

UNITED STATES  
v.  
LEVON BARDSLEY, TRUSTEE,  
MARLENE M. BARDSLEY, INDIVIDUALLY  
AND AS ADMINISTRATRIX OF THE  
ESTATE OF DONALD H. BARDSLEY,  
DECEASED

IBLA 79-71

Decided February 7, 1980

Appeal from a decision of Administrative Law Judge Michael L. Morehouse dismissing the Government's contest of the Cadiz #48, Cadiz #50, Cadiz #55, and Cadiz #57 placer mining claims. R 2233.

Affirmed.

1. Mineral Leasing Act: Generally -- Mining Claims: Locatability of Mineral: Leasable Compounds -- Potassium Leases and Permits: Generally -- Sodium Leases and Permits: Generally

A natural brine containing water and ions of sodium, potassium, calcium, magnesium, and chlorine may be considered a valuable deposit of a sodium compound within the meaning of 30 U.S.C. § 262 (1976) if either of two contingencies occur. First, sodium must be present in sufficient quantity as to be commercially valuable. Second, sodium must be essential to the molecular structure of the valuable mineral.

2. Mineral Leasing Act: Lands Subject to -- Mining Claims: Locatability of Mineral: Leasable Compounds -- Potassium Leases and Permits: Generally -- Sodium Leases and Permits: Generally

Land is "known to be valuable" for a mineral subject to the Mineral Leasing Act of Feb. 25, 1920, as amended, when "known conditions at the time [of location] were plainly such as to engender the belief that the land contained mineral deposits of such quality and in such quantity as would render their extraction profitable and justify expenditures to that end." United States v. Southern Pacific Co., 251 U.S. 1, 13-14 (1919); Diamond Coal Co. v. United States, 233 U.S. 236, 239-40 (1914). In determining whether mineral deposits are such as to render their extraction profitable and justify expenditures, extrinsic factors, such as the cost of extraction, processing, transportation, and marketing must be considered.

3. Multiple Mineral Development Act: Generally -- Potassium Leases and Permits: Generally -- Sodium Leases and Permits: Generally

Where sodium ions are commingled in a brine with calcium, potassium, and chlorine ions and no valuable deposit of a sodium or potassium compound is present, contestees' evaporation of such brine does not violate the Multiple Mineral Development Act, 30 U.S.C. §§ 521-531 (1976).

4. Mineral Leasing Act: Generally -- Mining Claims: Locatability of Mineral: Leasable Compounds -- Potassium Leases and Permits: Generally -- Sodium Leases and Permits: Generally

The Administrative Law Judge gave proper weight to Government testimony in dismissing the Government's contest complaint where the evidence supported a finding of the existence of a sodium-calcium-chloride brine, but did not support a finding that such brine was "known to be valuable" for a Leasing Act mineral.

5. Mineral Leasing Act: Generally -- Mining Claims: Locatability of Mineral: Leasable Compounds -- Potassium Leases and Permits: Generally -- Sodium Leases and Permits: Generally

The existence of a "related product" within the meaning of 30 U.S.C. § 262 (1976) presumes the existence of a valuable sodium compound deposit.

APPEARANCES: Robert D. Conover, Esq., Field Solicitor, U.S. Department of the Interior, Riverside, California, for contestant; John B. Lonergan, Esq., San Bernardino, California, for contestee.

#### OPINION BY ADMINISTRATIVE JUDGE HENRIQUES

The United States appeals from a decision of Administrative Law Judge Michael L. Morehouse, dated October 3, 1978, dismissing the Government's contest of the Cadiz #48, Cadiz #50, Cadiz #55, and Cadiz #57 placer mining claims. 1/

On March 2, 1973, the United States filed a contest of the above mining claims praying that contestees' mineral entry be cancelled and the above claims be declared null and void. A mineral patent application R 2233 for the claims at issue had been previously filed by contestees on April 15, 1969.

On September 27, 1976, Judge Morehouse conducted a prehearing conference with the parties at which time the issues for resolution were framed as follows:

1. At the time of their location in 1951, were the lands encompassed by the claims under consideration known to be valuable for minerals subject to disposition under the mineral leasing laws?
2. If the answer to question No. 1 is "yes," what is the effect of the Multiple Mineral Development Act of August 13, 1954, 30 U.S.C. §§ 524-541, on these claims?

