

Others, with equal sincerity, believe that our Federal Government should play a dominant role in shale oil development, reserving to itself the full powers of policy formation on a continuing basis into the indefinite future.

The present draft is, in a relative sense, less objectionable than previous drafts from my point of view. I have therefore agreed to sign it since the privilege has **now been granted Board members**, in this section of our Report, to publicly express their own dissenting views.

MEANS OF STIMULATING OIL SHALE DEVELOPMENT

I strongly support the second alternative in Section IV of our Report, with one vital dissent. I believe that the word "principally" in the last sentence of alternative No. 2, Section IV should not have been used.

The sentence now reads:

"This approach aims to rely principally on private initiative as a means for proceeding with needed research and the development of an oil shale industry."

The introduction of the word "principally" nullifies the agreement by Board members at our last meeting. We agreed then to disagree on *clear-cut* alternative means through which oil-shale development might be stimulated. A reservation, therefore, in one of those three alternatives is inappropriate.

Now to continue with what seems to me to be the most effective means of stimulating oil-shale development. Insofar as efficient production is concerned research and development are not separate activities. They are parts of a single process. They interlace constantly in the actual world of work. Any effort to separate them leads to endless confusion—particularly when the effort is made by government in an essentially private area of our economy. Our second alternative in Section IV avoids this confusion.

I think that research and development to improve the art of shale-oil extraction can most effectively be undertaken by private industry itself—with an eye to future commercial production. The private sector of our economy has done an extraordinary job in the field of research, when that research has been directed into channels looking toward efficient, profitable production for competitive markets.

I see no reason, therefore, why government itself should finance research work to advance the art of shale-oil extraction. By way of illustration, production of off-shore oil and gas certainly had its early research problems. In this fairly recent instance, our Government did not try to establish a value for these underwater areas by research of its own or by contract research.

Rather, it permitted industry to establish the value of these off-shore areas by competitive bidding and leasing. Government revenues under this procedure have constantly risen as the art advanced—and as successive areas became available for further leasing and production.

Private industry did this off-shore research *and* development job and did it so efficiently that energy from beneath the sea is now available to all of us in the market place at prices which are competitive. Why *shouldn't* we turn to industry to develop a competitive shale oil business?

Roughly half of corporate profits are now taken in taxes by the Federal government; another slice is taken by the States; and stockholders pay additional taxes on dividends they receive as individuals.

As a successful shale-oil industry gets under way, additional revenues will accrue to both Federal and State governments, as they already have done in the case of off-shore oil. The second alternative in Section IV of our Report strengthens this healthy process. Under it, government will not be required to engage in those costly research and development activities related to production which have been a traditional function of the private sector of our economy.

Inasmuch as our Government controls the major portion of our richest shale-oil reserves, it does have deep public responsibilities stretching many decades ahead. I have always recognized this fact. Therefore, I've urged early but limited moves by Government to encourage industry to advance the art of shale-oil extraction at competitive prices, much as it did in the case of off-shore oil and gas.

There are many variations of leasing arrangements on publicly controlled lands by which this can be done. We can make haste slowly and learn as we go along. We just don't know enough at this point to lay out a complete program.

Now for three short paragraphs on alternative No. 1 of Section IV. Some of our fellow Board members feel the Government should finance oil shale research indirectly by contract with private research companies. They cite the successful experience in military and space procurement activities.