyoming some 1,600 miles to their Canadian plants. (Tr. 2038, 2066). A pelletizing plant in Tasmania, Australia, uses bentonite shipped some 10,000 miles from Wyoming. (Tr. 1168, 1177).

(Decision at 28, 29).

Physical properties of bentonite which make it useful for taconite pelletizing, then, are its capability of combining with taconite to form balls with sufficient strength to endure handling. These physical requirements are quite distinct from the requirements for other uses of bentonite.

[1] In United States v. Peck, 29 IBLA 357, 362, 84 I.D. 137, 139 (1977), we held:

[T]here has been a distinction between what has been called "common" or "ordinary" clay which has not been considered a "valuable mineral deposit" within the meaning of the mining laws, and deposits of clays having exceptional qualities useful for purposes for which common clays cannot be used, which make them locatable as valuable mineral deposits. [Emphasis in original.]

[2] Judge Mesch based his conclusions that bentonite suitable for pelletizing taconite is exceptional on the following analysis of the meaning of common clay:

The Bureau of Mines recognizes common clays as those clays that are virtually unlimited in occurrence and used chiefly for building brick, drain tile, vitrified sewer pipe, other heavy clay products, light weight aggregate, and in cement manufacturing. (Exh. K-200, pp. 3, 4, 7).

In Holman v. State of Utah, * * * [41 L.D. 314 (1912)] the Department recognized common clays as those found in vast deposits underlying great portions of the arable land of the country which might be used on account of a temporary local demand for brick.

The Materials Act of July 31, 1947, 61 Stat. 681 [30 U.S.C. § 601 (1976)], authorized the Secretary of the Interior to dispose of "common clay." In commenting on the bill which became that Act, the Department recognized "common clay" as "[c]lay to be used for the manufacture of brick, tile, pottery, and similar products." [S. Rep. No. 204, 80th Cong., 1st Sess. 3 (1947), cited in] United States v. Matthey, 67 I.D. 63, 65, 66 (1960).

In United States v. Peck, supra, the Department found that clay used only for structural brick, tile, and other heavy clay products, pressed or face brick, pottery, earthenware and stoneware was a common clay. The Department also recognized that "certain clays with special characteristics making them useful for particular uses . . . outside the manufacture of general clay products, have been considered locatable." [29 IBLA at 381, 84 I.D. at 149.]

Based upon the above, "common clays" might properly be defined as those clays that are virtually unlimited in occurrence throughout the United States and are useful only on a limited geographic basis for general clay products such as ordinary brick,

tile, pottery, earthenware, stoneware, cement and other heavy clay products.

(Decision at 10-11).

He observed several differences between such clay and bentonite:

The Bureau of Mines Mineral Facts and Problems, 1975 Edition, draws the following distinctions between bentonite and common clay and shale used for structural or "heavy clay" products such as building brick, drain tile, and vitrified sewer pipe:

1. Deposits of common clays, shales, and fire clays are wide spread. Ball clay, bentonite, fuller's earth, and kaolin deposits occur in smaller geographic areas. Reserves of common clay and shale are virtually unlimited. Reserves of bentonite, owned or controlled by domestic producers, are estimated at 100 million short tons.

2. Common clay and shales are relatively low in unit value. The actual price in dollars per short ton is approximately \$1.80. The actual price in dollars per short ton for bentonite is approximately \$15.49.

3. Transportation costs are critical for common clays. The economic radius for shipment of common clay or shale products is usually 200 miles or less. The other clays, being less abundant and higher in unit value, can be marketed at greater distances from production centers. Consumers had little choice but to use bentonite even though in many cases the shipping costs exceeded the value of the clay at the mine or processing plants. (Exh. K-200, pp. 1, 2, 4, 7-9).

(Decision at 8).

Although contestant dismisses Judge Mesch's concept of common clay as "simplistic" and "inadequate," it differs little from the description that served Under Secretary Chapman's purpose in identifying to Congress the common clay which is not locatable but which would become salable under the

Materials Act of 1947, supra, cited in Judge Mesch's opinion. Moreover, it closely follows the concept of common clay used in Peck, a decision in which a century of precedent relating to clay was analyzed. This Board noted: "Early in the administration of the General Mining Laws * * * the mineral character of land or locatability of a clay deposit depended upon the usability of the deposit for various purposes." 29 IBLA at 368, 84 I.D. at 142. In reviewing the applicable legal precedents, the Board catalogued those uses which were held to make a deposit locatable and those which did not. In holding that a common clay is one marketable for the purposes recited, or similar ones, Judge Mesch is merely articulating one of the most well-established principles in the history of the mining law, as our Peck decision makes clear.

Judge Mesch noted that the Bureau of Mines classifies clays in six groups: Kaolin, ball clay, fire clay, bentonite, fuller's earth, and common clay and shale.

No decision has ruled on the locatability of bentonite that has been proven to be marketable for pelletizing taconite. However, the position of the contestant represents the culmination of 20 years of thinking about the status of bentonite under the laws relating to mineral development. A narration of this history is necessary for a full appreciation of the issues in this proceeding.

Judge Mesch summarized the past policies of the BLM which recognized bentonite as a locatable mineral:

Between 1946 and 1969, BLM issued mineral patents covering 76,237 acres containing bentonite. Of this total, almost

64,500 acres or 85 percent of the lands were in Wyoming. Over 6,400 acres, or 8.5 percent of the lands, were in Montana. The remaining lands were in various other states. (Exh. K-18, p. 22). Until the late 1960's the policy and practice of BLM was to issue patents for bentonite claims if there was, in fact, a bentonitic clay within the claim and the bentonite could be mined and marketed at a profit. (Tr. 74-76, 1085-1086; Exh. K-28, p. 1). The sole test of locatability was whether the clay was bentonite, which was often determined on the basis of a "taste test" in the field. (Exh. G-41, p. 109-111).

This policy was recognized in Ed. L. Messersmith et al. v. American Colloid Company, BLM-A 039020 (Wyoming) (November 27, 1957), where the Director of BLM stated, by way of dicta, that "[b]entonite . . . has distinct and special value, and is locatable on public domain lands of the United States." (p. 2). This decision was appealed. In I. B. Griffith et al., A-27615 (July 24, 1958), the delegate of the Secretary stated, "I have carefully examined the statements of law made by the Director and find no error in them." (p. 2).

(Decision at 18).

Because the widespread occurrence of this mineral in Wyoming was creating surface management problems, BLM managers began to question bentonite's classification as a locatable mineral as early as 1961. On June 30, 1961, the Worland District Manager wrote the Wyoming State Director:

Without proper management this entire range land must come to a standstill since management can not continue without range improvements and they can no longer be constructed in an area where the land may possibly move into private ownership. The present improvements are being lost or are losing their effectiveness, for example, one mining claim located on a fence line can destroy the fence and return the area to open range. Loss of management such as this destroys all that has been gained in the past years. Mining claims of this type interfere tremendously with the watershed planning and systematic watershed improvement approach.

* * * * *

In an area such as this where the so-called mineral is in widespread abundance the Bentonite would be comparable to sand and gravel, not actually being a mineable mineral. If this were the case as you have suggested, Bentonite could be handled under the Material Sales or the Mineral Leasing Act. In either land law, leasing or sales, stipulations could be used to guard against surface destruction and at the same time allow range development and improvement of the land since it would not be leaving Federal ownership.

(Exh. K-42 at 2).

