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30291 (June 8, 1965); *Myrtle A. Freer et al.*, 70 I.D. 145 (1963).

As to the allegation concerning equities, we need only note that this Department's authority to dispose of public land is circumscribed by the acts of Congress and cannot go beyond those bounds. Since it has not been shown that the requirements of the Color of Title Act have been met, the application must be rejected. *Id.*

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior (211 DM 13.5; 35 F.R. 12081), the decision appealed from is affirmed.

JOAN B. THOMPSON, *Member.*

I CONCUR:

MARTIN RITVO, *Member.*

I CONCUR IN THE RESULT:

FREDERICK FISHMAN, *Member.*

UNITED STATES *v.* HENRIETTA
BUNKOWSKI AND ANDREW
JULIUS BUNKOWSKI

5 IBLA 102

Decided March 7, 1972

Appeal from decision (Nevada Contest Nos. 062289, 062290, 062291) of Office of Appeals and Hearings, Bureau of Land Manage-

ment, setting aside in part a decision holding mining claims invalid and remanding the case for a new hearing.

Affirmed as Modified.

Mining Claims: Generally—Mining Claims: Common Varieties of Minerals: Generally

A deposit of gypsum, composed of particles of gypsum mixed with impurities such as clay and silica, utilized in agriculture for the gypsum it contains by applying it to alkali soils as a soil conditioner is a locatable mineral under the mining laws.

Mining Claims: Hearings—Rules of Practice: Hearings

A stipulation by a field solicitor at a hearing that the statutory requisites for the grant of a patent have been met does not preclude consideration in a further proceeding of any question vital to the determination of whether the requirements of the law have been met.

Mining Claims: Contests—Mining Claims: Determination of Validity

To establish a *prima facie* case and to meet its burden of proof, in a mining contest, the government is not required to negate all the proofs of discovery. The government can meet its burden by competent testimony that there has been no discovery of a valuable mineral deposit.

Mining Claims: Determination of Validity

Where a mineral claimant has located a group of claims he must show a discovery on each claim, which requires a showing that the mineral from each claim could have been extracted, removed and marketed at a profit.

Mining Claims: Contests

Where the Government mineral examiner conducted his examination of contested claims under a misapprehension that the mineral deposit on the claims was not locatable, the case will be remanded so that a proper examination of the claims may be made.

Mining Claims: Determination of Validity—Mining Claims: Discovery: Marketability

If it is shown as to a number of claims located for gypsite, and for which applications for patent have been filed, that the amount of deposits on the claims is excessively large in relation to the market that exists, only those claims can be found valid from which production would most feasibly meet the market demand and have a reasonable prospect of success; the remaining claims must be held invalid for lack of discovery.

Mining Claims: Discovery: Generally

To prove that a discovery of a valuable mineral deposit has been made under the mining laws it is not necessary to show there is an actual profitable mining operation in existence; instead there must be evidence of the quantity and quality of the mineral deposit within the claim which under known marketing conditions could be sold at a price which would justify reasonably expected costs of a mining operation so that a prudent man would expect to develop a valuable mine.

Mineral Lands: Determination of Character of—Mining Claims: Mineral Lands

To establish the mineral character of lands it must be shown that the known conditions are such as to engender the belief that the lands contain mineral of such quality and quantity as to render its extraction profitable and justify expenditure to that end; the mineral character of the land may be established by inference without the exposure of the

mineral deposit for which the land is supposed to be valuable.

Mineral Lands: Determination of Character of—Mining Claims: Mineral Lands

Since geological inference may be used in establishing the mineral character of lands within a claim and such inferences can arise from proof of discovery on the claim, it is advisable not to dispose of the issue of mineral character before deciding the issue of discovery.

APPEARANCES: David Sinai (Sinai and Sinai) for the appellant; Otto Aho, Field Solicitor, U.S. Department of the Interior, for the United States

Opinion By Mr. Ritvo

INTERIOR BOARD OF LAND APPEALS

Henrietta and Andrew Julius Bunkowski have appealed to the Secretary of the Interior from a decision of the Office of Appeals and Hearings, Bureau of Land Management, dated August 4, 1969. The decision set aside a decision of a hearing examiner dated October 4, 1968, holding invalid seven mining claims held by appellants for which they had filed mineral patent applications. The decision also remanded the case to the hearing examiner for a new hearing to develop more definite evidence of the quality, quantity, and extent of any presently marketable gypsite on the contest claims. Finally, the decision held that the evidence was clear and unequivocal that there is no gypsite on the north half of one claim, the Enterprize, that that portion of the

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claim was nonmineral in character, and that the claim was null and void as to that portion.

