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This student article, which won the Rocky Mountain Mineral Law Foundation Prize for research and scholarship in 1966, is presented to express a viewpoint concerning the importance of the vital natural resource of oil shale and its proposed development. The author outlines in detail the past and current situations with respect to the development of this resource and submits that there is no federal policy concerning oil shale development. Mr. Dominick presents a comprehensive analysis of the many problems Congress will have to consider when it takes up the task of establishing leasing procedures for the future commercial development of federal oil shale lands.

## OIL SHALE-- THE NEED FOR A NATIONAL POLICY

*David D. Dominick\**

### INTRODUCTION

"OIL Shale!" is a cry that is firing the imaginations of many people today. It is a cry not unlike that of the forty-niners who staked their hopes on the promise of "gold in them hills" over a century ago. Both cries remind us that it is America's natural resources which have made her the wealthiest nation in the world.

Oil shale has come to represent a special hope for the people of Colorado, Wyoming and Utah. For in these three states lies a tremendous, but as yet unused, natural resource. By some estimates there are 1.5 trillion barrels of oil located in the Green River Formation of Colorado alone. It is estimated that 280 billion barrels of oil<sup>1</sup> could be recovered from the richer Colorado formations by using present technology. Compare this to the other known reserves of crude oil—31 billion barrels—in the United States. The potential value of shale oil is indeed staggering. Recoverable oil in the shale

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1. "Shale Oil: From Potential to Production," Speech by C. E. Reistle, Jr., chairman of the Board, Humble Oil and Refining Co., before the 95th annual meeting, AIME, New York, N.Y., March 1, 1966.

deposits of the Green River Formation has been valued at \$2,577,000,000,000.<sup>2</sup>

Yet development of this resource is still only a hope. A century ago the forty-niners sought their gold free from any government direction or control. At that time the "free-miner" tradition prevailed. But today a full-scale oil shale industry cannot come into being without the formation of a national policy permitting the commercial leasing of federal oil shale lands. Approximately 72 per cent of the oil shale acreage in Colorado is in the federally owned public domain, and this federal land contains the richest portion of the Green River Formation, containing approximately 85 per cent of the formation's known oil shale reserves.<sup>3</sup> Because of the great expense of entry into this new industry, private enterprise needs some assurance that these reserves will be made available for commercial development. Thus, the fed-

2. OIL AND GAS JOURNAL, p. 65, March 9, 1964.

3. Estimates vary as to the proportion of federal ownership depending upon the geographic limits used in defining the Green River Formation. John B. Tweedy, counsel for The Oil Shale Corporation (TOSCO), (speaking at the University of Colorado Law School in November, 1965) estimates that 64% of the surface containing 84% of the oil reserves of the Green River Formation lies in the Public Domain, with 21.8% of the surface containing 10% of the reserves on patented lands, and 13.5% of the surface containing 4.9% of the reserves on unpatented and presently contested lands.

In Senate Hearings it was claimed that approximately "70% of the deposits in the Green River formation, containing some 80% of the oil is on land owned by the Federal Government." *Hearings on Oil Shale Before the Senate Committee on Interior and Insular Affairs*, 89th Cong., 1st Sess. 3 (1965).

The Department of Interior, reporting on the oil shale policy problem said:

To date, investigations of Utah's oil-shale deposits have not been nearly as comprehensive as those of the Colorado deposits, and the deposits in Wyoming have been explored least of all . . . .

Of the entire 1,300,000 acres of land in the oil-shale area in Colorado, 582,000 acres (including Naval Reserves) are federally-owned, 380,000 are privately-owned, and 338,000 are lands in unpatented mining claims. Approximately 1,000,000 acres are underlain by oil-shale deposits and the remainder is contiguous non-shale bearing land, principally the areas of stream valleys between oil-shale outcrops. Virtually all of the central portion of the Piceance Creek Basin is federally-owned land. Federal oil shale averaging at least 25 gallons per ton and 15 feet or more thick probably average about 1,000 feet in thickness, where the shale of this grade on privately-owned land probably averages a little over 100 feet.

Of this previously mentioned 1.3 trillion barrels of oil in deposits containing 10 gallons or more of oil in the Piceance Creek Basin the privately-owned oil shale represents about 100 billion barrels of shale oil and the unpatented mining claims represent about 100 billion barrels. The remaining lands are federally-owned and contain deposits of about 1.1 trillion barrels in place. Based upon a shale grade of 25 gallons per ton the oil potential would be half of these quantities.

DEPT. INTERIOR SYNOPSIS, THE OIL SHALE POLICY PROBLEM 21-22 (1964).

eral government holds the key to unlocking the benefits of this great resource.

Oil shale has recently received increasing attention in the press,<sup>4</sup> in the courts<sup>5</sup> and in Congress.<sup>6</sup> Such attention is even reaching the proportions of sensationalism. In the first session of the present 89th Congress Senator Douglas of Illinois introduced a measure which read: "A Bill to Retire the National Debt with Royalties from Publicly-owned Oil Shale Land."<sup>7</sup> This proposal has predictably enraged many in the western states.<sup>8</sup>

As a result, there is an increased public awareness that, while this natural resource awaits development, clearer and clearer battle lines are being drawn between "Big Business" and "Big Government." Representatives of the petroleum, mining and chemical industries are asking that private enterprise be given the opportunity to develop oil shale.<sup>9</sup> Others suggest that oil shale should be developed, if at all, by a governmentally owned and operated monopoly.<sup>10</sup>

The federal oil shale lands are presently under the administration of the Department of Interior. Disposition and leasing of these lands could be done today by the Secretary of Interior. But the prospects for such affirmative action by him are poor. "Delay" has been the only recogniz-

4. Duscha, "Bonanza in Colorado—Who Gets It?," *Atlantic Monthly*, Mar., 1966.

5. The legal status of unpatented and administratively contested oil shale claims made under the Federal mining laws is being adjudicated in several cases presently pending before Judge Doyle of the Federal District Court, Denver, Colorado. The principle "test" case is *The Oil Shale Corp. v. Udall*, Civil Docket No. 8680, which is now in the pre-trial stage. This case, along with numerous similar ones accompanying it in the District Court, seeks a mandamus directing the Secretary of the Interior to discharge his duties under the Mineral Leasing Act of 1920 and to withdraw invalid administrative decisions cancelling rights to, or denying patents to, unpatented claims. Alternatively the plaintiffs seek a declaratory judgment interpreting the mining laws. Defendant's motion to dismiss has been denied. See also, Reidy, *Do Unpatented Mining Claims Exist?*, 43 *DENVER L.J.* 9 (1966); and Lohr, *Conclusiveness of United States Oil Shale Placer Mining Claim Patents*, 43 *DENVER L.J.* 35 (1966).

6. 112 *CONG. REC.* 4901 (daily ed. Mar. 7, 1966) (remarks of Senator Dominick). Also, *Senate Hearings on Oil Shale*, *supra* note 3.

7. S. 2708, 89th Cong., 1st Sess. (1965).

8. *Wyoming State Tribune*, Oct. 25, 1965, (editorial), p. 5.

9. Reistle, *supra* note 1.

10. Duscha, *supra* note 4.

able "policy" to come out of the Interior Department in years.<sup>11</sup>

It is this writer's opinion that such delay should no longer be condoned and that a national oil shale policy should be formulated as soon as possible. But the public would be foolish to hope and expect that such a policy will ever be forthcoming from the Executive Branch of the federal government, in general, or from the present Administration, in particular. Rather, oil shale is a problem for the legislature. It is Congress which now holds the key to oil shale development.

This paper will examine the role of the federal government in the formulation of a national oil shale policy. The formulation of any such policy now, however, must take into account past events and past policies. In this regard, Part One of this paper will be a historical review of government control in the petroleum industry as a whole. Then, Part Two of the paper will describe the oil shale situation as it presently exists and will outline the various questions of policy which must be considered by Congress.

Some of these questions concerning the future of oil shale are extremely complex and have proved difficult even to define in the past.<sup>12</sup> But this problem is aggravated by the fact that many who have successfully opposed<sup>13</sup> oil shale development in the past have never been required to make public the real reasons for their opposition. To date, those who favor oil shale development have been only able to guess at the possible rationale of their opponents. This paper attempts to force any such rationale into the open.