It was never asserted that all bentonite should be considered leasable. But because bentonites may be divided into calcium bentonites and sodium bentonites, it was suggested that the sodium bentonites should be subject to those provisions of the Mineral Leasing Act that provide for issuance of leases for silicates of sodium. 30 U.S.C. §§ 261-262 (1976). In 1972, however, the Office of the Solicitor issued a memorandum to the Director, BLM, which noted that the Geological Survey had made no determination that a particular type of bentonite is a silicate of sodium within the meaning of the Act. The memorandum left open the possibility that at some future date some bentonites may be determined to be silicates of sodium. Even so, this would not affect the validity of claims located for that mineral when it was legally locatable. Applicability of the Mineral Leasing Act to Deposits of Bentonite, 79 I.D. 642 (1972). To be sure, those physical properties which give this particular bentonite its value have been associated with the presence of sodium as an exchangeable cation. In United States v. Union Carbide Corp., 31 IBLA 72, 84 I.D. 309 (1977), we held that the presence of the sodium cation in a deposit of zeolite did not make that material leasable since the sodium ion was an exchangeable cation and was not essential to the nature of

the mineral. The Director, Geological Survey, suggests that this is conclusive of the issue for bentonite as well (Exh. W-6). One expert witness testified that sodium is an exchangeable cation and its concentration in the clay can be modified by additives. He speculated that the special properties of bentonite often associated with its sodium concentration are more properly attributable to the way the clay was crystallized, the unique size and shape of the particle, and its charge (Tr. 1802-03).

Furthermore, the extent to which the common variety test could be applied to deposits of bentonite was not clear. The syllabus of BLM's Messersmith decision, cited by Judge Mesch, supra, states that bentonite is not a common variety mineral under the Surface Resources Act, 30 U.S.C. § 601 (1976). On September 26, 1968, the Associate Solicitor, Division of Public Lands, advised the Denver Regional Solicitor as follows:

In the absence of a determination that a particular deposit of bentonite had no values other than as ordinary clay (disposable only as a mineral material under 30 U.S.C. § 602), it is questionable that the "common varieties" test of section 3 of the 1955 Act (30 U.S.C. § 611) is pertinent since bentonite is not among the materials specifically mentioned in that section and may well not fall within any of those categories. See United States v. Harold Ladd Pierce, A-30564 (Aug. 30, 1968).

(Exh. K-51). In United States v. Gunn, 7 IBLA 237, 79 I.D. 588 (1972), we considered an assertion by a mining claimant that a deposit of bentonite found on his claim was exceptional because it could be used for pelletizing iron ore. Nevertheless, we found the claim invalid. The contestant argues that this constitutes a determination by this Board that bentonite suitable

for pelletizing taconite is not an exceptional clay. Nothing in our decision, however, supports this interpretation. After reviewing the evidence submitted by the mining claimant, we held as follows:

Most of his testimony, however, is actually more in the nature of advice for future work to be done on the claims and for investigating market possibilities. There is insufficient evidence that there is clay of a quality that can be marketed profitably for commercial purposes for which common clays cannot be sold. There is little concerning the quantity of clay within the claim that may be based on more than inference. Other than the discussion concerning freight costs, there is no evidence concerning the economic realities of a mining operation within the claims, such as evidence concerning possible prices for which the clay could be sold and possible costs of a mining operation. Without an adequate showing that the clay is of a quality and quantity which can be marketed profitably for commercial purposes for which common clay cannot be sold, the claim is not a valid claim based on the clay alone. United States v. Mary A. Matthey, supra

7 IBLA at 250-51, 79 I.D. at 594 (1972). The decision established that bentonite would be considered as a form of clay, so that mining claimants would be required to establish that the bentonite from their claims was marketable for purposes for which ordinary clays could not be used.

Meanwhile, BLM commissioned a survey to determine the extent of bentonite resources in Wyoming, and issued a series of instruction memoranda (IM) setting forth criteria to be used in determining the validity of mining claims located for bentonite. Judge Mesch summarized the development of these IM's as follows:

IM No. 70-429 was issued on July 27, 1970. This IM required a determination as to whether the bentonite within a claim was an "uncommon variety" with "distinct and special value" and therefore subject to location under the mining laws. The IM

stated that "[t]he requirement of distinct and special value is met when the physical-chemical properties of the bentonite deposit are such that a marketable bentonite can be produced from the deposit tested." No specific minimum physical or chemical standards were specified. the IM recognized that bentonite could be blended and physical and/or chemical means used to produce a marketable product. The IM cautioned that industry "standards for some uses (e.g. taconite processing) vary according to the consumer and that certain beneficiation practices (e.g. blending) make comparison with existing standards difficult." (Exh. K-5).

* * * * *

IM No. 74-343 issued on September 3, 1974. This IM required a determination as to whether the bentonite within a claim was of an "exceptional nature." The IM noted that the test for determining whether a deposit of bentonite is of an "exceptional nature" is similar to that for determining an "uncommon variety." The IM listed minimum standards for (1) viscosity or yield, (2) green bond strength, (3) dry bond strength, (4) grit content, (5) water loss, and (6) pH value. It also provided that blending or the use of chemical additives "are prohibited in meeting the above-listed standards." The IM stated that a bentonite deposit would not be considered locatable unless all standards were met. (Exh. K-4).

IM No. 77-226 was issued on April 22, 1977. This IM again stated that "[t]he test for determining whether a deposit of bentonite is of an 'exceptional nature' [and therefore locatable] is similar to that for determining what an 'uncommon variety' is." This IM modified the 1974 IM by eliminating all of the previously required minimum physical-chemical standards except those relating to (1) viscosity or yield and (2) water loss. It also reduced the required minimum yield from 91 barrels to 80 barrels and raised the water loss standard from 13.5 milliliters to 17.0 milliliters. The IM provided that blending between claims or the use of chemical additives are prohibited in meeting the standards. (Exh. K-2).

* * * * *

Although the contest Complaints were filed in 1973 and the standards set forth in IM No. 77-226 were adopted by BLM in 1977, the Contestant nevertheless insists that the bentonite found within the claims is not locatable unless it meets or exceeds the "80-barrel yield" and "17 milliliter water loss" specifications contained in the 1977 IM.

According to the Contestant, the 1977 IM "was designed to define locatable bentonite." (Contestant's Answer Brief, p. 22). The yield and water loss standards "define exceptional or uncommon deposits of bentonite." (Contestant's Opening Brief, p. 152).

They are "the criteria by which a deposit of bentonite can be measured to determine whether or not it is locatable." (Contestant's Opening Brief, p. 152). If deposits of bentonite do not "meet or exceed those criteria, they must be held to be common varieties of bentonite and not locatable under the mining laws." (Contestant's Opening Brief, p. 160). [Emphasis in original.]

(Decision at 19-20).

This history demonstrates that BLM's position on the legal standard for the locatability of bentonite has undergone a considerable evolution during the past 25 years, a period when bentonite's use for pelletizing taconite had emerged from its experimental beginnings to one of the major uses of that clay. Once, a bentonite deposit was locatable merely on the basis of being identified as such. Now, BLM contends, bentonite is subject to location only if a deposit meets certain numerical criteria, regardless whether a deposit falling below those criteria can still be marketed for one of the major industrial uses for bentonite. We will now consider the contestant's legal theory in support of this contention.

The contestant scorns the Judge's decision as making bentonite locatable by definition. Judge Mesch did no such thing. He merely held that if a claimant can establish that a deposit of bentonite is marketable for purposes for which common clay cannot be used, the deposit is locatable. As we have seen, Judge Mesch applied a concept of common clay that is consistent with over a century of precedent concerning that mineral, which includes Departmental decisions and legislative material.