Of the claims involved in this case, the Enterprize is located in sec. 2, T. 15 N., R. 20 E., M.D.M., Ormsby County, Nevada, while the War Bond, Gypsite, and Gypsite Extensions 1-4 are situated in secs. 25, 31 and 36, T. 16 N., R. 20 E., M.D.M., Lyon County, Nevada.

Six of the claims were located in the years 1945, 1947, and 1949. The Enterprize claim was located in 1960. The appellants did not locate all the claims themselves; some were acquired by purchase. The claims are alleged to contain valuable mineral deposits of gypsite. The gypsite is spread upon alkali soils of local farms in order to improve their capacity to produce crops (Tr. 40).¹ The appellants located or purchased the claims in order to acquire all available gypsite deposits in their vicinity, to develop the gypsite and to stabilize the price. Between the years 1949 and 1967, the appellants developed all the claims and actually sold gypsite from all but Gypsite No. 2, Extension (Tr. 104). Through the years the amount of appellants' sales has varied from 3,281 tons sold in 1952 to 190 tons in 1966. Andrew Bunkowski, testified that between 1949 and the first nine months of 1967, the gross receipts from sales of gyp-

site were \$176,920, with a net profit of \$121,000. In the highest year (1952) the sales amounted to \$22,046. In the lowest entire year (1966), the sales were \$1,365. In the first nine months of 1967, the last year of record, production and sales were slightly higher than the previous year (Tr. 106-108).

On March 12, 1964, the contestees applied to the Bureau of Land Management for a mineral patent for the contested claims. The United States filed a contest to these claims on November 4, 1967, charging that there had not been a discovery of a valuable mineral deposit within the lands of the claims and that lands were nonmineral in character. The contest was heard by a hearing examiner. At the hearing the government sought to establish that gypsite was not a locatable mineral and therefore could not be the basis of a valuable mineral discovery necessary for a patent. On October 4, 1968, the hearing examiner issued a decision holding that gypsite was not a locatable mineral and voiding the claims. On appeal, the Office of Appeals and Hearings, Bureau of Land Management, overruled the hearing examiner and remanded the case for a new hearing in order to take evidence as to the quantity, quality, and extent of the gypsite on the contested claims. A portion of the Enterprize claim, the SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T. 15 N., R. 20 E., M.D.M., was excluded from reconsideration since it was found that the evidence was clear and unequiv-

¹ This and similar references are to the pages of the transcript or to the exhibits (Ex.) submitted at the hearing held on September 27, 1967.

ocal that no valuable deposits of gypsite were contained on this portion of the claim.

On appeal to the Secretary, the appellants assert that the patent should issue without further hearing and present several arguments to support their contentions of error. These may be summarized as follows:

1. The opinion of the Office of Appeals and Hearings was in error in that it excluded a portion of the Enterprize claim from consideration before the issue of a mineral discovery was resolved.

2. The opinion of the Office of Appeals and Hearings was in error in that it considered evidence beyond the question of gypsite's locatability when it was bound by the Field Solicitor's admission that the claims were valid as to all issues other than the locatability of the gypsite deposits.

3. The opinion of the Office of Appeals and Hearings was in error for not finding that the Government failed to sustain its burden of proof and that consequently the appellants' patent applications should be granted.

4. The opinion of the Office of Appeals and Hearings was in error for failing to find that the facts and the law sustained the appellants' discovery.

The first issue is whether gypsite used as this deposit is only for agricultural purposes as a soil conditioner, by being spread on farm land to make it more productive, is a locatable mineral within the meaning

of the mining law. 30 U.S.C. sec. 21 *et seq.* (1970).²

Gypsum is defined as: "Hydrous calcium sulphate, $\text{CaSO}_4 + 2\text{H}_2\text{O}$. Contains 32.5 percent lime, 46.6 percent sulphur trioxide, and 20.9 percent water." United States Bureau of Mines Bulletin, No. 95, "A Glossary of the Mining and Mineral Industry" (1947).