Perhaps those who have inhibited oil shale development thus far—while preaching the "new economics"—have

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11. See *Senate Hearings on Oil Shale*, *supra* note 3, at 36. See Ely in *Conservation of Oil and Gas*, ABA SECT. M & NRL 303 (Sullivan ed. 1958). See also, *The Denver Post*, Mar. 20, 1965, "The Dispute Over Oil Shale," p. 9, where James H. Smith, Jr., of Aspen, Colorado, a nationally recognized leader in economic development, decries the delay in the development of oil shale.
  12. Mock, *The Oil Shale Advisory Board*, 43 DENVER L.J. 47, 70 (1966).
  13. See Duscha, *supra* note 4. See also the *Individual Views* of J. K. Galbraith in the INTERIM REPORT OF THE OIL SHALE ADVISORY BOARD TO THE SECRETARY OF THE INTERIOR 20 (Feb. 1965) (transmitted by letter of chairman, Joseph L. Fisher, Feb. 15, 1965). Reproduced in this issue of the REVIEW *supra* p. 50.

actually feared that to move ahead with this resource development would be to dangerously "rock the boat." Perhaps they fear upsetting the uneasy balance between "Big Business," particularly as represented by the petroleum industry, and "Big Government" as it is being practiced by the present Administration. Perhaps the opponents fear that the creation of a private oil shale industry might weaken the government's present attempts to assume more and more control in such areas as the oil import program, anti-trust and interstate commerce regulation, and federal land control.

But in each of these areas, the exercise of federal power cannot be justified simply for its own sake. Policy can only be formed after an examination of the merits. Those advocating the development of oil shale should be given the opportunity to show that such resource utilization, under proper government regulation, would be in the best interests of the nation. Those who propose such development by private enterprise have a right to demand good reasons from their opposition, on a point-for-point basis, why such development should not proceed. The burden now should be shifted to those who would obstruct oil shale development.

There are those who have been critical in the past of the petroleum industry as a whole.<sup>14</sup> But such antagonism should not be allowed to prevent the birth of a new industry. Therefore, it should be kept in mind that an oil shale industry, if and when it is allowed to come into being, will be a "new business." And while problems will be cited in Part One which have traditionally plagued the federal government in its efforts to regulate the petroleum industry in the past, the government now has an opportunity to create original answers with regard to a new oil shale industry. If there is cooperation between the representatives of private industry and the Department of Interior in seeking these answers, then Congress will be greatly aided in its future policy formulations.

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14. Galbraith, *Individual Views*, INTERIM REPORT OF THE OIL SHALE ADVISORY BOARD, *supra* note 13, at 21, 22.

## PART ONE

A HISTORICAL REVIEW OF GOVERNMENT CONTROL  
IN THE PETROLEUM INDUSTRY

The petroleum industry (the natural gas industry will not be discussed in this paper) is unique among the major businesses of this country in that it has enjoyed comparative freedom from direct federal regulation. In the first place, federal anti-trust legislation has had little restrictive effect upon the exploration, production and refining phases of the petroleum industry (although retailing of oil products has come under some anti-trust litigation in recent years). Secondly, the domestic production of crude oil has been regulated by so-called "conservation statutes" of state, rather than federal, government. And finally, special note should be taken of the fact that less than 5 per cent of the petroleum produced in this country has been subject to the federal mineral and land laws.

On the other hand, the federal government is imposing very important indirect controls over the petroleum industry through the exercise of its national defense and foreign commerce powers.

Part One of the paper will discuss all these forms of government control in the belief that each must be considered by Congress in the formulation of any future oil shale policy.

It should be remembered that none of these controls are absolute and all are subject to change. Therefore, the problems of federalism will also play a part in any policy considerations. Relationships between state and federal governments and between private industry and these governments must always be taken into account. Critics of the petroleum industry argue for increased federal control over that industry in the future. On the other hand, oil-producing states have resisted such a move and seek to preserve the regulatory powers which have been traditionally reserved to them. These problems of federalism will be of great significance to an emerging oil shale industry.

## A. Federal versus State Powers

1. *Federal Anti-Trust Regulations*

The early history of the oil industry was marked by severe competition. Large combinations exercised a monopolistic control through their ownership of refineries and oil pipelines. Finally, the great Standard Oil Trust of John D. Rockefeller was dissolved by Sherman Act prosecution in 1911.<sup>15</sup>

Since that time, there has been only minimal anti-trust regulation over the exploration, production and refining phases of the petroleum industry.<sup>16</sup>

2. *Demand Estimates and Production Control Under State "Conservation Statutes"*

As was indicated at the outset of Part One, the production of crude oil is presently being controlled by state governments.<sup>17</sup>

It is due to what some describe as an "unfortunate legal accident" that President Coolidge was stymied in 1924 in his attempts to establish a Federal Oil Conservation Board. For during the early stages of the development of the oil industry it was an accepted constitutional principle that the production of oil<sup>18</sup> lay outside the purview of the interstate commerce clause of the federal constitution. Meanwhile, and as early as 1914, oil-producing states had passed prorationing

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15. *Standard Oil Co. v. United States*, 221 U.S. 1 (1911).

16. In the 1950's, some vertically integrated major oil companies were obliged to accept consent decrees which were based on charges of violations of both sections 1 and 2 of the Sherman Act at all levels of the companies' operations. On the production levels the decrees generally enjoined "the operation of agreements among the consenting defendants to control crude production for the purpose of fixing prices, and similar agreements among themselves fixing prices to be paid for crude oil or charged for refined products." *United States v. Standard Oil Co. of California*, Civil No. 11584-C, S.D. Cal., May 12, 1950; *United States v. Standard Oil Co. of California*, TRADE REG. REP. (1959 Trade Cas.) ¶ 69399 (S. D. Cal. June 19, 1959).

17. The most recent Congressional approval of the Interstate Oil Compact is to be found in Pub. L. No. 86-143, Aug. 7, 1959, 73 Stat. 290 (1959).

18. By contrast, the natural gas industry did not begin to flourish until World War II, at which time it was held—from its inception—to be subject to the Interstate Commerce power of the federal government. That power has served to make the natural gas industry one of the most heavily regulated enterprises of the present day. A discussion of this regulation, and of the many acts and cases by which it has been imposed, is beyond the scope of this paper.



conservation statutes which in the decades that followed underwent a stormy history of attempted enforcements and evasions. These state statutes provide that production quotas may be placed on the oil wells of a state. The production quotas are set on the basis of estimates of demands, and for this reason critics have labeled the proration system as being nothing short of "administrative price fixing." Nevertheless, in 1932, the Supreme Court overruled lower federal court injunctions against the enforcement of these state statutes and declared in *Champlin Ref. Co. v. Corporation Comm'n*<sup>19</sup> that state prorationing statutes were constitutional.<sup>20</sup> Since that time the courts have universally upheld the statutes as legitimate "conservation" measures.<sup>21</sup>

19. 286 U.S. 210 (1932).

20. The Court upheld the Oklahoma market demand statute, attacked as repugnant to the due process and equal protection clause, as a reasonable exercise of the state police power to prevent unnecessary loss, destruction, or waste.

One of the most outspoken critics of the oil industry as a whole, and of national policies concerning it, has been Eugene Rostow in his book *A NATIONAL POLICY FOR THE OIL INDUSTRY* (1948). At page 29 of his book Dean Rostow calls the conservation premise upon which the *Champlin* case rests as "entirely untenable."

Nevertheless, as late as 1950, the Supreme Court has been unmoved by such a point of view as advocated by Rostow. In *Cities Service Gas Co. v. Peerless Oil & Gas Co.*, 340 U.S. 179 (1950), the Court dismissed the due process and equal protection issues in a case involving natural gas, stating as follows:

It is now undeniable that a state may adopt reasonable regulations to prevent economic and physical waste of natural gas. This court has upheld numerous kinds of state legislation designed to curb waste of natural resources and to protect the correlative rights of owners through ratable taking, . . . or to protect the economy of the state . . . . These ends have been held to justify control over production even though the uses to which property may profitably be put are restricted . . . .

Like any other regulation, a price-fixing order is lawful if substantially related to a legitimate end sought to be attained . . . . In the proceedings before the Commission in this case, there was ample evidence to sustain its finding that existing low field prices were resulting in economic waste and conducive to physical waste. That is a sufficient basis for the orders issued. It is no concern of ours that other regulatory devices might be more appropriate, or that less extensive measures might suffice. Such matters are the province of the legislature and the Commission.

*Id.* at 185-86.

21. For instance, Wyoming's Oil Conservation Law enacted in 1951 reads as follows:

It is not the intent or purpose of this law to require the pro-ration or distribution of the production of oil and gas among the fields of Wyoming on the basis of market demand. This act shall never be construed to require, permit or authorize the commission, the supervisor, or any court to make, enter, or enforce any order, rule, regulation or judgment requiring restriction of production of any pool or of any well to an amount less than the well or pool can produce in accordance with sound engineering practice.

WYO. STAT. § 30-229 (1957).