The contestant's attack on Judge Mesch's decision only masks its own redefinition of common clay to include material which is not so widespread

in relation to its market as any mineral that Congress or the Department has characterized as common, a mineral which can be marketed for a purpose utterly unlike any used to characterize, if not define, common variety minerals. 8/ Although contestant articulates a plausible theory to support this redefinition, that theory is not supported by the authorities upon which it relies.

The contestant's theory is basically this: (1) Bentonite is sufficiently widespread to be considered a common variety of clay; (2) the test for distinguishing common clay from exceptional clay is the same test employed to distinguish uncommon variety from common variety minerals; (3) that test requires us to compare bentonite deposits with other bentonite deposits, rather than with deposits of ordinary clay; (4) in order to make this comparison, criteria must be developed to distinguish common bentonite from uncommon bentonite; and (5) under those criteria, the bentonite deposits on these claims are not locatable. We will pass over the first contention for the moment, and address the second.

The contestees, intervenors, and Judge Mesch vehemently disagree with contestant's argument that the test to distinguish common clay from exceptional clay is the same as the test for distinguishing common varieties of sand, stone, gravel, pumice, pumicite, and cinders from uncommon ones. Under 30 U.S.C. § 611 (1976), the term "common varieties" does not include "deposits of such materials which are valuable because the deposit has some property giving it a distinct and special value * * *." The contestant feels that refinements of this test expressed in cases concerning stones apply equally

8/ See note 10, infra.

in cases involving clay, and cites a number of clay cases in which the Department has invoked this general test. E.g., United States v. Schneider Minerals, Inc., 36 IBLA 194 (1978). We note that common clay is not listed among the common variety minerals withdrawn from location under 30 U.S.C. § 611 (1976). However, the term "common clay" is employed in 30 U.S.C. § 601 (1976), which was originally enacted in 1947 and authorizes the disposition of certain minerals including common clay that are not subject to disposition under the mining laws. Because common clay, unlike sand or gravel, was not subject to location before 1955, its status was not changed by the 1955 Act. United States v. O'Callaghan, 8 IBLA 324, 79 I.D. 689 (1972). Thus, the uses of clay cited by Under Secretary Chapman in his comments on the 1947 legislation remain operative in distinguishing common from exceptional clay, as Peck recognized.

Accordingly, in Peck the Board recognized a distinction between the test used to determine common clay and the test used to determine common varieties of sand and gravel. This distinction arises from the fact that a century of precedent holds that common clay is not subject to location and constitutes a body of law historically distinct from law relating to other common minerals, the status of which has varied from time to time. This fact prompted the Board to observe that "although many of the criteria in determining what constitutes a common variety of material under section 3 of the Surface Resources Act may be applicable in determining whether a deposit of clay is locatable generally, the basis for determination should not be confused." 29 IBLA at 375, 84 I.D. at 146. It is quite plain that the author of Peck consciously confined her authority to the body of law regarding clay and disregarded the body of law involving other common minerals, although it is not

clear how this distinction affected the outcome of the case. However, distinction is not so great as the parties and the Judge would have us believe, and as we shall demonstrate, it has no effect here.

The test Congress chose to distinguish between common and uncommon varieties of minerals in 1955 was not a new creation. It echoes the test established in Zimmerman v. Brunson, 39 L.D. 310 (1910), overruled, Layman v. Ellis, 52 L.D. 714 (1929). 9/ In Zimmerman, the Department held that deposits of gravel and sand, suitable for mixing with cement for concrete construction, but having no peculiar property or characteristic giving them special value, and deriving their chief value from proximity to a town, do not render the land in which they are found mineral in character within the meaning of the mining laws or bar entry under the homestead laws notwithstanding the land may be more valuable on account of such deposits than for agricultural purposes. The authorities cited for this holding included two cases involving deposits of common clay, Dunluce Placer Mine, 6 L.D. 761 (1888), and King v. Bradford, 31 L.D. 108 (1901). In those cases, Zimmerman noted, a common clay valuable solely for general building purposes, and whose chief value arose

9/ When Zimmerman was overruled in 1929, common varieties of gravel became subject to location while common clay remained unlocatable. See United States v. Matthey, 67 I.D. 63, 67 (1960). It is interesting to note, however, that the arguments advanced by the Department for overruling Zimmerman are difficult to distinguish from rationales that would support making common clay locatable. Zimmerman noted that "a search of the standard American authorities has failed to disclose a single one which classifies a deposit such as [gravel] as mineral." In Layman, the Department noted that this was no longer true, and cited a number of authorities suggesting that economically valuable substances should be classified as mineral. Among the authorities cited in Layman was Lindley, whose treatise on mines criticized Departmental decisions such as Dunluce Placer Mine, 6 L.D. 761 (1888) (holding common brick clay to be nonlocatable), for essentially the same reasons that Layman cited for making gravel subject to location. 1 C. H. Lindley, A Treatise on the American Law Relating to Mines and Mineral Lands § 424 (1897).

from its proximity to a town or city, was held not to be a mineral. Thus, while Peck recognized a distinction between the common clay test and the common variety test, the Zimmerman case establishes some common origin. The contestant has cited a number of clay cases in which the Department has applied the tests interchangeably.

If we accept, for the purpose of argument, the contestant's assertion that the criteria for determining common varieties of stone are the same as the criteria for determining whether a clay is common clay, we must then consider the contestant's third premise, that those criteria require us to compare Kaycee's deposits of bentonite with other deposits of bentonite, rather than with deposits of common clay in general. This results from the contestant's view that we are required to make "a comparison of the mineral deposit in question with other deposits of such minerals generally." United States v. U.S. Minerals Development Corp., 75 I.D. 127, 132 (1968). In that case, the Department held a deposit of colored quartzite ("Rosado stone") to be a common variety, after comparing it with other deposits of colored quartzite rather than deposits of quartzite generally. Similarly, in Brubaker v. Morton, 500 F.2d 200 (9th Cir. 1974), the court sustained the Department's comparison of the deposits of colored stone with other deposits of colored stone rather than with deposits of gray stone. In Boyle v. Morton, 519 F.2d 551 (9th Cir.), cert. denied, 423 U.S. 1033 (1975), it was held that the Department properly compared the deposit at issue with "similar" decorative decomposed granite rather than with decomposed granite generally.

The application of this principle sometimes requires us to enlarge rather than contract the range of minerals with which a particular deposit

must be compared. For example, in United States v. Dunbar Stone Co., 56 IBLA 61 (1981), the claimant asserted that a deposit of Yavapai schist, a stone which was used for facing on buildings and other building purposes, was an uncommon variety because it was an uncommonly good deposit of schist. We ruled, however, that simply because it might be an uncommonly good schist did not necessarily make it uncommonly good stone. Other types of common stone were suitable for wall facing. We held further:

We are not obliged to consider how a particular deposit of a common stone type ranks when compared only with other deposits of the same generic type (*i.e.*, limestone, sandstone, shale, granite, basalt, slate, etc.), and hold that a superior or unusual occurrence of that particular type is an uncommon variety, when its special characteristics only make it suitable to be used in the same manner as common varieties of other types. [Emphasis in original.]

Id. at 65-66.

Thus, contestant maintains, we are required to compare deposits of bentonite with other deposits of bentonite, since that admittedly is the only clay which can be used for certain purposes. One example demonstrates the obvious fallacy of extending this argument too far: gemstones would become common varieties of stone if comparison were limited only to other gemstones. Even jewelers distinguish between investment grade diamonds and those which are of lower quality but still suitable for jewelry, and these can be distinguished from industrial diamonds.

A mineral does not have to be so scarce as diamonds before we stop comparing one deposit with a similar deposit in order to determine its common or uncommon character. This issue was squarely presented in United States v.

