

A. The Present Situation

1. Research

There is abundant material covering the economic,⁶⁸ technologic⁶⁹ and geologic⁷⁰ (principally in Colorado) aspects of oil shale.

"The Bureau of Mines has been conducting oil shale research for the past half-century. A portion of this research took place at the Anvil Points demonstration and experimental plant near Rifle, Colorado. Work is presently underway there under a lease agreement between the U.S. Government and the Colorado School of Mines Research Foundation operating in conjunction with Socony-Mobil, Humble, Shell, Sinclair, Texaco, Marathon, Continental, Standard of Ohio, Pan American, and The Oil Shale Corporation. The Union Oil Company of California and the Denver Research Institute continue to experiment with retorting methods. And finally the experimental activities of the Bureau of Mines Petroleum Research Center in Laramie, Wyoming, have recently been expanded."⁷¹

As will be seen immediately below, private enterprise now has enough information with which to begin commercial production of shale oil. So it cannot be claimed that a lack of scientific data prevents the formulation of an oil shale policy. Technological advances will always be forthcoming, and the state of the art can always be improved, but there is enough evidence available now to make any of the determinations necessary for the formulation of a leasing policy.⁷² Those who now cry for "more research" must only be trying to stall.

2. Private industry

It is axiomatic that the economic feasibility of any capitalist venture will be best evaluated by those whose capital is at stake. The Oil Shale Corporation (familiarily known as TOSCO) was founded in 1955. "Its principal purpose was then the development of a commercially feasible, above-ground retorting system for the economical recovery of oil and other products from the oil shales of the Western United States."⁷³

At the present time TOSCO is engaged in such a joint venture with Standard Oil of Ohio and Cleveland-Cliffs Iron Ore Co., operating together under the name of Colony Development Co. In November, 1964, TOSCO had already expended or committed \$15 million, and it plans to spend in addition approximately \$30 million⁷⁴ for its participation in the project.

As part of their project the joint-venturers have built a plant costing approximately \$100 million in northern Colorado. This plant will process commercial quantities of oil from shale being mined from non-federal lands. TOSCO expects to achieve production from this plant in 1967 with initial capacity set at 50,000 barrels of crude oil per day.⁷⁵ It estimates further that costs per barrel at that rate will be between \$1.00 and \$1.30, depending upon the inclusion of hydrogenation.⁷⁶ By TOSCO's estimates, these costs make shale oil competitive with comparable crude oils presently being laid down in West Coast markets.⁷⁷

⁶⁸ HANNA, OIL SHALE, (Reprinted by Denver Research Institute, 1964).

The Oil Shale Corporation, Oil Shale Development on Federal Lands, Supplemental Written Statement to Oil Shale Advisory Board, Nov. 30, 1964 [hereinafter referred to as "TOSCO"].

⁶⁹ Prien, *Current Status of U.S. Oil Shale Technology*, (Reprinted by Denver Research Institute, 1964).

Schramm & Lankford, *Oil Shale*, DEP'T. INTERIOR, reprint from BUR. MINES BULL. 630 (1965).

Thorne, Stanfield, Dinneen & Murphy, *Oil Shale Technology: A Review*, DEP'T. INTERIOR, BUR. MINES IC 8216 (1964).

⁷⁰ DEP'T. OF INTERIOR, A BIBLIOGRAPHY OF BUREAU OF MINES PUBLICATION ON OIL SHALE AND SHALE OIL (1964).

⁷¹ *Senate Hearings on Oil Shale*, *supra* note 3, at 4, 8-9.

⁷² NETSCHERT, THE FUTURE SUPPLY OF OIL AND GAS (1958). In addition, see the extensive tables and statistics on trends in energy consumption and U.S. and world resources of energy in fossil and nuclear fuels collected by the Department of Interior. DEP'T. INTERIOR SYNOPSIS, *op. cit. supra* note 3, at 2-20.

⁷³ TOSCO, *op. cit. supra*, note 76, at 1.

⁷⁴ *Ibid.*

⁷⁵ *Id.* at 14.

⁷⁶ *Id.* at 7.

⁷⁷ The Department of Interior gave the following cost figures:

"One estimate recently made is that high-gravity shale oil from a 25,000 barrel-per-day plant could be delivered to Los Angeles for \$2 a barrel, and if production were quintupled, the cost would drop to \$1.76. Oil of comparable quality is now selling in Los Angeles for \$2.85 a barrel, but comparisons have to be made with prices assumed if controls [Presumably tax depletion allowances and oil import quota "input allowances" (*cf.* TOSCO, *op. cit. supra* note 68, at 15, 16 and Appendix F).] were relaxed [which has not occurred to date.]

On the other hand, the Oil Shale Advisory Board reported to the Secretary of Interior in February, 1965, its opinion that "it appears that at best oil shale would be only marginally competitive with the petroleum industry today." INTERIM REPORT OF OIL SHALE ADVISORY BOARD TO THE SECRETARY OF THE INTERIOR (Feb., 1965) (transmitted by letter of Chairman Joseph L. Fisher, Feb. 15, 1965).