A federal measure instituted under N.R.A. and serving to enhance the enforcement of state production control was the provision for "forecasts of demand." Initially a Petroleum Administration Board, partially composed of representatives of the industry, advised the Secretary of Interior of demand forecasts. Later the Bureau of Mines, itself within the Department of Interior, began to make these forecasts. This picture is continued to this day.<sup>22</sup> Neither the monthly nor annual forecasts of the Bureau of Mines possess authority<sup>23</sup> binding on state production-control agencies, but they are helpful and are given considerable weight by state authorities in setting their production quotas.

### 3. *The Critics*

Economists, legal scholars and political commentators have been outspoken critics of the present system of production control under state "conservation statutes." Eugene Rostow, former Dean of the Yale Law School, claims that the

Bureau of Mines forecasts of demand [and the state quotas which follow from it] depend on a concealed premise of price stability. Their effect is to state how much or how little crude oil need be produced to permit prices to remain fixed.<sup>24</sup>

Rostow asserts that such demand estimates work like the statistical service condemned in the *Sugar Institute*,<sup>25</sup> *Maple Flooring*<sup>26</sup> and *American Column & Lumber*<sup>27</sup> anti-trust cases. Rostow proposes a total "reorganization" of the oil industry

22. In addition, the Bureau of Mines was directed by the Presidential Proclamation of March 12, 1959, to provide the Oil Import Administration with periodic forecasts of domestic demand and production to assist the Administration in establishing import quotas. 24 Fed. Reg. 1781.

23. Indeed, such critical writers as Rostow (see note 20 *supra*) claim that "the Bureau of Mines estimates, the keystone of the entire plan, are without support in substantive legislation. No statute prescribes standards or policies for guiding the agency in its determinations of permissible supply." Rostow, *op. cit. supra* note 20, at 29.

24. Rostow, *op. cit. supra* note 20, at 27. Compare this charge to the language of the Interstate Oil Compact, Article V:

It is not the purpose of this compact to authorize the states joining herein to limit the production of oil or gas for the purpose of stabilizing or fixing the price thereof, or create or perpetuate a monopoly, or to promote regimentation, but is limited to the purpose of conserving oil and gas and preventing the avoidable waste thereof within reasonable limitations.

25. *Sugar Institute, Inc. v. United States*, 297 U.S. 553 (1936).

26. *Maple Flooring Mfgs. Ass'n. v. United States*, 268 U.S. 563 (1925).

27. *American Column & Lumber Co. v. United States*, 257 U.S. 377 (1921).

by Sherman Act prosecutions aimed at dissolving oil "monopolies" on both horizontal and vertical planes.<sup>28</sup>

Writing in 1959, economists Melvin de Chazeau and Alfred Kahn are generally of the same view.<sup>29</sup> They note that the Texas Railroad Commission in arriving at its production quotas anticipates imports and oil produced in states without production controls. "By thus allowing for estimated supplies beyond its jurisdiction, Texas, in effect, brings the total available supply, including imports, within the principle of prorationing to market demand."<sup>30</sup>

On the other hand, Ralph Cassady concludes from his lengthy study of price making and price behavior in the petroleum industry that price competition, while not "perfect," is sufficiently keen at all levels of the industry.<sup>31</sup> In this he follows Professor Bain, who wrote between 1944 and 1947.<sup>32</sup> Zimmerman<sup>33</sup> takes a middle position and advocates much less drastic reforms in the area of conservation regulation than is proposed by de Chazeau and Kahn<sup>34</sup> or by Rostow.

Before it can formulate any policy for the development of oil shale, Congress should examine the conflicting points of view of these various writers and make its own finding of how best to regulate oil production in this country. Future supply and demand estimates for oil will be one set of crucial questions facing Congress. Further, it must receive some estimates of the quantities of shale oil which could be phased harmoniously into the future domestic supply stream. With these figures before it, Congress must ask: "What effect, if any, should the present system of production control have upon the production of shale oil?" The question might be asked more explicitly: "Should the Texas Railroad Commission be permitted to retain its position of power with respect to production control once oil shale is introduced into the

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28. ROSTOW, *op. cit. supra* note 20, at 123.

29. DE CHAZEAU & KAHN, *INTEGRATION AND COMPETITION IN THE PETROLEUM INDUSTRY* (1959).

30. *Id.* at 123.

31. CASSADY, *PRICE MAKING AND PRICE BEHAVIOR IN THE PETROLEUM INDUSTRY* 334 (1954).

32. BAIN, *THE ECONOMICS OF THE PACIFIC COAST PETROLEUM INDUSTRY (1944-47)*.

33. ZIMMERMAN, *CONSERVATION IN THE PRODUCTION OF PETROLEUM* (1957).

34. They advocate federal legislation requiring mandatory utilization. DE CHAZEAU & KAHN, *op. cit. supra* note 29.

domestic market?" Perhaps Congress will determine that the present system of production control should remain in effect and that the Texas Railroad Commission should be permitted to count shale oil simply as another source of supply—like imports—in arriving at its demand estimates. Perhaps Congress will decide that the development of oil shale, and other factors, now necessitate some of the reforms advocated by the critics of the present system and that the time has come for federal, rather than state, control of domestic oil production.

All these are questions which only Congress can properly answer.

## B. The Federal Government as Landowner

### 1. *Land Laws in Chronology*

In discussing the exercise of the government's powers in its capacity as landowner, it will be most convenient to present those land laws relevant to oil shale in a chronological order.

1780. The Continental Congress of 1780 created the "public domain" by a resolution which read that:

The unappropriated lands that may be ceded or relinquished to the United States, by any particular states . . . shall be disposed of for the common benefit of the United States, and be settled and formed into distinct republican states, which shall become members of the federal union, and shall have the same rights of sovereignty, freedom, and independence as the other states . . . .<sup>35</sup>

One of the many compromises made by the confederating states was their agreement to relinquish their western territorial claims to the new United States. Thus they created the public domain and provided the federal regime with a source of revenue to pay for the Revolutionary War. Later, the territorial boundaries of the United States were to be completed by additions to the public domain through purchase, treaty and conquest.

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35. 18 JOURNALS OF THE CONTINENTAL CONGRESS 915 (Ford & Hunt ed. 1904-37).

1788. Article IV, Section 3, Clause 2 of the Constitution vests Congress with the power "to dispose of and make all needful Rules and Regulations relating to the Territory or other Property of the United States."

Any rights, therefore, to oil or mineral deposits located within property owned or controlled by the federal government may be acquired only pursuant to legislation enacted by Congress.

1872. The Mining Act of 1872<sup>36</sup> codified pre-existing local mining customs and allowed an outright federal grant of title to mineral-bearing lands by fee simple patent.

1897. In 1897 "an Act to authorize the entry and patenting of lands containing petroleum and other mineral oils under the placer mining laws of the United States"<sup>37</sup> made it clear that petroleum was a locatable mineral, and until 1910 thousands of acres in California, Wyoming and other western states were patented as a result of petroleum discoveries. However, the general mining laws were ill suited to the proper development of the oil industry and contributed to its instability in the early stages. Under these laws the common law rule of capture, coupled with the legislative demand for discovery, acted as a stimulant to excessive and wasteful production of petroleum.

1910. Conservation sentiment was on the upsurge during President Taft's administration, and in 1909 most of the remaining public domain was withdrawn by Executive Order from petroleum entries under the mining laws. These withdrawal orders were confirmed by the Pickett Act of 1910.<sup>38</sup>

1920. During the decade that followed President Taft's withdrawal orders conservationists struggled with those representing the "free-miner" tradition in an effort to develop a federal petroleum land policy. The result was the Mineral Leasing Act of 1920<sup>39</sup> which represented compromises from both sides. The 1920 Act represented a radical policy shift from the outright granting of title to federal lands and min-

36. REV. STAT. § 2319 (1875), 30 U.S.C. § 21 (1964).

37. 29 Stat. 526 (1897), 30 U.S.C. § 101 (1964).

38. 36 Stat. 847 (1910), 43 U.S.C. § 141 (1964).

39. 41 Stat. 437 (1920), 30 U.S.C. § 181 (1964).

erals by fee simple patent to a policy which allowed the development of federal lands under a lessor-lessee relationship. Nevertheless, in retrospect the Mineral Leasing Act does show a legislative intent to allow for the development of petroleum by private industry. The Act likens the federal government to any other private owner of minerals who grants an oil and gas lease on his lands, and it contemplates that leasing and development will be by private, rather than public, hands.