Bolinder, 28 IBLA 187, 83 I.D. 609 (1976), which involved a deposit of geodes. The Government had contended that the contested deposit of geodes was a common variety because it did not differ from other deposits of geodes. We agreed that the contested deposit did not differ from other geodes; we disagreed that it was a common variety. We held that the proper basis of comparison was with deposits of stone generally, not other deposits of geodes. The decision states no general rule when a deposit of stone will be compared with common stone generally rather than with stone just like itself. The decision, however, affords ample basis for such generalization. The Board noted that geodes possessed an economic value in trade and the ornamental arts, apart from whatever commercial value may be attributed to their uniqueness as a so-called "natural curiosity," a use which would not have made them valuable within the meaning of the mining laws. The uses making them locatable can be distinguished from use as a building material which has typified common variety minerals in the cases relied on by contestant. ^{10/} The Board also noted that geodes are not widespread. The Bolinder

^{10/} The legislative history of the 1955 Act makes clear that Congress and this Department identified common variety minerals as those used primarily for building purposes and deriving their value from proximity to market.

A House Report on an early version of the bill included the following characterization by this Department of the minerals which would no longer be subject to location:

"Many of these commonplace materials are found in deposits of varying thickness over the earth's surface. They can be removed usually by stripping the surface in a very short period of time. Those genuinely interested in the use or sale of these materials ordinarily have no real interest in title to the land itself. The value of such materials is difficult to ascertain, moreover, since it depends so much on incidental factors like the proximity of the deposits to prospective consumers, local needs, and the like, rather than on any generally recognized value of the materials such as may be ascribed to valuable deposits of gold, coal, or similar minerals." H.R. Rep. No. 306, 84th Cong., 1st Sess. 3 (1955) (emphasis added).

Congressman Engle, Chairman of the House Interior Committee and a sponsor of the bill which was enacted, explained why that bill would prohibit future location of claims for common variety minerals:

"The reason we have done that is because sand, stone, gravel, pumice, and pumicite are really building materials, and are not the type of material

case then governs the comparison of deposits when (1) the contested deposit is marketable for purposes which are not typical of common variety minerals; and (2) the material is not widespread. Only bentonite can be used to pelletize taconite, which is not a typical common variety use. How widespread must a deposit be before the rule in the Bolinder case will no longer apply? This brings us back to considering the contestant's first premise: that bentonite is widespread. The point of contestant's contention is that because bentonite is widespread and abundant, it is, perforce, a "common clay." Therefore, only deposits of bentonite with distinct and special values not found in ordinary "common" bentonite are subject to location, which requires that bentonite deposits be compared only with the other bentonite deposits.

Judge Mesch held that the fact that bentonite may be of widespread occurrence has no bearing on the issue of its locatability.

To support its contention that bentonite is widespread, BLM conducted a resource study which concluded that in Wyoming there are 963 million tons of bentonite resources (Contestant's Exh. 17, p. 23). 11/ Another exhibit

fn. 10 (continued)

contemplated to be handled under the mining laws, and that is precisely where we have had so much abuse of the mining laws, because people can go out and file mining claims on sand, stone, gravel, pumice, and pumicite taking in recreational sites and even taking in valuable stands of commercial timber in the national forests and on the public domain." 101 Cong. Rec. H 7454 (daily ed. June 20, 1955) (emphasis added). Of course, there can be uncommon varieties of building stone. E.g., United States v. McClarty, 17 IBLA 20, 81 I.D. 472 (1974). See generally United States v. Coleman, 390 U.S. 599 (1968).

11/ To be included, a deposit must have a yield of 75 barrels per ton or more and a grit content of less than 8 percent, or a green compressive strength of at least 5 pounds per square inch and a dry compressive strength of no less than 50 pounds per square inch. The stripping ratio for the deposit could not be greater than 25 to 1 (Contestant's Exh. 17 at 1-2). We note that much of this material is subeconomic, since a stripping ratio of 8 to 1 is considered only marginally profitable. See Contestant's Exhs. 21 and 22.

asserts that there are 1.82 billion metric tonnes (1 tonne equals 2,204 pounds) of identified bentonite resources in the United States, although it does not distinguish between swelling and nonswelling bentonites (Contestant's Exh. 23, Table 2). 12/ The contestant has made an offer of proof that 15,220 bentonite mining claims covering 775,200 acres have been located in Wyoming, 4,667 claims covering 200,410 acres in Montana, and 493 claims covering 19,250 acres in South Dakota. 13/

One can easily be impressed by these figures. Even Thorsen's testimony that the minable reserves in Wyoming total up to 125 million tons does not diminish their awesomeness (Tr. 1140). Their legal significance diminishes, however, when one considers the other minerals Congress has classified as common. Common clay deposits usable for the manufacture of common brick are identified as "virtually unlimited." United States Department of the Interior, Bureau of Mines, Mineral Facts and Problems, 256 (1975). 14/ United States sand and gravel resources are described as "inexhaustible." *Id.* at 936. The United States reserves of pumice, pumicite, pozzolan, scoria, and volcanic cinders are estimated at 1,250,000,000 short tons. Id. at 873,

12/ "Identified resources" are defined as "specific bodies of mineral-bearing material whose location, quality, and quantity are known from geologic evidence supported by engineering measurements with respect to the demonstrated category." "Reserves" are defined as "that portion of the identified resources from which a usable mineral can be economically and legally extracted at the time of determination" (Contestant's Exh. 23, Table 2).

13/ Contestee and intervenors have moved to strike this offer of proof from the record. In light of our disposition of the merits of this case, it is not necessary to rule on this motion. Even if the record were opened to allow its admission, this evidence would not prompt us to change the result.

We do note that the offer was properly made. Under 43 CFR 4.452-6(b), a party may make an offer of proof to this Board of evidence excluded by an Administrative Law Judge at a contest proceeding. However, we do not rule upon the merits of Judge Mesch's exclusion of this evidence. 14/ In Peck, supra, we took official notice of this publication. 29 IBLA at 367, 84 I.D. at 141-42. In this proceeding, a preprint of this publication's chapter on clays was admitted into evidence as exhibit K-200.

Table 1. The bulk of the United States demand, however, is for uses which do not require material of an exceptional nature and for which other common variety minerals may be substituted. See id. at 875, Table 2. ^{15/} When one looks at the figures for reserves and resources for kaolin and fire clay, and compares them with consumption listed in the Minerals Yearbooks, one finds that the reserves of these clays bear an equal or greater relationship to consumption than is true for bentonite. Almost a century of precedent precludes classification of deposits of these clays as common unless they are marketable only for common brick or other common clay uses.

Some locatable minerals may be more abundant than bentonite. In United States v. Oneida Perlite Corp., 57 IBLA 167, 88 I.D. 772 (1981), 15 claims covering almost 2,000 acres had been located for the mineral perlite which is not a common variety mineral. The estimated total reserves on the claims were at 200-300 million tons. The Board estimated that the reserves on those claims alone could have satisfied United States production for some 332 to 498 years, including total domestic consumption and total exports. Nevertheless, the total reserves of perlite in one contest proceeding involving a single patent applicant bear a greater relationship to the national demand for that mineral than the estimated resources of bentonite in the State of Wyoming. Other minerals which are universally recognized as locatable are also widespread and abundant, such as silica sand and gypsum. See United States v. Duval, 1 IBLA 103 (1970), aff'd, 347 F. Supp. 501 (D. Oregon 1972),

^{15/} One should not draw too close a comparison between the estimated reserves of pumice minerals with the estimated reserves of bentonite referred to above. The same publication estimates the reserves of bentonite at only 100 million tons in contrast to the 1 billion tons reserve estimated in the Government study in this case.

aff'd, Civ. No. 72-2839 (9th Cir. 1973); United States v. Bartlett, 2 IBLA 274, 78 I.D. 173 (1971).

