

development that there might be some advantages in proceeding on a parallel system of Federal investment or public, or quasi-public investment, which would at least supplement the efforts which are made by the private companies.

Apparently, there is uniformity only on this point as to one thing; that if we are going to use nuclear explosives the Government will be permitted to supply the atom bomb. But I think that the basic research and the basic technology of oil shale development really dates back to the research efforts of the Bureau of Mines in Rifle, Colo., in which the Federal Government had invested some \$15 million. I think that, particularly in relation to the conservation goals, some Federal participation in the investigation of these resources and in the refinements of the technology should be encouraged.

I have no doubt that the president of Union Oil Co. and other executives of other oil companies are sincere in saying to you they do not want to see pollution and the despoliation of the natural resources of the area. There is, nevertheless, a natural difference between the interest of a private company whose primary concern must be a fair return to the shareholders, and the people of the United States, who have to think in broader terms of the preservation of the environment.

We have learned in some ways in recent years that the ecology of an area can be upset by even very slight things, and certainly, if the retorting and development of the oil shale resources are going to be undertaken primarily as suggested by the president of the Humble Oil Co., by the refinements and the methods developed originally by the Bureau of Mines, and refined further by Humble and the group at Anvil Points, then, notwithstanding what other pictures you have seen, there is going to have to be a great deal of intelligent work and hard thinking and a great deal of investing in techniques to prevent the despoliation of the country.

The fact is that the slag, which is a byproduct or the end product, in a sense, of the retorting effort, cannot be redeposited in the holes from which it is taken, and if an oil shale industry of any magnitude is developed, there is going to be a tremendous quantity of this waste product which is going to have to be somehow dealt with. I think in this area, particularly, some direct Federal participation or some indirect Federal participation, perhaps in a quasi-public corporation, would be highly desirable. I believe, certainly, at least, that this committee ought to consider the advisability of that approach as compared with the one suggested to you by the Secretary.

The last point that I would like to make is this: While I agree with what Senator Hansen said, that the sole consideration in the development of oil shale resources is not the amount of royalty moneys that is received by the Federal Government, as a citizen of Colorado, a State which, if an oil industry is developed, I could look forward to the possibility that an oil shale industry would increase the tax base in the community and provide employment for a great many people, and many other subsidiary benefits could be envisioned.

Given that fact as true, however, I think that it is also true that we must consider the matter of the fairness of the return to the people, compared to the fairness of the return to the company. One of the things that concerns me and one of the things that concerned Mr.