A paradox exists, however, for despite the large acreage of the public domain available for leasing under the Mineral Leasing Act, petroleum production from these lands has rarely exceeded 5 per cent of the total production of the United States. Federal land and mining law has never, therefore, been a critical factor in the major problems of conservation and marketing, discussed earlier, confronting the petroleum industry in the past.

Northcutt Ely comments:

Most of the important discoveries of hard minerals have been made on land belonging to the Federal Government . . . not so as to oil and gas. By a queer combination of historical and geographical accidents, the major discoveries of petroleum and natural gas have been on lands that were never federally owned [in Texas] or on lands that had passed from federal to private ownership, without a reservation of minerals, prior to discovery.<sup>40</sup>

But the paradox has come full circle, for while lands covered by the Mineral Leasing Act produce only a minimal amount of petroleum today, the oil shale deposits of the Green River Formation in Colorado, Wyoming and Utah, lie almost wholly<sup>41</sup> under federal lands and are explicitly subject to Section 21 of the original Mineral Leasing Act.<sup>42</sup> Thus the federal government in its capacity as "landowner" will determine the future fate of oil shale.

*1930-1966.* On April 15, 1930, President Hoover issued Executive Order 5327, which withdrew designated lands con-

40. ELY, MINERAL TITLES AND TENURE, ECONOMICS OF THE MINERAL INDUSTRIES 108 (1959).

41. See note 3 *supra*.

42. 41 Stat. 445 (1920), 30 U.S.C. § 241 (1964).

taining deposits of oil shale from further leasing under the Mineral Leasing Act and "temporarily" reserved these lands for the purpose of "investigation, examination, and classification."<sup>43</sup> Whatever purpose President Hoover may have had in mind when issuing the order in 1930 is not now clear. But the fact remains that this "temporary" withdrawal order remains still in effect today, having prohibited for over 35 years the leasing of federal lands containing over 80 per cent of the known oil shale reserves in this country.

## 2. Recent Developments in Petroleum Leasing Policy

While leasing of federal oil shale lands has been foreclosed by Executive Order 5327, recent developments in petroleum-leasing policies in other areas are worthy of note. Some may suggest possible examples to be followed for oil-shale leasing in the future.

*Multiple Use Act.* In 1954 Public Law 585, The Multiple Use Act,<sup>44</sup> provided for multiple mineral development of public lands. The Act resolved the head-on clash which had arisen between uranium and petroleum interests by allowing each to prospect and secure rights for their respective minerals on the same lands. Representative Aspinall (D-Colo.) said that the bill in committee was "one of the finest examples of what can be done when people with different approaches to a very complex problem can sit down and present a united front to the Congress of the United States."<sup>45</sup>

*Alaskan Waters.* In the Act of July 3, 1958,<sup>46</sup> Congress authorized leasing of oil and gas lands beneath non-tidal navigable waters in Alaska. The Secretary of Interior was directed to lease the lands pursuant to the provisions of the Mineral Leasing Act of 1920, which apply to leasing on non-submerged federal lands in Alaska.

*Submerged Lands Act and Outer Continental Shelf Lands Act.* In 1953 Congress settled a long-standing dispute between the states and the federal government over the owner-

43. 43 C.F.R. 405 (1930).

44. 68 Stat. 708 (1954), 30 U.S.C. § 521 (1964).

45. *Hearings on H.R. 8892 and H.R. 8896 before the Subcommittee on Mines and Mining of the House Committee on Interior and Insular Affairs*, 83rd Cong., 2d Sess. (1954).

46. 72 Stat. 322 (1958), 48 U.S.C. 456 (1964). Section omitted when Alaska became a state.

ship of offshore oil deposits. The Submerged Lands Act of May 22, 1953,<sup>47</sup> deeded ownership to the states of lands up to three miles from the shore.<sup>48</sup> Beyond the state limits lands were designated as "outer continental shelf," subject to federal jurisdiction and control under the Outer Continental Shelf Lands Act.<sup>49</sup>

That Act removed these lands from the provisions of the Mineral Leasing Act of 1920, and Section 6 of the new Act established procedures for leasing of compact areas, not exceeding 5,760 acres each, by competitive bidding on the basis of a cash bonus with a royalty fixed at not less than 12½ per cent.

### C. The Government in the Exercise of the National Defense and Foreign Commerce Powers: Oil Import Controls and Foreign Trade Agreements

With the new discoveries of the exceedingly rich oil reserves in South America, principally in Venezuela, and in the Middle East, major American oil companies were the first to offer the capital and technological know-how necessary for their development. Development has usually been accomplished through concessions granted by the foreign countries to the private companies. Under these concessions approximately 50 per cent of the oil revenues are turned over to the foreign governments, and the developing companies must find their profits in what remains. Production in these oil-rich areas has been expanded greatly in the post-World War II period and much of the foreign oil has found its way into American markets.<sup>50</sup>

Congress has delegated to the Executive Branch the task of administering an oil import control program. At the present time the State Department, the Office of Emergency

47. 67 Stat. 29 (1953), 43 U.S.C. § 1301 (1964).

48. In a recent ruling the Supreme Court granted a Justice Department request to release \$203 million of funds which had been impounded as a result of the dispute between the Federal Government and Louisiana over offshore oil rights.

The U.S. will receive about \$170 million and Louisiana \$35 million of money collected from royalties, leases and bonuses in the disputed area. *The Wall Street Journal*, Dec. 14, 1965, p. 26.

49. 67 Stat. 462 (1953), 43 U.S.C. § 1331 (1964).

50. PETROLEUM INDUSTRY RESEARCH FOUNDATION, UNITED STATES OIL IMPORTS: A CASE STUDY IN INTERNATIONAL TRADE (1958).



Planning, the Department of Interior, the Defense Department and, to an increasingly important degree, the Justice Department are all instrumental in arriving at a "consensus" concerning oil import policy within the Executive Branch.<sup>51</sup>

In 1949 domestic producers began appealing to the State Department for a restriction of imports. The State Department in rejecting these appeals adhered to the general policy against import quotas announced in the General Agreement on Tariffs and Trade (GATT).<sup>52</sup>

The Korean War temporarily alleviated the pressures of import competition. Then in July, 1954 President Eisenhower established the Cabinet Committee on Energy Supplies and Resources Policy. This Committee concluded that our national security could best be protected if imports were kept in balance with the domestic production of crude oil in the proportionate ratios which existed in 1954. The Committee recommended a program of "voluntary restrictions of imports" to be practiced by the industry itself.

During the next few years and throughout the Suez crisis<sup>53</sup> the voluntary program worked with less and less effectiveness, until 1959, when President Eisenhower created by proclamation the Mandatory Oil Import Control Program.<sup>54</sup> Under this program, which remains in effect today, imports of crude oil, unfinished oils and finished products (except residual fuel oil to be used as fuel) entering Districts I-IV (including all of the United States east of the Rockies) are not to exceed 9 per cent of the total demand in those districts. In District V (which includes the West Coast) imports are

51. As a Texas Senator, President Johnson was an outspoken exponent of import limitations by quotas, but since taking office, he has said he was leaving revisions of oil import policy to Secretary of Interior Udall. *Wall Street Journal*, Dec. 13, 1965, p. 7.

52. Signed at the Geneva Conference of 1947 between the U.S. and 22 other nations.

53. During the Iranian and Suez crises major American companies producing in the Middle East were asked by the U.S. government to meet together for the purpose of ascertaining how best to overcome the effects of the crisis on supply and demand. They were guaranteed immunity from any antitrust litigation. Their voluntary agreements remain on file and will be put into effect upon the consent of the U.S. Attorney General in the event of any such future international petroleum supply crises. See *Conservation of Oil and Gas, A Legal History*, ABA SECT. M & NRL (Sullivan ed. 1958).

54. Pres. Proc. 3279, 24 Fed. Reg. 1781 (1959), as amended by Pres. Proc. No. 3290, 24 Fed. Reg. 3527 (1959) which exempted from import restrictions crude oil imported by overland means from Canada or Mexico.

limited to an amount which, together with domestic production and supply, will approximate total demand in the district. Puerto Rico was given a quota whereby imports were not to exceed those of calendar year 1957. The Oil Import Administration, Department of Interior, is charged with the responsibility of maintaining the proper ratio of imports to demand. In 1964,<sup>55</sup> the ratio stood at 9.6 per cent, an increase of .6 per cent over 1959. The O.I.A. also supervises the allocation of import quotas to individual oil and petrochemical refiners.

At the present time the State Department is attempting to follow generally an open-door policy with respect to foreign trade. That Department, operating under the mandates of the Trade Expansion Act of 1962 (TEA),<sup>56</sup> is committed to the belief "that it is in our national interest to maximize foreign trade."<sup>57</sup> Nevertheless, the requirements of national security are recognized as one justifiable exception to this otherwise open-door policy.