It is used commercially for the manufacture of wallboard and plaster of paris.¹

Gypsite is defined as: "An incoherent mass of very small gypsum crystals or particles * * * containing various impurities, generally silica and clay." *Ibid.*

The gypsite from these claims is sold only for the treatment of alkali soils.

The hearing examiner held that gypsum, like limestone,³ is locatable under the mining laws only if it is of chemical or metallurgical grade. Gypsite, again like limestone, which does not meet minimum specifications for use in trade or manufacturing pursuits, but is used only for agricultural and other purposes, he said, may be disposed of only under the Materials Disposal Act.⁴ He concluded that the gypsite on the claims "even with selective mining methods, does not meet the mini-

² Although the Bureau held that gypsite was a locatable mineral and the contestees did not appeal from this finding, the Secretary of the Interior or his delegate on appeal may inquire into any question vital to the determination of the validity of a claim. *United States v. Clare Williamson*, 75 I.D. 338, 342, 343 (1968).

³ 30 U.S.C. §§ 601, 611 (1970), 43 CFR sec. 3711.1(b).

⁴ 30 U.S.C. § 601 (1970).

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imum requirements of gypsum for use in trade or manufacturing pursuits" and that low grade gypsite is not locatable under the mining laws.

On appeal, the Bureau pointed out that the Department had treated gypsite suitable for use as a soil conditioner as a locatable mineral. *United States v. G. C. (Tom) Mulhern*, A-27746 (January 19, 1959). Although there was not an analysis of why gypsite is locatable, it was assumed that, since gypsum is a locatable mineral, gypsite as a form of gypsum is also locatable.

The objections to considering gypsite as a locatable mineral are that it is an impure form of gypsum, that it may be a "common variety," and that its use is in agriculture.

Gypsum has long been recognized as a locatable mineral. *Johnson v. California Lustral Co.*, 59 P. 595 (Sup. Ct. Calif. 1899); *United States v. Albert B. Bartlett et al.*, 2 IBLA 274, 78 I.D. 173 (1971); *United States v. C. E. Strauss et al.*, 59 I.D. 129, 138 (1945). Gypsite, as we have seen, consists of crystals or particles of gypsum intermingled with other substances, usually silica or clay. That a mineral occurs in a deposit of less than optimal purity does not of itself render it nonlocatable. If in that condition it can meet the test for discovery, it remains locatable. *United States v. Howard S. McKenzie*, 4 IBLA 97, 108 (November 19, 1971).

The hearing examiner also adverted to the fact that the Act of July 23, 1955, 30 U.S.C. sec. 611 (1970), removed deposits of certain previously locatable minerals from the category of valuable mineral deposits within the meaning of the mining laws and made them subject to disposition under the Materials Disposal Act (*supra*).

Since all the claims except the Enterprize were located prior to July 23, 1955, the issue would be not whether the gypsite is a "common variety", but whether it was a locatable mineral and if so, whether a discovery was made prior to July 23, 1955, and maintained thereafter. However, if the gypsite deposit is still locatable under the mining laws, the date of location is immaterial.

As to whether gypsite is a "common variety", we note that the Act of July 23, 1955, does not apply to common varieties of all minerals but only to those enumerated, namely, "sand, stone, gravel, pumice, or cinders." As the Department has stated:

* * * Some of these terms, e.g., sand, gravel, and stone, are broad in meaning and can encompass a wide range of materials. The term "stone," in particular, is extremely broad in meaning, including material of igneous, sedimentary, or metamorphic origin and material of variegated mineral composition, ranging, for example, from white limestone to dark basalt. This being the case, it is important not to confuse the material with the constituent elements that make it up. That is, in determining whether a par-

ticular material falls within the purview of the common varieties provision, it is necessary to determine whether the material as a totality has value or whether only a constituent element of the material has value.

United States v. Harold Ladd Pierce, 75 I.D. 270, 279 (1968).

If the material is located only for the value of a constituent element of the sand, gravel, or stone, the question is not whether the deposit is a "common variety" but whether there is a valuable deposit of the constituent element on the claim. *Id.* at 280, 281. Since the material here is valued and used only for its constituent gypsum, it is not necessary to determine whether the deposit is an uncommon variety of sand, gravel or stone. The validity of the claim may be based upon the discovery of gypsum.

