

highest praise for the way the research foundation has handled its obligations there, and it would be remiss of me if I did not express that. I think we are also indebted to you or to the foundation for the small samples of oil shale which were before each member of the committee when we started these hearing yesterday.

Just as a personal aside, I can recall when I was a very young boy, and that is a little over 40 years ago, that oil shale was then a matter of common discussion. I can remember going out on the prairies west of Pueblo, Colo., and everybody was going to get rich from oil shale. We were picking up various samples of shale, particularly if they had a little dark streak in them, and applying matches to them to see if we could not find a deposit for ourselves then. So it has been a long time coming.

I think one of the most valuable things in your statement is your reference to the Battelle situation with Union Oil Co. To those who are fearful that everybody is going to get something for nothing in this thing, I think it is significant that in this instance a private company has contracted with a research institute, the Battelle Institute, on far more liberal terms, both as to royalties—there are no royalties—and as to patents than the Government is willing to contract by the proposed regulations with responsible members of industry.

And, secondly, I would like to ask you this question, and I ask it in the sense that I consider you an authority and an expert, and if I were qualifying you in court I would do more qualifying besides that, but do you really think, in view of the lack of ground rules that are laid in the regulations for any production leases, that a company which has already spent millions of dollars in research in this area can afford all of the indefiniteness of the future by proceeding with the so-called exploration leases now?

Dr. CHILDS. No, sir; I do not. I made quite a point of this in my appearance before the Hart committee. I am glad to put this, also, in the record here.

It is not feasible to think of research as only something that goes on antecedent to production. It is an ongoing process throughout the entire history of preliminary work and development, and if one were to take a small lease at a given point in the Piceance Basin and do research there on the process of extracting oil, having drilled wells there to determine the nature of the character of oil shale deposited there, and then be forced to go to another place 30 miles away or 20 miles away in the basin to acquire what he had learned in this new locale, he would have to virtually start all over again because the conditions to be found in one spot must not be anticipated to be exactly those conditions at another spot.

So if there is an assurance that a site can be chosen for preliminary exploratory research that very same site should be susceptible to enlargement into a commercial production so what has already been learned can be most effectively applied.

Senator ALLOTT. As I interpret the regulations there is no such assurance in the regulations.

Dr. CHILDS. And I think I mentioned that in my statement. I said that there was no such assurance that there would be commercial production at all. It is taking it purely on faith. I made a point of that in the discussion.