Section 232 of the Trade Expansion Act sets out the rules governing the use of this exception and represents the legal basis for the present oil import control program. Under that section the Director of the Office of Emergency Planning is authorized to investigate and promptly advise the President of any importations threatening the national security. The President is then directed by the section to take such steps as are necessary to remove the threat. Under subsection (c)<sup>58</sup>

55. Monthly Petroleum Statement, Mineral Industry Surveys, Dept. of Interior, March 8, 1965, Table 22.

56. Act of Oct. 11, 1962, 76 Stat. 872 (1962) (codified in scattered sections of 19 U.S.C.).

57. Letter from Douglas MacArthur II, Assistant Secretary for Congressional Relations, Dept. of State, to Gordon Allott, U.S. Senate, Aug. 9, 1965.

58. Trade Expansion Act of 1962, *supra* note 56, § 232.

(c) For the purposes of this section, the Director and the President shall, in the light of the requirements of national security and without excluding other relevant factors, give consideration to domestic production needed for projected national defense requirements, existing and anticipated availabilities of the human resources, products, raw materials, and other supplies and services essential to the national defense, the requirements of growth of such industries and such supplies and services including the investment, exploration, and development necessary to assure such growth, and the importation of goods in terms of their quantities, availabilities, character, and use as those affect such industries and the capacity of the United States to meet national security requirements. In the administration of this section, the Director and the President shall further recognize the close relation of the economic welfare of the nation to our national security, and shall take into consideration the impact of foreign competition on the economic

of Section 232 the Director and President are told in broad language to "recognize the close relation of the economic welfare of the Nation to our national security." In addition, the subsection admonishes recognition of the effect of imports on "the requirements of growth of such industries [critical to defense] and such supplies and services including the investment, exploration, and development necessary to assure such growth . . . ."

As recently as August, 1965 the Department of State<sup>59</sup> maintained that any further restriction of oil imports would not be necessary for national security and would not be in the national interest. In support of its position it notes, for instance, that Venezuela draws nearly 60 per cent of its government income directly from its petroleum industry, and that petroleum constitutes about 90 per cent of all Venezuelan exports. Therefore, "increasing prosperity for the Venezuelan petroleum industry is essential if the country is to remain an effective democracy and a keystone in our relations with Latin America."<sup>60</sup>

There has been a marked increase in oil imports allowed within the last year. Import quotas on residual fuel oil were raised at eastern ports for 1966 by Secretary Udall, despite strong objections from coal and domestic oil producers and a number of eastern railroads and utility companies.<sup>61</sup> Secretary Udall has indicated further that he favors the complete elimination of any import restrictions on residual fuel oil.<sup>62</sup> In order to accomplish unlimited imports Secretary Udall must, and apparently will, appeal to the Office of Emergency Planning for a ruling that such a move would not endanger national security. As will be seen in Part Two, United States programs regulating foreign oil imports and

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welfare of individual domestic industries; and any substantial unemployment, decrease in revenues of government, loss of skills or investment, or other serious effects resulting from the displacement of any domestic products by excessive imports shall be considered, without excluding other factors, in determining whether such weakening of our internal economy may impair the nation's security.

76 Stat. 877 (1962), 19 U.S.C. § 1862(c) (1964).

59. MacArthur Letter, *supra* note 57.

60. Letter from Douglas MacArthur II, Assistant Secretary for Congressional Relations, Dept. of State, to Gordon Allott, U.S. Senate, June 22, 1965.

61. Wall Street Journal, Dec. 23, 1965, p. 2.

62. *Ibid.*

our national defense requirements must be taken into account in arriving at any policy for the development of oil shale.

## PART TWO

### GOVERNMENT'S ROLE IN THE DEVELOPMENT OF OIL SHALE

Today there is no federal policy providing for the development of oil shale. Undersecretary of the Interior John A. Carver, Jr., in testifying before the Senate Interior Committee in May, 1965 said, "This reserve is so big and so valuable that . . . when one hears words like Teapot Dome . . . it tends to freeze any kind of action, either congressional or administrative."<sup>63</sup>

And yet the formulation of an appropriate national policy is essential for the future development of oil shale. In an effort to discover why no such policy has ever been formed, this paper will first give an outline of the current situation. Next to be discussed will be the many problems which Congress must consider if, and when, it decides to establish comprehensive leasing procedures for the future commercial development of federal oil shale lands.

The problem of contested claims for unpatented lands lies outside the scope of this paper.<sup>64</sup> As was indicated earlier,<sup>65</sup> the amount of land involved in these mining claim disputes is minimal compared to the oil shale lands and deposits which await the formulation of a federal leasing policy. Furthermore, the formulation of such a policy should not be precluded by the presence of these contested claims. Any policy covering the lease of federal lands would still leave resolution<sup>66</sup> of remaining conflicts over contested lands to appropriate proceedings between the respective claimants.<sup>67</sup>

63. *Senate Hearings on Oil Shale, supra* note 3, at 61.

64. See note 5 *supra*.

65. See note 3 *supra*.

66. Senator Allott (R. Colo.) has introduced legislation in the past two Congresses addressed to the problem. S. 1009, 89th Cong., 1st Sess. (1965).

This bill is intended to amend the "savings" clause, Section 37, of the Mineral Leasing Act by reasserting the present validity of claims to oil shale lands which were valid but unpatented at the date of passage of the Mineral Leasing Act. The bill, if passed, would effectively revoke all administrative and legal actions taken by the Secretary of Interior in declaring these unpatented claims invalid. The bill has died in the Senate Interior Committee both times and that committee has apparently received no Department Report concerning it from the Secretary of Interior.

See also, CONG. REC. 1962 (daily ed. Feb. 4, 1965).

67. Ely, *supra* note 11, at 303.

## A. The Present Situation

1. *Research*

There is abundant material covering the economic,<sup>68</sup> technologic<sup>69</sup> and geologic<sup>70</sup> (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.<sup>71</sup>

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.<sup>72</sup>

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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.

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."<sup>73</sup>

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 million<sup>74</sup> 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.<sup>75</sup> It estimates further that costs per barrel at that rate will be between \$1.00 and \$1.30, depending upon the inclusion of hydrogenation.<sup>76</sup> By TOSCO's estimates, these costs make shale oil competitive with comparable crude oils presently being laid down in West Coast markets.<sup>77</sup>

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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.]

Such a commercial commitment leaves little room for argument. It is made more important by the fact that the Colony Development venture plans to produce commercial quantities of shale oil from relatively poor shale deposits lying wholly within privately owned or patented lands. Thus it is crystal clear that representatives of private enterprise believe that oil can, and will, be competitively produced from oil shale. Industry demonstrates itself ready to proceed without further delay.

### 3. *The Courts*

In *Alabama v. Texas*<sup>78</sup> the Supreme Court dismissed suits challenging the rights of states to take lands under the Submerged Lands Act of 1953<sup>79</sup> on the ground that Congress had unlimited plenary power under the Constitution to dispose of the public domain in any way it saw fit. Thus the courts may be dismissed as presenting any obstacle to the establishment of a federal leasing policy.

### 4. *The States*

In 1957 the Assembly of the Interstate Oil Compact Commission, representing thirty oil-producing states, unanimously adopted a resolution calling for the opening of federal oil shale lands.<sup>80</sup>

Further, the states of Colorado, Wyoming and Utah, through their state executives and their congressional delegations, have consistently sought development of their oil shale resources. Colorado has been particularly active in seeking early development, and in 1964 Governor Love stated: "We look to oil shale as another great industry in our State which can and will be developed in such a manner as to be compatible with the preservation of our scenic splendor and wildlife."<sup>81</sup>

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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).

78. 347 U.S. 272 (1954).

79. 67 Stat. 29 (1953), 43 U.S.C. § 1301 (1964).

80. Resolution No. 8, Meeting of June 12, 1957, Yellowstone National Park.

81. Statement of Governor John A. Love to the National Oil Shale Advisory Board, Dec. 1, 1964.

Thus it seems that no state seeks to obstruct the development of oil shale.

### 5. *The Federal Executive*

It was seen earlier that authority to administer regulations covering the leasing of federal oil shale lands has been delegated to the Secretary of Interior. Thus, while the Secretary could institute and administer a program for the leasing of federal lands, no secretary has ever attempted to do so.<sup>82</sup> Secretary of Interior Udall has been the most elusive of all public figures on the subject of oil shale and has only said he wishes to prevent another oil scandal in this country.<sup>83</sup>

Mr. James H. Smith calls such references to old scandals "pure demagoguery" and says, "If the government is unable today to arrange contracts between itself and private enterprise dealing with public property without the risk of repeating Teapot Dome, then we do not have a competent government."<sup>84</sup>

In 1963, apparently in partial response to such criticisms, Secretary Udall published an order cancelling the existing leasing regulations and calling for public comment as to what should go into new ones.<sup>85</sup> Later, the Secretary created a "blue-ribbon panel" called the Oil Shale Advisory Board and appointed Joseph L. Fisher, chairman, Orlo E. Childs, Benjamin V. Cohen, John Kenneth Galbraith, H. Byron Mock and Milo Perkins.