The final objection to the deposit rests upon the premise that materials used, as this gypsite is, for horticultural purposes are not locatable under the mining laws. The Government contended that, since materials such as blow sand, some clays, sand and gravel used only for filling purposes are not minerals subject to location and that blow sand and decomposed granite suitable only for fill or as soil conditioners are not subject to entry under the mining laws,⁵ gypsite used only for agricultural purposes as a soil conditioner or soil amendment is similarly nonlocatable.

The Bureau's decision discussed this issue thoroughly. It said:

Richard O. Gifford, a soils expert and professor of soil science at the University of Nevada, testified for the contestees and stated that he received sixteen samples of gypsite from Mr. Bunkowski on which he made essential qualitative examinations to evaluate their suitability as a soil amendment. He found that the sodium ion content was low, the calcium carbonate content was considerable, and that they were definitely calcareous in reaction to acid. He said that the primary purpose of gypsite is to alter the relative abundance of calcium and sodium ions with the colloidal complex of the soil, that the minimal nutrition of the plant is affected by the ratio of calcium to sodium, and that the nutrition of the plant is affected beneficially through the application of gypsite to alkaline soils. It is a chemical as well as physical amendment of the soil condition. In accepted general usage there is fertilizer and soil conditioner and nothing else, but there is actually a third category—soil amendments—which are chemical compounds to change the chemical environment of the plant root, to make materials more available to the plant although not necessarily supplying those materials. One of the difficulties with a highly alkaline soil is the unavailability of iron. However, one need not add any iron to correct this situation, as gypsite or gypsum will in some part serve this purpose. He explained how gypsum actually chemically works on the soil, as follows:

"* * * the colloidal complex of the soil consists primarily of an inorganic silicate base whose crystal structure is unbalanced internally and is balanced on the surface by ions more or less in solution. When the predominance of these ions is sodium, in effect, when 15 percent or more of the ions associated with the clay or sodium, the soil, physical conditions and chemical environment for plant growth deteriorates.

⁵ *Holman v. State of Utah*, 41 I.D. 314 (1912); Solicitor's Opinion, M-36295 (August 1, 1955); *United States v. Abe Jaramillo*, A-28533 (February 6, 1961).

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[*sic*] The function of the calcium sulphate is to provide sufficient soluble calcium in the soil so that the sodium is released from the clay, and I should add, this is an essential step, that sodium might then be removed from the soil by leaching with water, so the addition of the calcium sulphate alone is not sufficient. The sodium must be removed by leaching." (Tr. 124-125)

Mr. Gifford defined gypsum to be a chemical amendment to the soil rather than a soil conditioner, although under the State law of Nevada it is not defined as a soil amendment but as an agricultural mineral. He said that common sand, blow sand or decomposed granite do not constitute soil conditioners in any practical sense because they would require the addition of 200,000 pounds of material per acre; that they act as a physical change in the soil when added in sufficient quantities but do not constitute a chemical amendment. The gypsum on the claims constitutes a valuable mineral for use in amending alkaline soils in the Nevada area.

* * * * *

The unrefuted testimony is to the effect that gypsum causes a chemical reaction on alkaline soils thus making them more productive. It is a chemical as well as a physical amendment of the soil condition, whereas blow sand, decomposed granite and decomposed rhyolite merely change the soil physically when added in sufficient quantities. They merely flocculate the soil and make it more friable; in other words, they loosen the soil and allow greater penetration of irrigation water.

Gypsum has a definite chemical formula while blow sand, decomposed granite and decomposed rhyolite do not. They are igneous rocks and more or less inert. In *United States v. E. V. Storey et al.*, Idaho contest 010171 (August 17, 1960), the Director, in holding the decomposed rhyolite deposit on the claims to be a non-locatable mineral, stated:

"The evidence shows that the rhyolite from the claims is an inert rock which, when crushed and added to soil, serves to make the soil more friable; it is also used as a base in some fertilizers. But used for these purposes it is but a common fill material serving no greater purpose than common sand and a host of other materials; * * *

"The material from these claims is not shown to be unusual or exceptional in nature nor different in chemical composition from other igneous rock. It has no qualities that it does not share with other similar deposits and its use is limited for agriculture merely as an additive, similarly as myriad other materials, to increase the friability of soil. Consequently, we find that the material is not a mineral subject to location under the mining laws, nor is the land in which it is found, because of it, mineral in character. * * *"

The inference that we draw from the above statements is that if the material had some different chemical composition from similar materials that improve soils, other than to increase their friability and serve as fill material, it might be considered a locatable mineral.