Having demonstrated the error in contestant's theory that deposits of bentonite must be compared with deposits of common clay generally, we must determine the effects of this ruling on the remaining issues in this contest. In United States v. Hooker, 48 IBLA 22 (1980), we held that where a mineral examiner applies an incorrect legal standard, his opinion cannot serve, by itself, to establish a prima facie case of invalidity. In United States v. Bolinder, supra, we were called upon to review another decision by Judge Mesch holding that the Government had not made a prima facie case that geodes were a common variety where that case rested only upon a comparison of that deposit with geodes from other areas, instead of comparing the deposit with stone generally. We saw no reason to change that holding. However, in United States v. Gunn, supra, we held that a prima facie case is established by the Government through the testimony of an expert witness who had examined the claims and performed tests on the deposits which showed that the bentonite clay did not meet commercial standards for certain uses for which some bentonite clays are suitable.

Thus, we cannot reject BLM's standards of locatability simply because they are based on an erroneous legal theory. We must consider contestant's argument that the standards still indicate whether a bentonite deposit is marketable for uses for which common clays cannot be used.

[3] We note that much of the evidence introduced by the Government in this proceeding appears to be directed at establishing the criteria set forth

in these IM's as the conclusive determinants of the locatability of deposits of bentonite. However, an IM is merely a document for internal use by BLM employees. As the Supreme Court recently noted in Schweiker v. Hansen, 450 U.S. 785, 789 (1981), such documents are not regulations and have no legal force. Such memoranda may be useful to those BLM employees who are given the responsibility of evaluating mining claims, and, indeed, they are obliged by the conditions of their employment to abide by the policies and to follow the instructions handed down by their Director. See Margaret A. Ruggiero, 34 IBLA 171 (1978). If such criteria are consistent with commercial standards for uses other than those for which common clays can be used, failure of a deposit to meet those specifications would constitute a prima facie case that the deposit was not locatable. See United States v. Gunn, supra. Of course, such a case could be overcome if the claimants establish that they could be marketed for such a purpose, notwithstanding the failure of the material in the deposits to meet the BLM specifications.

Judge Mesch summarized the testimony relating to how these standards were derived:

The "80-barrel yield" and "17 milliliter water loss" standards set forth in IM No. 77-226 were derived from a report prepared by an Industrial Minerals Specialist with BLM. (Tr. 680, 681, 801). This witness testified that he arrived at the standards "wholly independent of industry specifications" (Tr. 861) and "really didn't consider industrial uses that much." (Tr. 712, 713). He stated that all three major bentonite consuming industries "could not" have common specifications for barrel yield. (Tr. 956). He said that a bentonite could meet the specifications for gray iron foundry and not meet the specifications for oil drilling mud, and a bentonite could meet the specifications for taconite and not meet the specifications for a drilling mud. (Tr. 710). He would not consider a bentonite that could meet only the specifications of one industry as an exceptional or locatable bentonite. (Tr. 711). He stated that the barrel yield

and water loss figures in the IM were not specifications for the taconite industry, but were "simply guidelines which define what we consider to be high-grade, locatable bentonite . . . [i]t's some kind of a handle to evaluate bentonite deposits with." (Tr. 811). He admitted there are many bentonite deposits that are being actually mined that do not satisfy the standards adopted in IM 77-226. (Tr. 864, 865). [Emphasis added.]

(Decision at 22).

BLM defends those standards by noting there is a close correlation between the industrial specifications found in contestant's exhibit 14 with the suggested specifications for locatable bentonite. However, as we have established, a deposit of bentonite need not be marketable for all major industrial uses before it will be considered locatable; it only needs to be marketable for one use which common clay cannot serve, such as pelletizing taconite. Contestant admits that it was not the purpose of the criteria to establish a standard for determining whether a deposit of bentonite could be marketed for this use (Statement of Reasons at 50; Tr. 810-11). It necessarily follows that a prima facie case is not made merely by showing that a bentonite deposit falls below those criteria. Cf. United States v. Gunn, supra.

Judge Mesch concluded:

The Contestant's definition of "exceptional" bentonite, i.e., bentonite with an "80-barrel yield" and "17 milliliter water loss" or bentonite that is suitable for use in every one of the three major bentonite consuming industries, appears to be based on nothing more than an arbitrary set of standards that bear no relationship whatever to the test of locatability of clays applied by the Department. The definition has absolutely

nothing to do with an unusual property or characteristic of bentonite making it suitable for any specified commercial purpose or use for which common clays cannot be used.

(Decision at 25).

Despite the fact that a number of witnesses have testified that barrel yield is not an important criterion in measuring bentonite's performance as a binder, the mere fact that many customers still adhere to a barrel yield specification establishes that criterion as relevant to the issue of marketability. See Contestant's Exh. 27 at 6. Although failure of a deposit to meet the criteria of the IM would not establish a prima facie case of invalidity, such a case would be made under Gunn if the contestant's evidence showed that the clay did not meet criteria such as barrel yield that are still prevalent in the taconite industry.

[4] Nevertheless, one difficulty posed by BLM's criteria is the prohibition on blending and additives. These are common practices in the bentonite industry. Judge Mesch offers the following description of Kaycee's procedures:

Kaycee Bentonite Corporation blends its bentonite in order (1) to provide its customers with a consistent product that will not vary over a long period of time, and (2) to provide as long a mining life as possible for the property. (Tr. 1094, 1095). All bentonite producers follow a blending practice. (Tr. 1095; Exh. G-42, p. 56). * * *

Kaycee Bentonite chemically treats some of its bentonite for some of its taconite customers in order to increase the barrel yield. (Tr. 1096). This is done where the particular consumer still maintains a barrel yield specification. (Tr. 1096). At the present time the only additive the company uses is a polymer, an organic compound. (Tr. 1096). They use from one-quarter

to one-third of a pound of a polymer to a ton of bentonite. (Tr. 1097). The polymer costs on the order of 70 cents a pound and increases the overall cost of a ton of bentonite by about one to one and one-half percent. (Tr. 1097). In the opinion of the President of Kaycee Bentonite, the bentonite within the contested Kaycee Claims could be marketed to their taconite customers who have eliminated the barrel yield specification without the use of a polymer. (Tr. 1098).

(Decision at 35).

If common clay could be used as a blender or respond to treatment, then similar bentonite would not be subject to location. The following findings by Judge Mesch, however, indicate otherwise:

As previously noted, "Wyoming" or "western" bentonites have a unique set of chemical and physical properties. (Tr. 1791-1794). No earth or non-bentonitic clay, however treated or blended, can duplicate those chemical and physical properties. (Tr. 1014, 1097, 1098, 1184). It is the chemical and physical properties of bentonite, itself, which make it useful for purposes for which common clay cannot be used. Blending or the use of chemical additives does not add to or alter its chemical or physical properties, it merely enhances the properties inherent in bentonite as it occurs in nature. A witness, with excellent qualifications, testified:

This is the reason they do add monovalent cation to enhance the property of the clay that's already there, but they could put a monovalent cation in some montmorillonites, a ton of it to a ton of the clay, and it wouldn't do anything at all because that particular montmorillonite does not have the characteristic charge, shape, and size that is necessary to do the particular job that you are trying to get done. It just doesn't do anything. (Tr. 1804).

(Decision at 36).

The evidence establishes that the amenability of bentonite to blending or treatment with additives distinguishes it from common clay.