At the invitation of the Secretary of Interior and the Oil Shale Advisory Board, Governor Love of Colorado recommended immediate competitive leasing of oil shale lands under

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82. President John F. Kennedy viewed administration of the public domains thus:

My predecessors have been acutely aware of the dilemmas facing the Secretaries of Agriculture and Interior as principal administrators of the original public domain. Whenever they have been faced with a reasonable alternative of continued public ownership and management, or disposition, they have generally elected the former.

83. HANNA, *op. cit. supra* note 68, at 10.

84. The Denver Post, *supra* note 11.

85. 28 Fed. Reg. 11796 (1963), revoking 43 C.F.R. pt. 197 (1963) (Oil Shale Leases).



the old provisions of the Mineral Leasing Act.<sup>86</sup> It was recommended that such leasing be done in three phases with a 5 per cent royalty at the outset. Very similar recommendations were made to the Oil Shale Advisory Board by The Oil Shale Corporation in 1964.<sup>87</sup> The Oil Shale Advisory Board issued an "interim" report<sup>88</sup> to the Secretary in February, 1965, but unfortunately no consensus was reached on major leasing policy questions and the report has been likened to "six dissents saying nothing." No further report from the Advisory Board has yet appeared on the horizon, and Secretary Udall now seems little disposed to take any affirmative action.

Undersecretary of Interior John Carver, Jr., has been perhaps most candid and pointed of all when he recently said:

The Secretary has not yet determined what recommendation should be made to Congress, if any, for the resolution of any policy questions prior to the lifting of the withdrawal order . . . .

Legally, as I have already said, I think he has the power to lift the order, promulgate regulations, and begin to issue leases . . . .

But I also think that no Secretary, beginning with Hubert Work, right down to the present one, can take any more than tiny and tentative steps which have the effect of relinquishing title to this resource without running great risks of misinterpretation . . . . It is, in my personal and unofficial view, a question requiring congressional resolution.<sup>89</sup>

## 6. Congress

Thus it is that we are led by a process of elimination to the one body of the federal government which can, and should, come to grips with the oil shale policy problem. Senator Bennett of Utah addresses himself to the problem with a statement entitled "Do Something."<sup>90</sup> A response to Senator Bennett is that it is now up to Congress "to do

86. Letter from John A. Love, Governor of Colorado, to Stewart L. Udall, Secretary of Interior, March 27, 1964.

87. TOSCO, *op. cit. supra* note 68, at 17.

88. INTERIM REPORT OF THE OIL SHALE ADVISORY BOARD, *op. cit. supra* note 77.

89. *Senate Hearings on Oil Shale*, *supra* note 3, at 38-39.

90. *Senate Hearings on Oil Shale*, *supra* note 3, at 6.

the doing" and to reassume here a portion of the initiative which some feel it has lost by default to the Executive Branch of our Government.

In May, 1965 the first "informational" hearings on oil shale were held by the Senate Interior Committee.<sup>91</sup> Senator Jackson, Chairman of the Committee, opened the hearing with these words:

All too often in dealing with problems affecting our natural resources, both economic and aesthetic, this committee is faced with a condition, not a theory. Conditions often demand ad hoc solutions to immediate limited problems. But . . . such is not the case here today. We hope to have basic facts and issues presented, and then to be able to deliberate upon broad overall policy questions involved in the wisest and best course of action to take with respect to this great natural resource . . .<sup>92</sup>

In addition to committee action and congressional hearings, it may be that the oil shale policy problem will be taken up by the recently established Public Land Law Review Commission.<sup>93</sup> The Commission, which is to make its report by June 30, 1968, is not explicitly directed to study oil shale, but such a study is clearly not outside the Commission's present authority.<sup>94</sup>

### B. Formulation of a Leasing Policy: Immediate Considerations

If Congress is to formulate a leasing policy for the early development of oil shale, it must deal with a number of specific, immediate considerations. Many of them have already been outlined by members of the Oil Shale Advisory Board.<sup>95</sup> None present insurmountable problems. Straight-forward alternatives are available from which Congress can make its necessary policy choices with relative ease.

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91. *Senate Hearings on Oil Shale*, *supra* note 3.

92. *Id.* at 2.

93. 78 Stat. 982 (1964), 43 U.S.C. § 1391 (1965).

94. S. REP. NO. 1444, 88th Cong., 2d Sess. 13 (1964).

95. Mock, *supra* note 12, at 59-60. See there "Issues to be considered by the Oil Shale Advisory Board."

### 1. *Conservation*

Two distinct conservation problems present themselves when considering oil shale development. First, there is concern for other regional resources in the oil shale area. Second is the concern for maximum utilization of the oil shale resource itself.

As was noted earlier, the State of Colorado is actively aware of the need to protect all of its many resources. Thus Governor Love has said:

Conservation problems, including the disposal of spent shale and the prevention of possible atmospheric and water pollution are under active study by agencies in our State, as are community problems relating to schools, highways, etc. We see no insoluble problems.<sup>96</sup>

The Oil Shale Corporation has also recognized the need for industry to assume its share of the conservation burden and to insure adequate protection of air, water, surface lands, wildlife, etc.<sup>97</sup>

In addition, TOSCO recommended to the Secretary of Interior far-thinking measures to insure proper utilization of the oil shale itself. Among these was a plan for allowing lower royalties as an incentive for the extraction of marginal and low-grade shales.<sup>98</sup>

One problem to be considered is the disposal of the vast amounts of waste shale left over from the retorting process. This problem sounds less imposing when one hears from the Bureau of Mines that vegetation will begin to grow on the spent shale deposits after about three years of weathering.<sup>99</sup>

Nevertheless, there are some who wish to prevent completely any commercial activity on the public domain. These so-called "protectionists" thus oppose the development of oil shale at any time or for any reason. But if the real problems of conservation are met and solved in a forthright

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96. Statement of Governor John A. Love to the National Oil Shale Advisory Board, Dec. 1, 1964.

97. TOSCO, *op. cit. supra* note 68, at 17.

98. *Id.* at 20.

99. HANNA, *op. cit. supra* note 68, at 6.

manner and if Congress finds that oil shale development is in the national interest, then any continued objections by these protectionists will not be justified.

## 2. *Water*

It has long been recognized that water will be crucial in the commercial development of oil shale, and recently major oil companies have been buying up water rights adjacent to oil shale.<sup>100</sup>

The future of the waters of Colorado, Wyoming and Utah is inextricably tied up with the Colorado River Storage Project Act<sup>101</sup> and with current legislation and interstate agreements affecting the allocation of waters in the Upper and Lower Colorado River Basins. It is clearly to the advantage of Colorado, Wyoming and Utah to appropriate their unused shares in Upper Colorado River waters as soon as possible.<sup>102</sup> Utilization in the oil shale industry is ideally suited for such appropriation.<sup>103</sup>

## 3. *Acreage Limitations*

The question of acreage limitations is one of the most vexing problems confronted when one tries to prescribe fair leasing terms. Irregularity in grade and in thickness of the shale beds makes the amount of oil recoverable from under different surface acreage vary greatly. For instance, a 5,120-acre plot (the maximum allowed under the existing Mineral Leasing Act) in the richest parts of the shale formation would contain 18 billion barrels, an amount equal to nearly 60 per cent of the Nation's proved reserves of petroleum.<sup>104</sup>

Leasing by competitive bid is one answer to this problem. The Government could specify a fixed dollar amount to be

100. See the recent excellent article: Delaney, *Water for Oil Shale Development*, 43 DENVER L.J. 75 (1966).

101. 70 Stat. 105 (1956), 43 U.S.C. § 620 (1964).

102. Legislation for the establishment of a national wild rivers system was proposed in the last session of Congress. S. 1446, 89th Cong., 1st Sess. (1965). One of the crucial implications of the bill is that future water appropriations may be foreclosed on any river to be included within the wild river system. The Green River of Wyoming is scheduled for possible inclusion in the system. This fact could foreseeably do great damage to the future development of oil shale in Wyoming.