We agree with the Bureau's reasoning and its conclusion that the gypsum on the claims is not non-locatable merely because it is used in agriculture to improve alkali soils.

Before we consider the substantive issues of this case, it is best to consider some preliminary procedural matters raised by the appellants. The first is whether the decision below should have excluded from reconsideration the quarter-section on the Enterprize claim. For reasons stated later, we find

that the decision to exclude this portion of the claim was premature.

The second preliminary consideration is the appellants' apparent contention that it was improper for the Office of Appeals and Hearings to go beyond the question of the locatability of gypsite, when the Field Solicitor has made a judicial admission as to the elements of discovery. We disagree with the appellants and find that there was no error on the part of the Office of Appeals and Hearings in considering evidence beyond the question of locatability. The record contains no evidence that the Field Solicitor who presented the case for the United States made an admission that all the requisites of discovery were met by the appellants and that proof of the statutory requirements could be dispensed with. It does appear that the Field Solicitor emphasized locatability as the initial element of a valuable mineral discovery. However, the locatability of the mineral alleged to constitute a valuable mineral deposit is only the first step in determining the validity of the claims.⁶

⁶ At the opening of the hearing, the Field Solicitor stated (Tr. 7-8) :

"Mr. Aho, do you have any opening statement?"

"MR. OTTO AHO: Yes. In order to satisfy the earlier discussion I had with Mr. Sinai, the Government here, of course, is not questioning the manner or the propriety of the location of the claims involved in this proceeding; and secondly, the Government is not questioning or raising any issue concerning the assessment work done on these claims. As the Examiner pointed out, the only issue involved here is the validity of the claims in question. It appears further that the primary issue, if not the sole issue, involved in this

Even if the Field Solicitor had made such an admission, we need not pass upon its effect in this proceedings. The Department has ample authority to refuse to issue a patent and to order further proceedings at any time before patent issues to determine whether the requirements essential to establishing the validity of the claim have been met. *United States v. H. B. Webb*, 1 IBLA 67 (October 15, 1970); *United States v. Eleanor Gray et al.*, A-28710 (Supp. II) (April 6, 1965); *United States v. United States Borax Company*, 58 I.D. 426 (1943).

We now consider the third issue, that the opinion of the Office of Appeals and Hearings was in error for not finding that the Government failed to carry its burden of proof and, consequently, that the appellants are entitled to the patents. We find that appellants, in maintaining this position, misconceive what is meant by the government's burden of proof.

The obligation of the government in maintaining its burden of proof in a land contest was described in *Foster v. Seaton*, 271 F.2d 836 (D.C.

proceeding, is whether or not the material on the claims, namely, gypsite, is a mineral which is or can be located under the mining laws, and it is the Government's prime contention that gypsite is not a mineral within the meaning of the United States Mining Laws and all the claims in question were located prior to 1955—Oh, excuse me. One claim was located after '55, and that was the Enterprise [sic] Claim, in 1960.

"I believe that completes my opening statement before I make an offer of the Government's Exhibits. Do you wish to make any statement at all?"

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Cir., 1959). *Foster* maintained that in land contests the government must initially establish a *prima facie* case. *Id.* at 838, *Prima facie* means that the case is completely adequate to support the government's contest of the claim and that no further proof is needed to nullify the claim. See *Ballentine's Law Dictionary* 986 (3d ed. 1969). Of course, the contestee has the opportunity to rebut the government's evidence but the contestee is also obliged to establish his own case and to see that it meets the statutory requirements for a patent. 30 U.S.C. sec. 22 (1970). To meet its burden the government is not required to negate all the evidence required of the patent applicant. *United States v. William D. Pulliam, et al.*, 1 IBLA 143, 145-146 (December 8, 1970); *United States v. Bryan Gould, et al.*, A-30990 (May 7, 1969). Therefore, once the government's witness, Shepard, testified as to the nature and use of the gypsite and stated that in his opinion the mineral gypsite was not a mineral that can be used as a basis for a valuable mineral discovery, Tr. at 39, 42, the government established a *prima facie* case.