The Martens Claims

Judge Mesch did not rely on BLM's criteria for the locatability of bentonite in holding that the five Martens claims were invalid. Instead, he found that the claimants had failed to show that the bentonite deposits on the claims could be mined, removed, and marketed at a profit. On appeal, the claimants allege that Judge Mesch erred in failing to grant their motion to dismiss the contest; that his decision is not supported by substantial evidence or relevant authority; that his decision is arbitrary, capricious, and characterized by an abuse of his discretionary power; and that the Judge's actions deprived them of their property rights without due process of law in violation of the Fourteenth Amendment of the Constitution of the United States. In addition, these claimants contend:

That the Administrative Law Judge incorrectly applied the prudent man marketability test to the facts in this case. The rule as applied would require that the bentonite from the claims had been sold rather than proof that it was saleable. Bentonite producers could, if this rule were applied, prevent any individuals from patenting any placer mining claims by refusing to buy the bentonite from individual claims. When the individuals lose those claims because of an inability to market the bentonite then the bentonite producers could acquire the lands and the bentonite. Thus the rule as applied tends to thwart the intent of the law and promote a monopolistic control of the mineral by the producing companies.

* * * That the Administrative Law Judge failed to consider the evidence of the other contestees, and its effect on the case of these appealing contestees, in making his decision upon the question of marketability for the reasons that it was shown that bentonite of similar quality and quantity was being mined and marketed at a profit by Kaycee Bentonite from a distance of 80 miles from a bentonite plant when the bentonite on the claims of the contestees is only 45 miles from a bentonite plant in Worland, Wyoming.

(Statement of Reasons at 2).

BLM responds that these claimants' assertions are largely unsupported and erroneous conclusions of law. BLM further notes that a mining claimant must show that the mineral deposit on his claim is marketable. Proof of a market for similar material is inadequate. Melluzzo v. Morton, 534 F.2d 860, 863-64 (9th Cir. 1976).

[5] The Bowl, Rattlesnake, Bedspring, Wolftrap, and Horseshoe claims were located on various dates in August of 1959, September of 1962, and October of 1964. These claims are included in four patent applications filed in December of 1967. The five claims cover about 364 acres in Washakie County, Wyoming. Judge Mesch held these claims invalid because he found that the claimants had failed to show that the material can be mined, removed, and marketed at a profit. See United States v. Coleman, 390 U.S. 599 (1968). To be found valid a mining claim for any mineral must meet this test. See Converse v. Udall, 399 F.2d 616 (9th Cir. 1968), cert. denied, 393 U.S. 1025 (1969).

[6] The Judge held that a prima facie case against the validity of the claims was established by the testimony of a geologist who examined the claims in 1970 and 1974 (Tr. 210, 216). Judge Mesch summarizes his testimony as follows:

[This witness] concluded that the bentonite within the claims could not be mined and marketed at a profit because of the low quality of the bentonite, the excessive overburden that would have to be removed, the costs of road construction for access to the claims, the hauling distances from the claims to processing plants, and the absence of any evidence of development that would indicate the bentonite had a present value for mining purposes as opposed to a speculative value based on the possibility that it

might be valuable for mining at some unknown time in the future. (Exh. G-22, Tr. 216).

(Decision at 37).

The report prepared by this witness, contestant's exhibit 22, indicates that these claims hold reserves of over 400,000 tons of low grade bentonite. Thirteen out of 25 samples had a barrel yield lower than 40; the two best samples showed a yield of 80 and 82 barrels per ton. The report also concluded that the overburden was so great that no prudent operator would mine the claims.

[7] We do not find that Judge Mesch incorrectly applied the prudent man/marketability test in this case. He did not, as appellants contend, require them to show that the bentonite from the claims had been sold rather than prove that it was saleable. In his decision, Judge Mesch merely noted the holding of the court in United States v. Zweifel, 508 F.2d 1150 (10th Cir. 1975), that a presumption is raised that the claimants have failed to discover a valuable mineral deposit if there has been little or no development or operations on the claims over a long term. Where there has been no development of a claim, this presumption can be overcome by evidence that the mineral deposits on the claims can be mined, removed, and marketed at a profit. United States v. Williamson, 45 IBLA 264, 87 I.D. 34 (1980). Judge Mesch properly held, however, that appellants failed to meet this burden.

The Judge noted that these claimants also own six patented bentonite mining claims lying adjacent to one of the contested claims. The claimants'

witnesses testified that the bentonite on the patented claims is the same bed of strata found on the contested claims. However, no bentonite has been produced or sold from the patented claims (Tr. 1272). The Judge noted that Federal Bentonite Company had obtained an option to purchase approximately 60 bentonite claims held by this group of appellants, including the five claims involved in this contest. These claimants contended that the evidence derived from Federal Bentonite's work on these claims establishes a discovery of a valuable mineral deposit. Although the contestees' witnesses testified that the bentonite can be mined, removed, and marketed at a profit, we agree with the following analysis by Judge Mesch of the contestees' strongest evidence:

The mining claimants base their case that the bentonite within the contested claims can presently be mined and marketed at a profit on the "pencil studies" and staff discussions of employees of Federal Bentonite where they arrived at the conclusions that it would be economically feasible to mine the optioned properties and therefore the company should look at the property for another three years. It is obvious that the conclusions reached from the "pencil studies" and staff discussions were based on many assumptions that may or may not be correct and will remain unknown until proved or disproved during another three years of exploration and evaluation. The conclusions reached concerning economic feasibility simply established to the satisfaction of employees of Federal Bentonite that another option for three years should be taken on the property. They fall far short of establishing that the property or the five contested claims can, at the present time, be mined at a sufficient profit to warrant the commencement of a mining operation.

The conclusions reached in the "pencil studies" and staff discussions can be placed in even better perspective by considering the testimony of the Mining Superintendent for Federal Bentonite. When asked whether he determined the cost of mining from the five contested claims from the standpoint of the removal of overburden, he replied, "[n]o sir, I had no information as to mining costs on those claims." (Tr. 1435). When asked whether he knew how much road work would have to be done before you could haul from the contested claims he answered, "I have no estimation

of the miles of road, no, sir." (Tr. 1440). He then testified further:

Q There would need to be some road work done?

A Yes, sir.

Q Do you have any idea how expensive it is to build roads suitable for use for producing bentonite?

A Again, I don't have a per mile cost figure that I could give you for that, no, sir. (Tr. 1440).

When asked about hauling the bentonite from the Martens properties to Worland, Wyoming, and then on to some other place by rail, he testified:

A Yes, we have talked about that.

Q Have you made any cost analysis of this?

A No, sir. (Tr. 1460).

The Mining Superintendent eventually stated, "I think before we would go to the board of directors with a proposal for opening Tensleep area and a plant site that there would be more studies made, start-up costs considered, capital cost, and things like that that I didn't take into consideration in making the comparison." (Tr. 1457, 1458).

(Decision at 39-40).

[8] Judge Mesch correctly concluded that the past actions and future plans of Federal Bentonite did not indicate that a valuable mineral deposit had been found within the option claims or any of the five contested claims. He concluded that the evidence simply shows that Federal Bentonite wanted another 3 years to "explore and evaluate" the option property in an attempt to ascertain whether the bentonite might be mined and marketed at a sufficient profit to justify exercising its option to purchase. Judge Mesch properly concluded that this evidence of Federal Bentonite's exploratory activity failed to overcome the Government's prima facie case. No discovery is made

where further exploration is necessary to determine whether there is a reasonable prospect of success in developing a valuable mine. United States v. Edeline, 39 IBLA 236 (1979).