103. In November, 1965, the Interior Department agreed to sell to Colony Development Co. up to 7,200 acre-feet of water annually at a sliding charge from \$8.50 to \$10.40 an acre foot. The contract will run for a term of 40 years. Wyoming State Tribune, Dec. 2, 1965, p. 3.

104. *Senate Hearings on Oil Shale*, *supra* note 3, at 35.

paid by the bidders and each bidder would then calculate the least number of acres he would be willing to receive for that cost. The winner would be the company bidding the lowest number of acres. Undersecretary of Interior Carver said, "I see no reason why a competitive situation could not be cranked adequately into a leasing system."<sup>105</sup>

Congress will not be without helpful precedents in its search for fair leasing procedures. In Part One of this paper other recent developments in domestic petroleum leasing policy were traced. Of particular note is the Outer Continental Shelf Lands Act,<sup>106</sup> which created procedures outside of the Mineral Leasing Act for competitive leasing of offshore oil reserves.

Further, it may now behoove the United States to look to Canada as a source for leasing precedents. Historically, Canada has given greater emphasis to hard-rock mining laws in deriving leasing principles for the development of its petroleum resources.<sup>107</sup> The United States might well follow that example with respect to its oil shale. In 1963, for instance, production was begun in the Athabascan Tar Sands. Dominion control of Canadian oil lands had been relinquished to the provinces in 1930;<sup>108</sup> therefore, it is Alberta that has been responsible for the formulation of a policy for the development of its tar sands. In 1963 Alberta issued the first production permit for 31,500 barrels per day to Great Canadian Oil and Sand Ltd.<sup>109</sup> The Alberta government in a statement of policy dated October 19, 1962, affirms that production from the oil sands will be authorized at levels so as not to interfere unduly with present or foreseeable markets for conventionally produced Alberta crude oil.

#### 4. Revenues

Along with acreage limitations, the question of revenues is basic to any leasing policy. Further, it is a question which

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105. *Id.* at 62.

106. *Cf.* note 49 *supra*.

107. Thompson, *Basic Contrasts Between Petroleum Land Policies of Canada and the United States*, 36 U. COLO. L. REV. 187 (1964).

108. *Id.* at 211.

109. *New York Times*, April 8, 1963, p. 153.

only Congress is authorized to settle. Separate aspects of this basic problem include royalties, taxation and depletion allowances, and the distribution of government income.

Under the existing Mineral Leasing Act, 37.5 per cent of the revenue from oil shale leases would be allocated to the state in which the lands are located, 52.5 per cent would go to the Reclamation Fund, and 10 percent would go to general receipts.<sup>110</sup> In formulating an oil shale policy, Congress may change this distribution as it sees fit.

Congress also must make an equitable determination with respect to royalties. TOSCO and Governor Love of Colorado have recommended a royalty of 5 per cent.<sup>111</sup> As was seen, the Outer Continental Shelf Lands Act prescribes a minimum royalty of 12½ per cent for offshore leases.<sup>112</sup>

The issue of depletion allowances on oil revenues is one of foremost importance to the developing oil shale industry. At the present time the Internal Revenue Service has ruled<sup>113</sup> that an allowance of 15 per cent, as specified by statute,<sup>114</sup> will be given on shales after mining. Representative Aspinall (D-Colo.) is seeking to clarify this ruling by specifying that the allowance is to come after retorting instead of after mining.<sup>115</sup> In addition, crude oil producers receive a depletion allowance of 27½ per cent, and the developers of oil shale seek to have themselves included in this greater allowance category.<sup>116</sup>

### 5. *New Entries*

It was pointed out earlier<sup>117</sup> that leaders in the oil shale industry must be careful lest they run afoul of anti-trust laws prohibiting unfair competition practices which would work to the disadvantage of new entrants into the field.

Apart from anti-trust considerations, a concern has also been expressed that the high capital requirements for entry

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110. THE OIL SHALE ADVISORY BOARD, *op. cit. supra* note 77, at 9.

111. See p. 84 *supra*.

112. See p. 75 *supra*.

113. Unpublished.

114. INT. REV. CODE OF 1954, § 613.

115. H.R. 10896, 88th Cong., 2d Sess. (1964).

116. TOSCO, *op. cit. supra* note 68, at 30-32.

117. See p. 67 *supra*.

into the oil shale industry will prevent small companies from successfully competing with large, established companies. This is a problem which may exist during the development of any new industry, but it is clear that further delay by the government in opening the industry to development will only serve to entrench more firmly those major companies with private landholdings and experimental sites.

The Atomic Energy Acts of 1946<sup>118</sup> and 1954<sup>119</sup> dealt with this same problem by placing in the public domain certain patent rights acquired by companies who had established themselves in the industry during its early, governmentally controlled stages. The 1954 Act also requires licensees to make a full disclosure of any unpatented technology possessed by them at the time their license is granted. Congress might use similar procedures in order to insure fair treatment for all participants in oil shale development.

#### 6. *Speculation*

The Department of Interior has often expressed its fear that "speculative tendencies"<sup>120</sup> brood menacingly over prospective oil shale development. But it should be pointed out that the "do-nothing" attitude of that Department has probably contributed more than any other single factor to speculation in oil shale land and adjacent water rights.

Byron Mock, a member of the Oil Shale Advisory Board, recently said:

At least to me, the taint of Teapot Dome and its application to the oil shale reserves of the Federal Government will best be laid to rest by opening all or part of the Federal oil shale lands to competitive leasing with performance requirements written in that eliminate those who cannot or will not develop the reserve. This does not mean that all should be opened at once but in my opinion some should be. To some the withholding of the federal oil shale reserves from development may be construed to be as great a granting of favors to those who wish to restrict competition in that field as would be the

118. 60 Stat. 755 (1946), 42 U.S.C. 2062 (1964).

119. 60 Stat. 919 (1954), as amended, 42 U.S.C. §§ 2011-2281 (1964).

120. DEP'T. INTERIOR SYNOPSIS, *op. cit. supra* note 3, at 41.

direct issuance of preference to such people. This dilemma is one common to public administrators. To my mind affirmative action is the only solution.<sup>121</sup>

### C. "The National Interest": Its Broad Considerations

In the preceding section immediate and specific considerations for leasing policy formation were discussed. As was noted, choices are available in each of these areas, and such choices can be readily tested, adopted and changed, if necessary, during the forthcoming development of an oil shale industry.

The present section will explore broader considerations having to do with the general "national interest." Such issues as are involved here are difficult to define and the policy choices within them are often hard to evaluate.

The writer feels that some of these issues must underlie the otherwise unexplained opposition which has so far prevented the development of oil shale. The future of oil shale depends in large measure upon the frank and open discussion of these issues. Once it can be shown that production of shale oil is in the best national interest, then the major obstacle to oil shale development will have been removed.

#### 1. *Defense Needs and National Security*

Captain K. C. Lovell, Director of Naval Petroleum and Oil Shale Reserves, Department of Defense, says unequivocally<sup>122</sup> that the immediate development of oil shale is necessary for national security. Citing figures showing projected increases in domestic demand and increased reliance on foreign oil (an estimated 30 per cent from foreign sources by 1983), he urges that development be commenced just as soon as possible. It is clear that the new oil shale industry cannot produce "instant oil." Humble Oil Company estimates a lead time of from eight to ten years before facilities could accomplish "on stream" production.<sup>123</sup> Thus, Captain Lovell urges that to wait for war or a national emergency would

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121. Mock, *supra* note 12, at 67.

122. *Senate Hearings on Oil Shale*, *supra* note 3, at 64.

123. Reistle, *supra* note 1.



be to wait too long before attempting to mobilize necessary shale oil production.

## *2. Foreign Trade and the Control of Imports*

As we noted in Part One, the State Department is committed to the expansion of foreign trade whenever such expansion would not endanger the national security. It was seen that Secretary of Interior Udall has recently indicated his desire to increase the importation of foreign oil into this country.

It is obvious that such importation of foreign oil has a profound effect upon our domestic petroleum industry. It may well be that those who oppose the development of oil shale really do so because they favor an increase in the importation of foreign oil.

But the strongest answer to those favoring increased imports is that such a policy would only serve to worsen the present balance-of-payments problem. Further, recent months have witnessed a series of unsettling events in foreign oil-producing countries. The government of Indonesia has recently taken over that country's major oil-production and refining facilities, which had, until that time, been owned and operated by American companies.<sup>124</sup> The government of Venezuela has recently levied increased taxes on American companies producing oil there.<sup>125</sup> These companies are being rudely reminded that "the power to tax is the power to destroy." In Libya, American companies have just undergone a difficult year. The Libyan government revised its concession agreements with American companies and now requires a significant increase in royalty payments.<sup>126</sup>

All of these events show a trend which indicates the dangers to the United States inherent in its heavy reliance upon foreign oil.