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1/ The legal description of these claims is as follows:

Cadiz #48: SE 1/4 sec. 3, T. 2 N., R. 15 E., San Bernardino meridian;  
Cadiz #50: SW 1/4 sec. 2, T. 2 N., R. 15 E., San Bernardino meridian;  
Cadiz #55: NE 1/4 sec. 10, T. 2 N., R. 15 E., San Bernardino meridian;  
Cadiz #57: NW 1/4 sec. 11, T. 2 N., R. 15 E., San Bernardino meridian.

A hearing was held before Judge Morehouse on October 4-6, 1977, at Salt Lake City, Utah. His decision found that the contestees had shown that the subject claims were not valuable for deposits of sodium and that the Government had failed to show that sufficient information existed in 1951 to justify a finding that the lands were known to be valuable for deposits of sodium at that time. The second issue was not reached.

Prior to the hearing, the parties entered into a stipulation of facts from which the following information is excerpted. In 1951, a group of claimants including Lee, Robert, and Eyleen Bardsley located the subject claims on the unoccupied surface of Cadiz Dry Lake, San Bernardino County, California. Beneath the surface of the claims, claimants encountered a natural mineral brine in large quantities containing sodium, calcium, chloride, and potassium ions. Claimants wished to extract the calcium and chloride ions in solution for commercial purposes. Each claim was located for a valuable mineral deposit (the natural brine) containing calcium and chloride ions from which calcium chloride could be produced. No issue exists as to the adequacy and sufficiency of the procedural steps taken on the ground and reflected in public records in claiming and locating the lands in 1951 as placer mining claims under Federal mining laws and state laws.

The theory of the Government's contest of the subject claims is set forth in United States v. United States Borax Company, 58 I.D. 426, 432 (1943), rendered by Assistant Secretary Chapman:

Lands which are known to be valuable for a mineral which is subject to leasing under the Mineral Leasing Act are not open to location and disposition under the mining laws. If at the time of any attempted mining location, the land is known to be valuable for any of the leasable minerals, the attempted location is of no validity and the lands may only be leased under the leasing act. Wilbur v. Krushnic, 280 U.S. 306, 314; 50 L.D. 650, 651-652. 2/ [Emphasis supplied.]

The Government maintains that the subject claims were known to be valuable for sodium at the time of their location in 1951. Sodium is

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2/ A similar statement could not be made today. In 1954 Congress passed the Multiple Mineral Development Act, 30 U.S.C. §§ 521-531 (1976), which authorized the location of mining claims on public lands which had previously been segregated from mineral entry by the Mineral Leasing Act. Solicitor's Opinion, M-36764.4357, 75 I.D. 397, 399 (1968).

one of the leasable minerals set forth in the Mineral Leasing Act of February 25, 1920, as amended, 30 U.S.C. §§ 181-287 (1976). <sup>3/</sup>

The phrase "known to be valuable" has been interpreted by the Supreme Court to mean that "known conditions at the time [of location] were plainly such as to engender the belief that the land contained mineral deposits of such quality and in such quantity as would render their extraction profitable and justify expenditures to that end." United States v. Southern Pacific Company, 251 U.S. 1, 13-14 (1919); Diamond Coal Co. v. United States, 233 U.S. 236, 239-40 (1914).

Judge Morehouse's holding that the lands at issue were not known to be valuable for deposits of sodium in 1951 is challenged by the United States in its statement of reasons on appeal to this Board. The following arguments are made by the Government therein:

1. Calcium is a "related product" within the terms of 30 U.S.C. § 262 (1976) and hence is a leasable mineral rather than a locatable mineral;
2. The value of Leasing Act minerals is to be made without consideration of extrinsic factors;
3. Contestees' solar evaporation operation wastes Leasing Act minerals and prevents future production;
4. Judge Morehouse does not give proper weight to the Government's oral and written testimony;
5. The decision is inconsistent with Foote Mineral Co., 34 IBLA 285 (1978).