[9] As for appellants' contention that Judge Mesch failed to take into account the fact that bentonite of similar quality and quantity was being mined and marketed at a profit by Kaycee Bentonite at a distance of 80 miles from the bentonite plant when the bentonite on the claims of these contestees is only 45 miles away, there is no reason that the Judge should have done so. Appellants did not establish that their bentonite was of similar quality as that being mined by Kaycee Bentonite. Moreover, the validity of their claims must be established by a showing that the material on those claims, not some other claim, can be mined, removed, and marketed at a profit. Deposits which no prudent man would develop because they cannot be mined, removed, or marketed at a profit are not subject to location under the mining laws. Even if they could establish that the bentonite was of the same quality as other deposits sold for pelletizing taconite, they would have to show that their deposit could be marketed for this purpose rather than for a purpose for which common clay could also be used. In United States v. Peck, *supra*, we held that a deposit of clay marketable only for brickmaking was not subject to location. The Board cited, *inter alia*, Holman v. State of Utah, 41 L.D. 314 (1912), which held that deposits of kaolin or fire clay were not subject to location if marketable only for brickmaking, notwithstanding prior decisions holding such deposits subject to location if marketable for other purposes. *E.g.*, Dobbs Placer Mine, 1 L.D. 565 (1883).

The Kaycee Claims

The 113 Kaycee claims were located in July of 1969, and four mineral patent applications were filed in December of that year. The Virginia No. 3 and the Jim Harlan Nos. 2 through 4 were located in November of 1966; patent applications for them were filed in June 1970. The R. L. Greene Nos. 80 through 87 were located on various dates in July 1958, January 1959, and April 1959; a patent application was filed in June 1970. These claims cover about 4,098 acres in Johnson and Natrona Counties, Wyoming. The mineral report on these claims (Contestant's Exh. 21) shows that a large number of the 10-acre subdivisions on those claims contain no bentonite and are nonmineral in character. Although Judge Mesch found these claims valid, he excluded any 10-acre tracts that are nonmineral in character (Decision at 40). The contestees do not challenge this exclusion.

The mineral report estimated the total mineable reserves of bentonite on these claims at 3,548,035 tons, and contains a table setting forth the specifications for bentonite for 16 companies which pelletize taconite. Id. at 102. The report concluded: "The specifications indicate that the bentonite on only nine 10-acre portions are acceptable to the industries. This limited quantity would not support a profitable mine. Adulteration of the bentonite on the claims with soda ash, cypan, or possibly other additives may in some cases upgrade the clays to acceptable standards." Id. at 106.

The report contained the following recommendation:

The results of the field and laboratory examinations and review of the applicants' patent data indicate that a sufficient

quantity of clay is present for a mining and milling operation; however, the quality of bentonite clay is sub-specification when compared to the industries' accepted standards.

The clay from the properties examined and tested may be used as a diluent, that is, to blend with clay of superior quality to produce an acceptable product. The clay may respond to upgrading by artificial means, that is, by the addition of chemicals such as soda ash, aerosols, and organic electrolytes or polymers. None of these possibilities was elaborated upon by the patent applicant.

Id. at 1-2.

The contestant introduced no evidence to show that bentonite from the deposits on Kaycee's claims was not marketable. As the contestant was closing its case, Judge Mesch asked what evidence had been presented on the marketability issue. With respect to the Kaycee claims, counsel for the contestant replied: "We have submitted no evidence, Your Honor, other than lack of development" (Tr. 988). Indeed, material has been sold from only five of the claims; 118,000 tons from Kaycee 76 through 78 (Tr. 1135) and 44,250 tons from Kaycee 107 and 109 (Tr. 1072-73). This is not an impressive degree of development in view of the fact that Kaycee markets 400,000 tons per year. Nevertheless, it does not appear that the marketability of the deposit was seriously questioned by Dale Gobel and Walter Ackerman, the BLM examiners who examined the claims and prepared the Government's mineral report on Kaycee's patent application. Gobel testified as follows in response to questions from Kaycee's counsel:

Q * * * So within these claims, the reserves within these claims could have been mined economically, 3,548,035 tons; is that correct?

A This is our opinion.

Q Would it be correct to state that tonnage could have been mined, marketed at a profit considering the markets, demands, prices, and costs at the time of this mineral application?

A This was our opinion.

* * * * *

Q And all of this bentonite, this approximately three and a half million tons could have been sold to some market; is that not correct?

A This was what the data that we acquired indicated.

Q And it would have been to one of Kaycee's markets to which it was presently marketing; is that correct?

A This was our supposition.

Q And what markets were those?

A At the time I believe they were selling to taconite industries and maybe some foundry industries. They also in their application mentioned bond sealant. I don't know if they had a market for this or what.

(Tr. 170, 171).

On the basis of this testimony, Judge Mesch concluded that the contestant had made no prima facie case that the bentonite was not suitable for use in the taconite industry. 16/ He summarized the evidence establishing the locatability of the deposits:

Kaycee Bentonite Corporation markets in excess of 400,000 tons of bentonite a year. Its principal market is the taconite processing industry. Approximately 80 percent of its sales are to that industry. Slightly more than 15 percent of its sales are to the oil well drilling industry and the remaining 5 percent or less are to the foundry and related miscellaneous

16/ We note that the entitlement to a patent cannot be earned merely by the contestant's failure to make a prima facie case. See United States v. Taylor, 19 IBLA 9, 82 I.D. 68 (1975). The patent applicant must establish that all the requisites of validity are met. Id.

industries. The company has been marketing bentonite for taconite pelletizing since the inception of the industry in 1955. It ships bentonite to nearly every pelletizing operation which includes plants in Michigan, Minnesota, Canada, Pennsylvania, and Missouri. The gross sales value of the bentonite marketed by the company in 1977 was in excess of six million dollars. (Tr. 1066-1068).

The test results the company obtained from drilling on the Kaycee claims indicated that the quality of the bentonite within the claims was as high or higher than the quality of the bentonite within other claims that it has mined and marketed. (Tr. 1071). Bentonite from uncontested claims across the road from the contested claims is being mined and marketed to the taconite and oil well drilling industries. (Tr. 1073, 1074). The beds of bentonite that are being mined from those claims are the same beds as those within the contested claims. (Tr. 196, 197, 1074).

A witness with extensive experience in the bentonite industry, and in particular as it relates to the taconite industry, testified that he had examined the BLM mineral report covering the 125 Kaycee Claims and, in his opinion, the bentonite that BLM found within the claims could be sold to the taconite market. He stated that the quality of the bentonite as shown in BLM's report was adequate to meet the requirements of the taconite customers that he was familiar with. He asserted several times that in his opinion the bentonite within the Kaycee Claims could be sold in the taconite market at a profit. (Tr. 1639, 1640, 1667, 1686).

Kaycee Bentonite Corporation has in the past and is at the present time mining bentonite from some of the contested claims. The bentonite was and is being sold principally to the taconite market. (Tr. 1072, 1073, 1135-37).

(Decision at 32).

The contestant challenges these holdings. It contends that there is no evidence other than unsupported and contradictory supposition that the bentonite deposits in the claims involved will serve as a binder in the taconite processing industry (Statement of Reasons at 65). Contestant directs our attention to Mr. Thorson's testimony that Kaycee sells only bentonite which in its natural and untreated state has a yield of at least 75 barrels (Tr. 1122, 1155). Contestant notes that very few of the samples gathered

from Kaycee's claims have a barrel yield of more than 75, and that the vast majority of samples show yields of less than 52 barrels.