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124. Wall Street Journal, Dec. 31, 1965, p. 6.

125. Wall Street Journal, Jan. 6, 1966, p. 14.

126. Wall Street Journal, Jan. 6, 1966, p. 14, Jan. 5, 1966, p. 9, Dec. 29, 1965, p. 18. See also, "Mideast Oil: Big Supply, Little Savvy," Wall Street Journal, Dec. 6, 1965, p. 10.

### 3. *Control of the "Energy Mix"*

Congress must consider future energy requirements and the "energy mix" which would best meet these requirements. But in planning for the future, Congress must scrupulously avoid preferential treatment that constitutes a manipulation of energy sources in disregard of the demands of the open market. To do otherwise would be to engage in "end-use" control.

Oil shale should be allowed to take its place, along with other fuel sources, in providing for the Nation's future needs. Atomic energy and coal<sup>127</sup> are two other potentially competitive sources of fuel. In the past the government has given a great boost, through subsidies, to the atomic energy industry. Some with a vested interest in securing a favored position for nuclear power<sup>128</sup> may be opposed to the development of oil shale. But the oil shale industry should not now be prohibited from competing on equal terms with this and other energy sources if a genuine need for the production of shale oil can be shown.

### 4. *Control of the Market*

As was noted in Part One, Rostow, de Chazeau, Kahn, and others are strongly critical of the petroleum industry and its apparent enjoyment of freedom from government regulation. They denounce in particular production control by state prorationing statutes and what appears to be industry control over market prices.

Domestic exploration activity and domestic crude oil reserves are at their lowest points since 1949.<sup>129</sup> Now the critics of the petroleum industry may find it convenient to oppose the development of oil shale because they fear that such development would allow for a revival of the domestic petroleum industry.

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127. Some oil companies are presently purchasing coal properties and developing techniques for making gasoline from coal. See *Wall Street Journal*, Oct. 20, 1965, p. 1.

128. For instance, the TVA (which has evolved into a government power monopoly) has announced that it may build a nuclear power unit next year "if the price is right." See *Wall Street Journal*, Dec. 20, 1965, p. 4.

129. *Wall Street Journal*, Jan. 6, 1966.

But such fears are irrational and unfair. In the first place, the oil shale industry should obviously be allowed to develop on its own merits. In the second place, there are indications that it will be the mining and chemical industries, and not petroleum, which will be most instrumental in the development of oil shale. Private enterprise as a whole will contribute new technology, new capital and new market demands for the production of shale oil. Nothing prevents the government from creating new answers and establishing a workable relationship with private enterprise in this new endeavor.

In regard to all these considerations involving the national interest, Byron Mock most recently said:

By the time the report [of the Oil Shale Advisory Board] came out it seemed to me that we had resolved two questions. First, there was no public interest that justified holding up an oil shale industry. As a consequence thereof there was no public interest that necessitated indefinite delay of lifting the withdrawal on federal oil shale lands. The second conclusion was that there were definable public benefits to be achieved from opening the oil shale reserves.<sup>130</sup>

#### CONCLUSION

The requisites for the development of oil shale are clearly present. Capital, technology and manpower await the "go-ahead." Only the formulation of a national oil shale policy is lacking, and now Congress should provide for that lack.

Today the federal government holds a "monopoly" in leasable oil shale lands. The legislation of leasing procedures for these lands will, in effect, be a description of the terms by which this monopoly will be exercised. The federal government in its capacity as oil shale landlord has the present potentiality for becoming "Big Government" in the ugliest sense of the word.

But this need not be the case. Congress, with the cooperation of the Department of the Interior and interested representatives of private enterprise, has the authority and

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130. Mock, *supra* note 12, p. 65.

the ability to balance carefully the best interests of all parties to the present oil shale controversy. If the balancing is properly done, a policy will be forthcoming which is "*national*" rather than "*federal*" in character to the extent that it best provides for the "national interest."

The basic question which confronts those who would attempt to formulate a national policy for the development of oil shale should not be whether the federal government should reserve oil shale lands for public, as opposed to private, development. The capital expenditure for research and commercial production by the Colony Development Co. is evidence that private enterprise is already committed to the economic feasibility of private development. Further, in the light of the traditional technological superiority of private industry in this country, future shale oil production will best be done by our private mining, chemical and petroleum industries. To argue otherwise would be to make a basic departure from the principles of capitalism.

The first basic policy question which must be answered is, "When and under what terms for the distribution of revenues (*i.e.*, income taxes, rents, royalties, bonuses, etc.) will private industry be allowed to compete for the leasing of publicly owned oil shale lands?" Boiled down, the question becomes one of timing and of dollars. Ultimately, it is the market place which will best determine the adequacy of the answers given to this first policy question. For if the revenue terms are set so as to prohibit the competition of shale oils in the market place, or if leasing is not allowed at a time when there is a market demand for the product, then the value of this resource will have been lost and the national interest defeated.

The second basic policy question concerns government control. Assuming that the first policy question has been answered by the implementation of competitive leasing procedures and fair revenue distribution terms, then the remaining policy question asks, "Under what forms and degrees of government control will the production of oil shale be allowed?" Here the national interest is not so susceptible to testing in the market place. For here government controls

will affect such areas as conservation, national security, social well-being and world peace — areas where an economic evaluation is often impossible. The success or failure of the national policy touching these areas will only ultimately be tested by historical judgment.

The days of the free-miner tradition have passed. In 1935,<sup>131</sup> the last of the public domain in the United States was closed to entry prior to classification under the homestead laws. Thus was marked the passing of the American Frontier, an institution which had been celebrated by Frederick Jackson Turner and his disciples as the “world’s greatest instrument of democracy.” To others, its passing was a sign that “America had come of age.”<sup>132</sup>

The formulation and carrying forward of a national oil shale policy could well evoke like reactions in the days ahead. To some, it may spell the end of “freedom” within the oil industry. Others may recognize it as a new industry’s “coming of age.” But no matter what the reaction to that policy may be, its determination is best left to the legislative forum. While it can be said that a political and economic climate favorable to the development of oil shale has been lacking in the past, it is hoped that such a climate is now improving. No one of the numerous administrative problems confronting the development of oil shale are insoluble. There are none for which early answers cannot be given. Apparently all that has been lacking is sufficient impetus within the federal government to move from dead center in seeking these answers. It is only suggested now that the Congress get to the task at hand. Otherwise the twenty-first century and the discovery of new energy sources will be upon us and this vast national asset will have been left wasting in the ground where it is of benefit to no man.

[*Ed. note.* The basic research for Mr. Dominick’s article was done early in 1966. The author informs that since that time

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131. By Executive Orders of Franklin Roosevelt, Nov. 26, 1934, and Feb. 5, 1935, based upon authority for such withdrawal found in the Act of June 25, 1910, established a National Conservation Program (36 Stat. 961 (1910)). Coupled with the above mentioned Executive Orders was the Taylor Grazing Act of 1934 (48 Stat. 1269 as amended (1934), 43 U.S.C. § 315 (1964)).

132. ROBBINS, OUR LANDED HERITAGE 423 (1962).

some significant developments have occurred with respect to a national oil shale policy. These developments are:

1. Further increases in oil importation allowances were made by Secretary of the Interior Udall in September, 1966.

2. Foreign governments in recent months have increased their demands upon American producing companies for higher royalty, tax and concession payments on foreign produced oil. In November, 1966, Mid-East governments threatened complete confiscation of United States oil facilities.

3. There has been increased interest in the feasibility of in-situ retorting of shale oil by underground nuclear explosion. This interest is being carried forward by the Bureau of Mines (see *Oil and Gas Journal*, August 15, 1966, p. 44), the Division of Peaceful Nuclear Explosives of the Atomic Energy Commission and a joint venture of some fifteen private companies. In 1966, the 89th Congress appropriated about \$1.5 million for a similar AEC project in New Mexico called "Gasbuggy." There is now expectation for nuclear testing in oil shale lands in the near future.

4. Two potentially valuable minerals were recently discovered in conjunction with oil shale deposits. Nacholite, a sodium carbonate, and Dawsonite, a potential ore of aluminum, are now being investigated for marketability by private companies. This effort has been somewhat hampered by the fact that the Department of Interior has so far refused to specify whether Dawsonite is leaseable under the Mineral Leasing Act of 1920, or locatable under the Mining Act of 1872, and if locatable, whether by placer or by lode claim. Private industry awaits that determination. In the meantime, these discoveries point up the necessity for a comprehensive national oil shale policy which would put to most advantageous use all of the related minerals of the western oil shale lands.]