We shall address each argument in order.

[1] There is no issue that contestees are interested in the natural brine found at Cadiz Lake for its calcium and chlorine constituents. Within this natural brine are water and ions of sodium, calcium, chlorine, magnesium, and potassium. There are no solids in the

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<sup>3/</sup> In 30 U.S.C. § 261 (1976) the Secretary of the Interior is authorized "to grant to any qualified applicant a prospecting permit which shall give the exclusive right to prospect for chlorides, sulphates, carbonates, borates, silicates, or nitrates of sodium, in lands belonging to the United States." Section 262 authorizes the Secretary to lease "lands known to contain valuable deposits of one of the substances enumerated in section 261 of this title." Other leasable minerals are coal, phosphates, oil and gas, sulphur, and potassium. For a distinction as to locatable, leasable, and salable minerals, see the dissenting opinion of Judge Stuebing in Foote Mineral Co., 34 IBLA 285, 309 (1978).

natural brine. The brine is pumped from the subsurface to large ponds where solar evaporation causes the precipitation of sodium chloride, a solid, also known as halite. The unprecipitated liquid which remains, consisting of calcium and chlorine ions, inter alia, in solution is pumped into tanks and transported by truck to market. The sodium chloride which remains on the floor of the pond is scraped up and placed in piles on nearby areas. No sodium chloride obtained from Cadiz Lake has ever been sold by contestees.

In support of its contention that the marketed liquid containing calcium and chlorine ions is a leasable mineral, the Government points to 30 U.S.C. § 262 (1976) authorizing the Secretary to condition a mineral lease upon the payment of a royalty based upon "the quantity or gross value of the output of sodium compounds and other related products" (emphasis added). The Government maintains that the marketed liquid containing calcium and chlorine ions is a "related product" of a sodium compound, viz., sodium chloride. It further argues that the value of the leasable mineral at issue, i.e., the natural brine, is the gross value of the output of sodium compounds and other related products therein. In this way, the value of a locatable substance which is commingled with a sodium compound may be used to establish a "valuable deposit" of a sodium compound within the meaning of 30 U.S.C. § 262 (1976).

The Government's argument in this respect is a tacit acknowledgement that the sodium and chlorine content within the natural brine is not, in and of itself, a valuable deposit within the meaning of 30 U.S.C. § 262 (1976). The Government appears to rely on the presence of the calcium and chlorine ions to establish the brine as a valuable deposit. We reject this notion.

Borrowing from our decision in United States v. Union Carbide Corporation, 31 IBLA 72 (1977), we hold that the natural brine of Cadiz Lake may be considered a valuable deposit of a sodium compound within the meaning of 30 U.S.C. § 262 (1976) if either of two contingencies occur. First, sodium must be present in sufficient quantity as to be commercially valuable. Second, sodium must be essential to the molecular structure of the valuable mineral. Absent both of these contingencies, the natural brine is not subject to the sodium provisions of the Mineral Leasing Act.

Judge Morehouse found below, and we agree, that sodium is not present in sufficient quantity within the brine so as to be commercially valuable. Our consideration of the value of sodium in this case is, more accurately, a consideration of the value of sodium chloride. Sodium is an extremely reactive chemical and is not found in nature in its free state as a metal. In the Cadiz Lake brine, it is present as a positively charged ion, known as a cation. Chlorine is also present in the brine as a negatively charged ion, known as an anion. As water evaporates from the natural brine, sodium chloride, a

solid, is formed. It is this product whose value we now consider. Among the evidence supporting a finding that sodium is not present in sufficient quantity as to be commercially valuable is a 1932 report by a Government mining engineer, E. C. Galbraith, who writes:

There appears to be no body of common salt (sodium chloride) having a commercial value although salt might be segregated as a bi-product if prices were sufficiently high. At the present time the American Potash and Chemical Company at Trona, California, on Searles Lake are throwing away 500 tons of 98-1/2 per cent salt (sodium chloride) per day, as it has no commercial value in this vicinity.

Stipulated Exh. 10, p. 6.

