to recover his research costs by owning and licensing his investions; 2) if it will not assure him enough reserves to recover his plant investment and make a decent profit if his research and development are successful; and 3) if it will not keep leasing costs (including royalty charges) at a reasonable level, the government cannot expect responsible investors to spend the vast amounts of money necessary to develop federally held reserves.

Another general observation is that the language of the proposed regulations is vague in many places. In our comments we will state what the regulations could mean and then discuss their impact.

Finally, all concerned with oil shale should remember that raw shale oil as produced from oil shale is not a useable commodity. It requires treatment to make it thin enough to be moved through pipelines, and treatment with hydrogen before it can be used in a refinery. The cost of this treatment will be about a dollar per barrel, and it should be considered in any economic estimates.

NEED FOR RESERVES

One stated purpose of the Department of Interior in Section 3170.0-1 is to "encourage participation by companies not favorably situated with respect to access to reserves of the minerals present in oil shale." This seems indicative of a policy of the Department to favor the less forward looking companies which have not previously obtained oil shale reserves. If it is intended to provide reserves for the "have not" companies to the exclusion or detriment of those companies which previously obtained reserves on privately owned land, it will very unfairly penalize the companies having a present investment in oil shale reserves. Reserves owned by the Government are richer in oil content and thicker than those currently owned by private companies near the south end of the Piceance Basin and in other states. This could result in somewhat lower cost production of oil from the government-owned properties. If the companies not now holding shale reserves are given preference in leasing government lands, those companies that have spent large amounts of money on oil shale and in fostering its development to the present stage will be severely penalized. This would discriminate against those with initiative, imagination and willingness to take risks. We hope Congress will not permit this discrimination.

An implication of this discrimination is repealed in Section 3171.2(c) (11) which requires a "description of the reserves the applicant then owns or controls of oil and other minerals believed to be present in the lands applied for." This is subject to the interpretation that an applicant must supply detailed reserve information, perhaps property by property, on all such minerals held by the company wherever they exist throughout the world. It is exceedingly expensive for an oil or gas producer to compile reserve data on large numbers of properties, some of which it may not operate. Furthermore, the extent of reserves is a substantial factor in competitive positions among oil companies, so producers are understandably reluctant to make official statements concerning their oil and gas reserves. Historically such information has very appropriately been considered to be a confidential part of the company's business. Sinclair believes that it is not necessary for the Department of the Interior to require the furnishing of reserve information of the scope and nature proposed in this regulation.

Interior would require a showing of need, 3171.3(d), for leased lands to conduct research and development, and for commercial operation. One wonders whether the requirement as to need for lands for research and development is separate or different from the need for commercial development lands. If so, could this result in an applicant being granted a research lease and later being denied extension to permit commercial operation for the reason of inadequate need as determined by the "then" Secretary of Interior? This provision again implies that an applicant

will be unfavorably considered if he owns fee shale land.

Section 3171.3(f) would require a showing of need for reserves of the minerals to be produced. An oil company can readily show a need for oil if it has more refining capacity than production, but even a company with a balanced refiningproduction position needs future reserves to maintain its position. What about a small independent producer who wants to join a consortium and double his production? In view of the intimate association of oil and aluminum in the shale, what about an aluminum company that wants to broaden its interest and get into the oil business or an oil company that decides to produce aluminum also? What is the nature and extent of the need required to be established? We doubt that anyone could administer these sections without discrimination.