

mercial scale leases could lease land which would round out private holdings in instances where this would be the sensible course. Companies should not be permitted to obtain leases of public shale land simply as a means of holding good private land as a reserve for either speculation or production at some indefinite time in the future. It should be recognized that the approach and the policies recommended here are not intended to commit the government or private companies to particular kinds of leases or lease terms for all time. Periodically, the government should review leasing terms and procedures in close consultation with industry and others interested to see what modifications, if any, might be made in later leases. The point is to employ leasing policies for commercial scale tracts so as to give a degree of encouragement to the development of an oil shale industry, particularly the needed R & D phase which must come next in time, without in any way jeopardizing the public interest.

The broad intention of these recommendations should be clear: it is to offer a reasonable degree of encouragement through appropriate R & D and subsequently commercial lease arrangements so that the oil shale resource may be developed, when the time is ripe, by private industry, with adequate incentives to private companies and adequate protection of the public interest in the development of a resource which is owned by all the people.

VIEWS OF JOHN KENNETH GALBRAITH (WITH CONCURRENCE OF BENJAMIN V. COHEN)

#### THE CONTROLLING FACTS

(1) This report is right in stressing that the oil shale deposits, underlying some 5,118,000 acres in Colorado, Utah, and Wyoming, are a publicly owned resource of great magnitude. Several hundred years' supply of petroleum at present consumption rates exist in these beds on lands owned by the people of the United States. Foresighted efforts in the past have kept these lands from those who, under the sanction of private enterprise, view public property only as an opportunity for personal profit. Having withstood thoughtfully designed raids in the past, it is important that the government show equal wisdom and restraint in the present on behalf of our resources for the future.

(2) The American people are not presently aware of the wealth they own in these deposits. It is important both for the conservation and wise and equitable development of these resources that there be the widest public knowledge of this endowment and the issues concerning their exploitation. An informed public will be a major source of strength to officials seeking sound conservation policies. We urge that all conservation-minded members of the Congress and the public inform themselves fully on this vast resource and policies concerning its use.

(3) The amount of oil underlying any given area varies greatly. But the enormous concentration under the richer areas, as noted in the report, must be stressed. In the richest parts of the Piceance Basin some sections of 640 acres are estimated to contain  $2\frac{1}{2}$  billion barrels of oil. Current total consumption of oil in the United States is about three billion barrels annually.

(4) While some eighty-five percent of the shale measured in barrels is in public ownership, the remainder is in private hands. Much of this is owned or controlled by the larger oil companies. Present known private oil company holdings of 168,000 acres contain an estimated 31 billion barrels, the equivalent of ten years' current total consumption for the United States.

(5) As noted in the report, while high quality oil has been produced in small quantity from oil shale, an economical process of recovery has yet to be perfected. While it seems likely that such a method can be developed, the costs of such development are unknown. Hence the eventual costs of production of shale oil are unknown.

(6) There is no showing of urgent economic or strategic need for oil from shale in the present or near future. The domestic petroleum industry is operating under severe government restriction. Imports are subject to quota. These sources are almost certainly cheaper than oil from shale by prospective processes. Hence there is no pressing peacetime need for oil from shale. Given the most rapid development, the share of oil from shale in total production will be negligible for many years. Hence it will not, in the foreseeable future, be an important wartime resource replacing any important present source of petroleum. We cite this because strategic arguments are regularly advanced for oil shale development.