Further evidence shows that in 1951 no power or fresh water existed on the claims. The site was 24 to 30 miles from the nearest paved road and 8 miles from the railroad. Powerful winds would on occasion halt operations and blow sand and dust into the evaporation ponds contaminating the sodium chloride precipitate. Claimant Bardsley testified that the cost of producing sodium chloride and transporting it to the nearest common carrier point would have been \$6.77 per ton in 1951. He further testified that salt was selling for \$2.66 per ton FOB Amboy at this time, and the average price of salt during this period was \$3.61 per ton.

We similarly agree with the finding below that sodium is not essential to the molecular structure of the valuable mineral. The product which claimants market is a dense solution containing ions of calcium, potassium, and chlorine. The presence of potassium therein is slight and is regarded by claimants as a contaminate. The value of this liquid is attributable to the calcium and chlorine ions which after further processing are present as calcium chloride, a solid. Sodium chloride remains behind in the evaporation ponds on Cadiz Lake while the liquid containing calcium, potassium, and chlorine is removed in tank trucks to market. Thus, although sodium is the most abundant cation within the natural brine as it is pumped from the subsurface, its presence is insignificant in the liquid which is marketed and contributes nothing to the value of this product. We find, therefore, that sodium is not essential to the molecular structure of this valuable mineral.

Neither of the two contingencies set forth in Union Carbide, supra, is satisfied in this case. We conclude, therefore, that the natural brine of Cadiz Lake is not a valuable deposit of a sodium compound within the meaning of 30 U.S.C. § 262 (1976). Absent a valuable deposit of a sodium compound, we need not inquire as to whether calcium is a "related product" subject to the Mineral Leasing Act. The existence of a "related product" presumes the existence of a valuable sodium compound. Contrary to the Government's contention, the value of a "related product" cannot be used to establish the value of a sodium compound deposit.

[2] As set forth above, the Supreme Court has interpreted the phrase "known to be valuable" to mean that "known conditions at the time [of location] were plainly such as to engender the belief that the land contained mineral deposits of such quality and in such quantity as would render their extraction profitable and justify expenditures to that end." Diamond Coal Co. v. United States, *supra* at 239-40; United States v. Southern Pacific Co., *supra* at 13-14. The Government maintains that extrinsic factors, such as marketability, nearness to transportation, and weather conditions are not to be considered in assessing whether lands are known to be valuable. It argues that the cost of extraction and processing is considered "only in the most general sense" with the intrinsic factors of quality, quantity, and depth of deposit based upon industry experience.

The interpretation sought by the Government overlooks, we feel, the concluding language of the above quotation from the Supreme Court. Lands are known to be valuable when deposits are such as to "render extraction profitable and justify expenditures to that end." A profitable extraction necessarily involves consideration of the costs involved in extracting minerals from the ground, processing these minerals, and placing them in commerce. See Burdett v. Estey, 3 F. 566, 569 (1880). Costs of extraction and processing, transportation costs to market, costs attributable to plant shutdown during inclement weather, and numerous marketing expenses are the costs of doing business on Cadiz Lake. These costs should have been considered by the Bureau of Land Management (BLM) and the Geological Survey in their findings. See John M. DeBevoise, 67 I.D. 177 (1960).

We agree with the Government that lands may be "known to be valuable" without the presence of a "discovery" thereon. Diamond Coal Co. v. United States, *supra* at 249; United States v. Standard Oil Co. of California, 21 F. Supp. 645, 650 (1937). We further agree that the Government may use geologic inference and its knowledge of adjacent lands in classifying land as known to be valuable. United States v. Standard Oil Co. of California, *supra* at 650. We take exception, however, to the Government's notion that lands may be "known to be valuable" for a mineral whose quality and quantity justify expenditures in the near future. To allow the Government to speculate on future costs and revenues is to add uncertainty to a determination which may already be based on inference and deduction as to the quality and quantity of the mineral in the land. A better rule, we feel, is to avoid classifying lands as "known to be valuable" until the mineral therein is of sufficient value to justify immediate expenditure. An alternate classification of "prospectively valuable" may be more appropriate where expenditures are justified in the near future but not in the present.

