

at a time, or could one who has developed a demonstrated expertise on fee lands, through his own efforts and expenditures, embark upon step 2 forthwith?

Several companies can be considered as "pioneers." Three that come to mind are the Union Oil Co. of California, the Oil Shale Corp., and the Standard Oil Co. of Ohio. The pioneer has expended considerable sums in developing oil shale deposits in privately owned lands. It does not make sense that the pioneer should have to make a rerun, so to speak, in order to prove his accomplishments. Would the Secretary recognize the pioneer's efforts and accomplishments and make a realistic arrangement with him for the test of truth; namely, commercial production? Of course, it is assumed that the pioneer would provide satisfactory proof to the Secretary that he has, in fact, made these accomplishments.

Mr. Chairman, I want the record to be clear. I speak as an individual who has been interested in developing an oil shale industry for many years, since 1954 to be exact. I do not speak for any company or any industry. I cite the above example as one possible soft spot in the Secretary's program. I emphasize that these pioneers should neither be excluded from participation in the Federal program nor should they be required again to expend their money and time in making a rerun, on public lands, of their achievements.

It would be manifestly unfair to exclude the owners of fee-deposits from full participation in the Federal program or to penalize them for pioneering enterprise. The cost of retorting a ton of oil shale, regardless of oil content, is approximately constant. The main advantage of using Federal lands is that there are more barrels per acre in these lands than there are in most private lands. Thus, the return for money expended in retorting is greater as oil content increases.

As one who has followed oil shale development for many years, I submit, Mr. Chairman, that we are reaching the stage in oil shale that appears to have been reached in the conversion of saline water. You will recall that at your recent hearings authorizing the appropriation of some \$457 million in Federal funds for participation in the proposed conversion plant with a capacity of 150 million gallons per day utilizing nuclear energy, Assistant Secretary of the Interior Frank Di Luzio appeared before you and expressed the vigorous position that study, as such, of saline water conversion had reached a point of no return and that what was needed was commercial scale production before further progress was likely to be made.

So it is with oil shale development. I am convinced that the state-of-the-art has advanced to the point that what the Secretary of the Interior should do is to encourage commercial scale production so that we would really know where we stand.

This is the test of truth.

And now, Mr. Chairman, I would like to turn to another point. In addition to the program of the Secretary of the Interior, is there any way that the Congress can help in establishing an oil shale industry? You are aware of the assistance that other countries have given to new industries. Captain Moore has indicated that a plant producing 50,000 barrels per day would require capital investment in the order of \$100 million. This is a large amount for the private sector of any