Nevertheless, Judge Mesch found that Gobel's testimony, quoted earlier, supported the conclusion that the material on these claims could be marketed for pelletizing taconite. This testimony suggests that the data acquired by the examiners indicated that the material could have been sold to some market; that it was the examiner's supposition that it could be marketed to one of Kaycee's markets which he identified as the taconite industry and maybe some foundry industries (Tr. 170, 171). The contestant emphasizes that this was supposition. We do not view this as vitiating the probative nature of this testimony. One of the most basic questions in any mining claim contest is whether the material on the claims is of sufficient quality and quantity that it can be mined, removed, and marketed at a profit. If an examiner has not examined a claim sufficiently to form an opinion on this most basic question, the competence of the entire examination would be open to question. However, the mineral report admitted into evidence in this proceeding, prepared in part by Mr. Gobel, manifests a meticulous preparation seldom seen in Government mining claim contests. The only inference that can be drawn is that the examiners found nothing in their examination of the claim to abandon their supposition that the mineral could be marketed to one of Kaycee's markets.

The contestant notes that the examiner concluded that only the bentonite in nine 10-acre portions of the contested claims contained bentonite acceptable to the bentonite consuming industries listed in the report. This conclusion was based on the application of a 90-barrel yield criterion in addition to a prohibition on blending or treatment.

The contestant then cites the lack of evidence that bentonite found on the contested claims will in fact satisfactorily serve as a binder in the taconite processing industry. Contestant cites the testimony of some of the witnesses of the contestees and intervenors that the critical test to be used for determining the ability of a deposit of bentonite to serve as a binder is the "balling test" (Tr. 997), the "dry ball test" (Tr. 1171, 1174), and the "batch ball" test (Tr. 1661). Appellants note that Mr. Auer, the vice president of Wyo-Ben Products, Inc., testified that he would require some "batch ball tests" before he would purchase the contested Kaycee claims (Tr. 1669).

Clearly the absence of these tests raises some doubt about whether the material on these claims can be marketed as the testimony of Kaycee's witnesses would have us believe. We note that a mining claimant need only establish the validity of his claim by a preponderance of the evidence; he does not have to establish their validity beyond a reasonable doubt. See Foster v. Seaton, 271 F.2d 836 (D.C. Cir. 1959); see also United States v. Taylor, 19 IBLA 9, 82 I.D. 68 (1975). A reversal of Judge Mesch's decision would be warranted only if the inference to be drawn from the absence of these tests negates the positive testimony concerning the marketability of the material on these claims for pelletizing taconite, or if it renders that testimony so insubstantial that it cannot be given any weight in determining which evidence preponderates.

Judge Mesch found that the material from the claims is suitable for use in the taconite industry without blending or additives (Decision at 36). This is based in part on Thorsen's testimony that the material could be marketed at a profit without blending (Tr. 1095). Thorsen noted that Hanna

Mining and others have dropped the barrel yield specification (Tr. 1098, 1156). However, he testified that he has never attempted to sell bentonite having a 52-barrel yield to the taconite industry and that the bentonite he presently sells is in the range of 75 barrels untreated but blended (Tr. 1152). Fifty-barrel yield bentonite may be used for this blending (Tr. 1123). We find no positive evidence in the record to support the opinion of any witness or of Judge Mesch that more than a small amount of the bentonite on those claims can be sold as a binder for taconite without blending or treatment.

Contestant's exhibit 27 is an interrogatory answered by Thomas Thorsen, president of Kaycee Bentonite. At page 6 it sets forth the bentonite specifications of several taconite producing customers. The barrel yield specifications range from 79 to 104 barrels. The contestee further states: "It has been Contestees' experience that if the barrel yield is acceptable to the customer, no problems are encountered with the binding properties of the bentonite." The exhibit also contains the following interrogatory:

Have Contestees developed criteria to be applied to determine whether a deposit of bentonite is a valuable mineral deposit? If the answer to this question is other than an unqualified negative, state in detail the criteria Contestees have developed.

* * * Yes. The criteria involved in evaluating prospective bentonite properties include quality, transportation to processing plant, overburden, and proximity of property to other active company mining areas.

The quality should be 60-barrel yield or higher or react favorably with cyan and soda ash. The transportation should be comparable to present transportation costs. The overburden should be 6:1 or less, and it is important that any new property be within 20 miles of existing mining operations. In the final analysis the property must be able to be mined at a profit. [Emphasis added.]

Id. at 17.

This prompted the following testimony from Andrew Regis, BLM's industrial minerals specialist:

One of the things that probably convinced me more than ever was that Kaycee Bentonite themselves admitted on Page 17 in their interrogatories that the quality should be 60-barrel yield or higher or react favorably with cypon and soda ash. The fact that only 64 of 232 samples, or about 28 percent, had a barrel yield of 60 or better is evidence that the majority of the bentonite is of low quality.

* * * * *

* * * But Kaycee themselves admit that they consider bentonite less than 60 barrels to be valueless, have no value as far as they are concerned, and yet that's the majority of the bentonite that's on their claims.

(Tr. 296-97). Regis did testify that the bentonite was salable without treatment for canal lining or sealants, pet absorbents, grey iron foundry, and other uses that do not require a high-swelling bentonite (Tr. 694-95). He also suggested use as an animal feed binder (Tr. 803). 17/

He doubted that additives would give the deposits the performance characteristics of a high swelling bentonite: "Most of that bentonite that is that low, which is about, if I recall, minus 52 barrels or less, I would imagine, in my professional opinion, that probably only about one-fourth of that would ever react to chemical additives or would be upgraded probably 25 percent --" (Tr. 695). When asked whether the deposits would provide an acceptable product for the taconite industry he replied: "I don't think the product would be acceptable to the taconite industry. That would average --

17/ In United States v. O'Callaghan, supra, the fact that clay was sold as an additive in cattle feed was held to make it not exceptional. This ruling was affirmed in O'Callaghan v. Morton, Civ. No. 73-129S (S.D. Cal. May 13, 1974), but the court remanded the case in part to determine the validity of one claim based on sand and gravel deposits.

well, 75 percent of the claims average 52 barrels or less. I don't think that would be acceptable to the taconite industry" (Tr. 810).

Regis' testimony, however, does not take into account that this material can be blended with higher grade bentonite, something for which common clay cannot be used. Kaycee's answers to contestant's interrogatories explain how this blending is done (Contestant's Exh. 27 at 11-14).

Furthermore, Kaycee answered specific questions concerning the suitability of the deposits for the taconite industry:

35- Specifications in the Taconite industry are not uniform. All the bentonite would have to be treated to meet all of the specifications. Some of the bentonite would not have to be treated to meet some of the specifications.

* * * * *

* * * The remainder of the bentonite can be made suitable for Taconite with chemical additives. Approximately 1/3# to 1/2# of cypan per ton and possibly soda ash could be added to obtain a Fann Viscometer reading of 90 bbls. If this reading is obtained, other specifications such as bonding strength, grit, etc. will also be met.

Id. at 22.

The recommendation in the mineral report on those claims makes clear that these claims were contested only because the evidence showed that the deposits contained on these claims would have to be blended before they could be marketed to the taconite industry. While the contestant has characterized this as adulterating or extending the higher-grade bentonite, the preponderance of the evidence introduced in this case suggests that only bentonitic

clays can be used in this way. As we noted above, this is a unique property which imparts a special value in comparison with common clay generally.

Accordingly, we hold that a preponderance of the evidence in the record establishes that bentonite on these 125 claims is an exceptional clay and subject to location under the mining laws.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is affirmed.

Edward W. Stuebing
Administrative Judge

We concur:

Douglas E. Henriques
Administrative Judge

Anne Poindexter Lewis
Administrative Judge