[3] Our discussion above answers the Government's third argument on appeal which charged that the contestees' solar evaporation process wastes Leasing Act minerals and prevents future production. Contestees' claims do not contain a valuable deposit of a sodium compound or

of any other Leasing Act mineral. The deference afforded valuable deposits of Leasing Act minerals which are commingled with locatable minerals is not owed to a deposit, such as here, which is not found to be valuable for a Leasing Act mineral. See Solicitor's Opinion, M-36764.4357, 75 I.D. 397, 398 (1968).

[4] The Government's fourth argument on appeal charges that Judge Morehouse did not give proper weight to the Government's oral and written testimony. The Government presented extensive oral testimony by three employees of the Geological Survey, who testified as to the procedures and guidelines used by Geological Survey in classifying land. Willard C. Gere, Regional Geologist of the Pacific Region at the time the subject lands were classified in 1970, testified that extrinsic factors, e.g., transportation, marketing, and weather conditions, were not considered by him in classifying the subject land as known to be valuable. George I. Smith, Geologist, addressed himself to various brine analyses and reports available in 1951 focusing on Cadiz Lake and nearby deposits. Russell G. Wayland, Chief of the Conservation Division prior to June 1976, testified at length about the standards used by Geological Survey in classifying the public lands.

Written testimony presented by the Government included the following: The Gale-Hicks report published in 1919 and based upon a brine analysis by Smith, Emery & Co.; a 1919 report by L. F. Noble which quotes from the Gale-Hicks report; an excerpt from the California State Division of Mines (1931) referring to Geological Survey Bulletins 578 and 669 and to the Gale-Hicks report; recommendations of Mining Engineers Guthrey and Galbraith as to patent applications in 1929 and 1932; and the California Journal of Mines and Geology (1953), inter alia.

From the evidence assembled by the Government, we find that the "known conditions" in 1951 support the existence of a sodium-calcium-chloride brine <sup>4/</sup> in the subsurface of Cadiz Lake. When, however, extrinsic factors such as extraction, processing, transportation, marketing, and weather conditions are considered, we agree with Judge Morehouse that the deposits were not such as to "render their extraction profitable and justify expenditures to that end."

[5] Lastly, the Government challenges the decision below as being inconsistent with the decision of this Board in Foote Mineral Co., supra. Therein, we held that lithium, commingled in a brine containing sodium and potassium, was a leasable mineral because it was a

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<sup>4/</sup> Witnesses at the hearing below referred to the brine in this manner. The dominant cations, sodium and calcium, are typically mentioned first; the dominant anion, chlorine, is mentioned subsequently.

"related product" of sodium or an "associated deposit" of potassium. <sup>5/</sup> As in the instant case, a mineral otherwise locatable was physically associated in a brine with Leasing Act minerals.

Footo is distinguishable from the instant case, however, by the fact that leases had issued to Footo on the basis of claims by Footo's predecessor-in-interest that it had discovered a valuable deposit of sodium or potassium. 34 IBLA at 293.

No valuable deposit of a Leasing Act mineral has been established in the instant case. As we held, supra, the existence of a "related product" presumes the existence of a valuable sodium compound deposit. No such deposit appearing before us, Footo does not support a reversal of the decision below. We regard the decision below as consistent with this Board's decision in Union Carbide, supra.

As set forth above, the parties have stipulated that there is no issue as to the adequacy and sufficiency of the procedural steps taken on the ground and reflected in public records in claiming and locating the lands in 1951 as placer mining claims under the Federal mining laws and state laws. (Stipulation of Fact #8.) The parties have further stipulated that claimants located a valuable mineral deposit containing calcium and chloride in 1951. Id. All else being regular, the patent sought in application R 2233 should be granted.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision of Judge Morehouse is affirmed and the contest complaint dismissed.

Douglas E. Henriques  
Administrative Judge

We concur:

Newton Frishberg  
Chief Administrative Judge

Edward W. Stuebing  
Administrative Judge

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<sup>5/</sup> Administrative Judge Stuebing dissented from the Board's holding in that case, which is now pending judicial review sub nom. Footo Mineral Co. v. Andrus, Civ. No. LV-78-141 RDF (D. Nev., filed July 26, 1978).