We now come to the dispositive issue of this appeal: whether the appellants have made a valuable mineral discovery that would entitle them to a patent under the United States mining laws. 30 U.S.C. sec. 22 (1970). We agree with the decision of the Office of

Appeals and Hearings that the evidence in this case is inconclusive as to whether a valuable mineral discovery has been made. A discussion of the rules of discovery will show the deficient points of the appellants' case.

The basic principles of law applicable to this case are now well-established and need no extensive elaboration. For a mining claim to be valid there must be discovered on the claim a valuable mineral deposit. A discovery exists

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

Castle v. Womble, 19 L.D. 455, 457 (1894); *United States v. Coleman*, 390 U.S. 599 (1968).

This test, the prudent man rule, has been refined to require a showing that the mineral in question can be extracted, removed, and presently marketed at a profit, the so-called marketability test. *United States v. Coleman, supra*. This present marketability can be demonstrated by a favorable showing as to such factors as the accessibility of the deposit, *bona fides* in development, proximity to market, and the existence of a present demand.

In addition, there must be a discovery on each claim. The appellants must show *as to each claim* that they have found a mineral deposit which satisfies the prudent

man rule as complemented by the marketability test. *United States v. Frank and Wanita Melluzzo*, 76 I.D. 181, 189 (1969).

The appellants did not offer any testimony as to the amount and nature of the gypsite in each of the claims. They contented themselves with general assertions covering all the claims as a unit. It is not enough to offer evidence simply for the claims as a unit. *United States v. Chas. Pfizer & Co., Inc.*, 76 I.D. 331, 347-348 (1969).

The Government's examiner, laboring under a misapprehension that gypsite used for agricultural purposes was not a locatable mineral, made a limited examination of the claims. After satisfying himself that there was some gypsite on all the claims, he did not take any samples from five of them (Tr. 22). Before the Secretary disposes of land under the mining law he must be satisfied that the requirements of the law have been met. *United States v. New Jersey Zinc Company*, 74 I.D. 191, 206 (1967). One of the essential elements of the process by which the Secretary reaches his decision is an examination of the claim by Government mineral examiner. For this examination to be useful, the examiner must be apprised of the legal basis on which the examination is made. Now that the issue as to locatability of gypsite has been resolved, the claims should be examined as they would have been if the examiner had been investigating a claim located for a deposit

whose locatability was not in question.

Furthermore there are seven claims involved in the three patent applications. The contestee's witness did not attempt to demonstrate how much gypsite had been removed from each claim, Tr. 103, 104, but restricted himself to testifying as to the annual sales from all the claims combined, except the Gypsite No. 2 Extension which had not been mined. The sales varied from 190 to 3,281 tons a year (Tr. 106-108). The total deposits on the claims another of contestee's witness, stated were at least 325,000 tons of "high grade" deposit (Tr. 154). In addition there are other deposits on patented lands owned by the contestees (Tr. 105, 106).

Thus, the minerals on the claims far exceed the market for them. At the rate at which the contestees have been mining there is enough gypsite on the claims to last 150 years. If the equal amount of low grade deposits is considered, then the deposits on all the claims would satisfy the market for an even longer period of time.

As the Department held in a similar case, *United States v. Robert E. Anderson Jr., et al.*, 74 I.D. 292 (1967), where the deposits of perlite in a group of claims were estimated to satisfy the production that the claimants expected to achieve for 240 years.

If a patent were to issue for all the claims, it is extremely unlikely that the claimants would, or could economically,

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exploit most of them for years to come. The result would be that instead of fostering the development of mineral resources a patent would merely place public lands in private hands and make them no longer available for other disposition or public use.

