

Secretary, fully and free of charge, all informations, reports and inventions arising out of the lessee's anticipated "highly profitable" and virtually "risk-free" venture in the field of oil shale, Sec. 3172.9).

B. Pan American Petroleum Corporation has set out several matters which should help put the incipient shale oil industry in perspective.

1. The reserve estimates relative to Federal oil shale lands which range to several trillion barrels of oil, standing alone, are meaningless.

2. The large reserve estimates relative to Federal oil shale lands are by no means a measure of the "economically recoverable" oil present.

3. Even the best mineable beds of oil shale, testing over 35 gallons per ton, must realistically be considered a very low grade mineral resource.

4. Oil shale operations represent a high-risk investment industry. An industrial market for mined shale must await full scale technological development, with attendant high financial risk.

C. Specific Comments:

1. *Section 3170.1. Designation of Available Lands.*—(a) This section allows the Secretary to specify a particular type of operation on a given site, but there does not seem to be any compelling reason in the public interest why the Secretary should restrict in the first instance the types of proposals to be submitted; certainly, control in the Secretary permits meritorious projects to be encouraged and contemplates the rejection of valueless proposals. It is submitted that the initiation of an industry is the prime objective, rather than the encouragement of theoretical or pure research. Moreover, regarding conservation principles the richest oil shale deposits should initially be made available to furnish impetus to the commencement of an oil shale industry. The third sentence states that no more than 30,000 acres will be designated for lease. There does not seem to be any compelling reason for this restriction.

2. *Section 3171.2. Form and Contents of Applications.*—(a) Emphasis in this section should be directed to the formal qualifications of the applicant for lease, including, as well, minimal information regarding the technical and financial capability and intention of the lessee to conduct bona-fide research.

The requirement that an applicant for lease furnish information on other holdings of shale oil and petroleum goes far beyond what the Secretary should logically need to determine the lessee's qualifications and technological ability.

3. *Section 3172.3. Acreage Designations and Limitations.*—(a) (a) (d) The Mineral Leasing Act (and regulations) should be amended to permit up to 5,760 acres to be contained in any one oil shale lease, and an individual or company should be given the right to hold an aggregate of 23,040 net acres, on a national basis.

(b) This portion of Section 3172.3 states that "upon the issuance of any lease hereunder, the Secretary shall designate the part of the leased lands upon which the lessee will be permitted to conduct operations during the research term." This grant of authority is unduly restrictive, and it is suggested that the lessee should be permitted to select, at his discretion, the site deemed most suitable for his research operations.

(c) This part of Section 3172.3 provides in effect that the lease will be extended into the commercial production term only as to an area which contains the quantity of mineral deposits needed for commercial production; the Secretary determines the quantity of mineral deposits needed for commercial production. The apparent aim, here, is to require the lessee to invest for the maximum production rate in order to prevent the loss of some part of his lease, but the regulation as written does not quantify or describe "the mineral deposits needed for commercial production." One way to handle this problem would be to provide that the term of the lease would be extended for an area which contains, say, 50 years' worth of shale deposits geared to lessee's total refining capacity. Another approach, certainly having the virtue of simplicity, would be to permit the lessee to hold all of his original lease in the commercial production term for so long as production continues from the leased premises.

4. *Section 3172.4. Rentals.*—(a) The annual lease rental should be established at \$2.00 an acre. Such rental, in place of the 50 cents per acre rental set out in this proposed regulation, would tend to eliminate or to reduce speculation in oil shale leases.

5. *Section 3172.5. Royalties.*—(a) The basic royalty is set out as "3 percent on the gross value, at the point of shipment to market, of the mineral products from the oil shale . . ." The royalty rate should realistically be set at a low figure to encourage the growth of an oil shale industry, and the basic rate of 3 percent, standing alone, is considered satisfactory. However, the term "gross