Then you come to what we call an open cut mine and strip mining which sounds the same but is considerably different. In this case I have the ground line here, the coal bed lying here. We start out along the outcropping of the coal where it is either thin due to poor cover or due to lack of stability of cover and open, what we call the first cut here. That would be this area here.

We pile the dirt out here and the machine comes down through and takes the coal out. The stripping machine is then ready to start on the second cut. That is this area right in here. He takes this dirt out and piles it here on the second cut.

The loading shovel follows through, takes the coal out and so forth. Then you just keep continuing across up and down the pit as you advance. This could cover a considerable area, depending of course on the thickness of the coal seam. Most of the coal seams average out around 5 feet or so in thickness. This is just a plan of the same thing. As I told you, I hurried through it.

Here is the stripping shovel back here doing the stripping. He is uncovering this portion of the overburden. He is sitting on the coal because this is a shovel. He is taking this dirt and piling it here. Behind him is the coal.

Now if you can visualize, he has been through once. Up here ahead is the loading shovel taking out the coal that he had uncovered with the stripper of the pit before and he leaves a trough here in the coal so that the stripping shovel can then dump into the next cut as that shows you, and just advance along there. When you get to the end you turn around and come back the same way in one pit after another.

This could go into several details if you had two seams or three seams, and so forth. This is an artist's conception of one of our pits. You have seen the large shovels which have gotten a lot of publicity. If I had the gift of words that some of them have here, I could go into the beauty of the machine, but it is an engineering masterpiece. It is 200 feet from the top of the boom to the ground. The bucket, as they say, will move 140 yards of dirt, which is around 190 tons at a swing. The shovel runs along on the coal, and takes the overburden off, puts it in the area where the coal has been loaded before. So you see there is 100 percent recovery of the coal. The overburden is moved from this pit over to here in much the same way as you would plow one furrow to the next, you uncover one furrow to the next. When you get to the last cut you have what the farmers call the dead furrow. This is the open pit that is left at the end.

Almost all of your coal formations in the United States have fire clay under them. This fire clay is impervious to water. When you leave this last pit open, the impervious bottom, you get lakes formed. In many areas all over the country you can see the lakes that are formed from the strip mine pits.

Now I just wanted to go over this hurriedly to show you the differences in the strip mining of coal and the strip mining of other minerals. There is considerable difference but even in the strip mining of coal there is is considerable difference.

For example, we operate in 36 strip mines in different States. The coal varies from 15 inches in thickness to 12 feet in thickness. The pitch of the seam varies from zero degrees, or flat, to more than a 20-percent pitch. The quality varies from less than 10,000 Btu per pound to more than 13,000 Btu per pound.