Essentially the same situation, involving the fact that only some of the mineral deposits could be marketed from claims in an area in which there was a tremendous number of similar deposits, was discussed in a recent case. In affirming a Departmental decision holding certain sand and gravel claims invalid, the court first remarked that there were in excess of 800 sand and gravel claims encompassing 100,000 or more acres in the Las Vegas area and then said:

"If we were to judge the case solely on the basis of the conflicting evidence bearing upon the theoretical marketability of the sand and gravel from the Bradford Claims, we would be inclined to agree with the Hearings Officer rather than the Secretary ***. But the record discloses a situation where, if the Bradford Claims could be sustained on the hypothetical and speculative opinion evidence relied upon by the plaintiffs, each of the claims in the valley comprising over 100,000 acres might be separately validated on the same sort of theoretical evidence. The end result would be that 100,000 acres of public lands would have been patented as valuable for mining, where it is evident and shown by the record that not more than one percent of the material might have been marketable in the reasonably foreseeable future.

* * * * *

"* * * Sand and gravel of the same general quality found in the Bradford Claims is readily available in thousands of adjoining acres. The burden of the proponent, plaintiffs here, is not simply to preponderate in the evidence produced, its burden is to produce a preponderance of *credible* evidence, and the

trier of fact is not required to believe or to give weight to testimony which is inherently incredible. It is apparent from the evidence that if, in June 1952, owners of other claims near Las Vegas had commenced to produce and market sand and gravel from their properties, such action would have filled the theoretical void in the supply of the material to the Las Vegas market, rendering the Bradford Claims valueless. The plaintiffs failed to enter the race to supply the theoretical insufficiency of production of sand and gravel. If they had done so successfully, they would have satisfied the requirements of *Foster v. Seaton* (*supra*) [271 F.2d 836 (D.C. Cir. 1959)] by providing bona fides of development and present demand. Their failure so to act contradicts the speculative, hypothetical and theoretical testimony on which they rely. *Osborne v. Hammitt*, Civil No. 414, United States District Court for the District of Nevada, August 19, 1964."

While contestees' claims cover only 2,300 acres not 100,000, the disproportion between the reserves of perlite on the claims and the market for perlite in the country as a whole, let alone that market in which the contestees could reasonably expect to sell, is similar enough to make the court's observations pertinent and, indeed, controlling.

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

hard economic sense only those deposits have a reasonable prospect of a market.

The Department then held valid two claims having estimated reserves sufficient for 30 years of operation and held null and void 14 other claims. *United States v. Robert E. Anderson, Jr., et al., supra.*

Applying the same reasoning to the Bunkowski claims, we would conclude that there is no justification for validating all of the claims, all else being regular. While in the *Anderson* case, *supra*, the testimony established the quality and quantity of the deposits on the claims held valid, there is no evidence in this case as to the specific quality and quantity of the deposits in each of the claims. Thus, on the basis of the present record a determination cannot be made as to how many (if any) of the claims would be required to supply the market that the appellants would reasonably anticipate. The Bureau's decision is modified to include this factor as an item to be considered.

The appellants also allege that the Bureau decision adopts a new rule for discovery by requiring proof of an assured future market as well as a current one. The Bureau applied the regular test as to nonmetallic deposits of widespread occurrence.⁷ Its comments on the possible loss of markets were related more to the quality of the remaining deposits than to the likelihood of a market for gypsite of market-

able grade.⁸ A mineral claimant must establish that the claim contains a valuable mineral deposit for which a market exists. An exhausted deposit or past sales for a mineral which no longer can be sold cannot support a patent application. *United States v. Estate of Alvis F. Denison*, 76 I.D. 233, 253 (1969).⁹ Similarly the concept of a future profitable market is an inextricable aspect of the prudent man rule. The test is whether on the basis of the facts known at the present time a profitable operation might be expected to be developed.¹⁰ Therefore, the size of the present market and its probable continuance are a matter of legitimate inquiry.

For these reasons, then, a further hearing is necessary to develop as to each claim, the quality and quantity of the gypsite deposit, the size of the market in relation to the deposits and which claims, if less than all, are to be patented.

There remains the Bureau's holding that the north half of the Enterprize claim is nonmineral in character and that the claim is null and void to that extent.

Generally the rule is that one valid discovery can support an association placer claim of up to 160 acres. Once the land's mineral character is contested, however, the patent applicant must establish that the

⁸ *Id.* at 14.

⁹ For a full discussion see the *Denison* case, *supra*, at 239-240, *Barrows v. Hickel*, 447 F.2d 80 (90th Cir. 1971).

¹⁰ *Id.*

⁷ Bureau decision at 8.

