

of costs from an overall view and the implications of successful research on these costs. This study is distinguished from the process-evaluation studies in that it is of a general purpose nature.

The development of an oil-shale industry in the Rocky Mountain area will clearly have a major effect on the general economy of the region. The implications of this effect as reflected in population shifts, demands for materials, expansions of service and utilities, and the transportation network will be examined. The net effect on other regions will also be included. Such a study will indicate potential problem areas in ample time for steps to be taken for their solution. The competitive impact on alternative fuel sources will be examined. From such an examination, judgments as the disruptive effects of various rates of growth in the oil-shale industry itself can be made. Possible dislocations can be pinpointed and their seriousness evaluated.

The petroleum industry is, and the potential oil-shale industry will be, subject to Government controls that affect their profitability, rate of investment, and rate of growth. Federal import controls, tax provisions, and public-land leasing directly bear on the operation of the petroleum industry. This industry also operates under prorationing regulations enforced by the various States. These policies also have implications for an oil-shale industry, both directly and indirectly. The studies under this program will be aimed at understanding the effects of alternative policies in different areas under direct Governmental control. This will permit a better achievement of Government objectives with respect to these energy industries.

Objective

OIL SHALE RESEARCH FACILITY

It is anticipated that some of the research proposed herein, especially much of that described under In Situ Retorting; Oil-Shale Composition, Surface Retorting, and Shale-Oil Utilization; and Minerals Associated with Oil Shale, will be conducted at or correlated from existing facilities. Present facilities are not adequate for an appreciably expanded research program. Consequently, the additional facilities proposed herein will be necessary if the entire program or significant parts of it are approved and authorized.

Program

1. Complete present building to three stories by adding three floors to North wing and one floor to South wing. According to plans drawn up some years ago, this would provide space for twelve laboratories, six offices, and a combined library-assembly room. The cost would be about \$350,000.
2. Replace present annex with a 4-story L-shaped building to provide about 40,000 square feet for new work and 15,000 square feet for activities now quartered in the annex. The cost of this building would be about \$1,650,000. The two construction projects would nearly double the present floor area. It would require about \$500,000 to furnish and equip the added construction, totalling \$2,500,000.

ALTERNATIVES

As custodians of the Public Domain, the Department of the Interior must maintain a high level of competence and knowledgeability in regard to both the technology of extraction and utilization of oil shale and the factors that influence its value under various economic and emergency conditions.

Present programs permit the Department of the Interior to observe what others are doing, within the limits of proprietary information, and to mount a modest effort to add to the knowledge of the nature of the oil-shale resource and the chemistry of shale-oil products. This is a minimal effort that is inconsistent with the potential significance of the resource; however, it is the only realistic alternative to the program proposed herein.

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PHASE V (CONCLUSIONS)

The problems of shale mining have been much the same as those of coal mining, and could be resolved in the same manner, however, under the Carl Belser patents and method of extracting the kerogene from the shale, seems more feasible, than any other known method at present writing.