

I have a prepared statement. I am going to read most of it, Mr. Chairman. I would like to have it all appear in the record.

Senator METCALF. Without objection it is so ordered and you can go right ahead in your own way.

Mr. UDALL. In order to give the committee a very quick insight as to some of the dimensions of the problem that we are here to discuss today I should like to begin, if I may, with a slide presentation, Mr. Chairman, that would give the committee a cross section look at the good and bad things that are happening.

These are pictures taken in the field. Some of them Secretary Moore himself took, and I would like Boyd Finch to make the presentation. It will take about 10 minutes. Then we will get right into the statement.

Senator METCALF. Go right ahead.

Mr. FINCH. (Slide 1.) This is an overview of surface mining to define the terms, to give some idea of the processes involved in the mining, and to show the results in reclamation and in nonreclaimed areas.

Senator METCALF. Where were these pictures taken?

Mr. FINCH. We will identify each one of them, Mr. Chairman, as we go along, if you wish. The first process on the land in most mining operations consists of clearing to remove the natural growth. This is a photograph taken in Campbell County, Tenn., and it shows what is called scalping. In this case a contour mine for coal was being undertaken.

(Slide 2.) This is an area strip mine. Area mining for coal is conducted in flat or gently rolling country. It consists of removing the overburden, the waste material above the mineral commodity, by draglines such as you see in the rear and then loading the coal that has been exposed, by a small shovel such as is in the foreground. This photograph was taken in south central Tennessee.

In this particular case about 50 feet of overburden were being removed to get at a seam of coal about 30 inches in thickness.

(Slide 3.) This is a view of surface mining in west Kentucky. This is area mining again, an aerial view that shows more clearly than on the ground the typical corduroy effect of the piling of overburden as it is removed to expose the coal. In the foreground you can see a large shovel at work.

Both the land in the foreground and the rear have been or are being area mined for coal.

(Slide 4.) This is auger mining. This took place in generally more hilly terrain, in Lewis County, W. Va. The exposed seam of coal is drilled horizontally by augers. This one is about 36 inches in diameter. Some are as large as 6 feet in diameter. The overburden material removed to expose that outcropping seam of coal is visible in the right foreground.

(Slide 5.) This picture was taken in Anderson County, Tenn. It is an aerial photo of contour mining.

(Slide 6.) This is coal mining in the West. This is a Wyoming scene about 30 miles east of Laramie. The situation here is a deep overburden, 40 to 80 feet in thickness, and a very thick seam of coal, some 50 feet thick.

(Slide 7.) Another form of surface mining is the open pit. This one, south of Tucson, Ariz., is not one of the large copper pits, but