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area in which no mineral discovery is proved is mineral in character as to each 10-acre tract within the entire claim. If the contestee fails to establish the mineral character of any 10-acre tract, that tract is excluded from the patent. *Crystal Marble Quarries Co. v. Dantice*, 41 L.D. 642 (1913).

The initial question in determining the mineral character of the land is whether there is any evidence that minerals exist on the contested 10-acre tract. The appellants are correct in their statements that proof of that fact can be made through geological inferences, such as proof of a discovery. *State of California v. E. O. Rodeffer*, 75 L.D. 176, 180 (1968); *Central Pacific R.R. v. Mullin*, 52 L.D. 573 (1929). Therefore, to consider the mineral character of a claim prior to consideration of the mineral discovery within the claim could be premature. To dispose of the question of mineral character first and then consider the proof of discovery would deprive the applicant of the full benefit of the inferences to which he is entitled. *Crystal Marble Quarries Co. v. Dantice*, *supra*, at 646; *Central Pacific R.R. v. Mullin*, *supra*, at 575. However, proof that the minerals exist is not sufficient to establish the mineral character of the land for it is the duty of the applicant to further establish that the conditions were such as to reasonably engender the belief that the

land contains minerals in such quantity and quality as to render its extraction profitable and to justify expenditures to that end. *State of California v. E. O. Rodeffer*, *supra*, at 179.

The appellants in this case have not produced any evidence that gypsum exists on the SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T. 15 N., R. 20 E., M.D.M., other than possible inferences which may be drawn from inconclusive evidence of discovery. Nor have they produced evidence sufficient to show that the minerals that may exist on this tract would be marketable within the meaning of *Rodeffer*. But, we vacate the decision of the Office of Appeals and Hearings as to the exclusion of the above portion of the Enterprize claim, and remand for reconsideration the determination of the mineral character of this portion of the claim along with the reconsideration of the other aspects of the contest so that appellants may have an opportunity to have their case fully reconsidered.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior (211 DM 13.5; 35 F.R. 12081), the decision of the Bureau of Land Management is vacated insofar as it held invalid the north half of the Enterprize claim and affirmed as modified as to the rest, and the case is remanded to the Bureau of Land Management for

further proceedings consistent herewith.

MARTIN RITVO, *Member*.

WE CONCUR:

EDWARD W. STUEBING, *Member*
(concurring separately).

DOUGLAS E. HENRIQUES, *Member*.

EDWARD W. STUEBING, CONCURRING SEPARATELY.

In this case I have been obliged to abandon my initial inclination, which was to regard gypsite which is solely valuable as a "soil amendment" or "conditioner" as non-locatable under the mining law.

Gypsum, a product of relative purity with a broad range of uses and products, quite clearly is locatable. Gypsite, on the other hand, consists of an incoherent mass of very small gypsum crystals or particles heavily mixed with other materials of the earth such as clay, silt, silica, etc. Such gypsiferous material is extremely abundant and widespread.

The separation of the impurities in gypsite in order to obtain gypsum of the purity necessary for the manufacture of gypsum products is economically impractical with the low percentage of gypsum found in gypsite deposits such as those which are the subject of the case.

Other mineral materials which also have no particular use other than as soil additives, nutrients, conditioners or amendments have

been held to be non-locatable. These include decomposed rhyolite, top soil, blow sand and peat. Although these materials may react differently than gypsite (some, perhaps, being even more beneficial), these other materials would seem to be in the same general category as gypsite which is useful only for the improvement of agricultural soils.

The production and use of gypsite involves simply scraping up the material from the claims, hauling it to wherever it is wanted, and spreading it on the ground without processing or beneficiation of any kind. It is merely a matter of redistributing material from where it occurs naturally to someplace where it is desirable to have it returned to the earth. In this aspect gypsite has much in common with a number of other non-locatable mineral materials such as fill dirt, road base and ballast rock. While all of the aforementioned materials may serve beneficial uses and have commercial value, they have never been regarded as locatable minerals. From this standpoint even common brick clay, which the Department has always held to be non-locatable, is a mineral of a higher order than gypsite, since the clay is treated, processed and formed into a manufactured commercial product. The Department has never recognized marketability as the sole test of the validity of a mining claim. *United States v. Mary A. Matthey*, 67 I.D. 63, 65 (1960).

Nevertheless, I am compelled to recognize that these arguments are