If the latter are achievable, they are much preferable to the former over the long term. In view of the outlook for increased competition for available world supplies of mineral raw materials the ultimate result of seeking to preserve a domestic productive capacity, that is not economically competitive with other sources, promises to be unfavorable to the United States. Aside from the retaliation engendered through such devices the ultimate outcome is certain to include further reductions in access to the lowest cost world sources of the materials we will need in growing quantities. In other words, with this approach the cost of raw materials to the United States will be higher than it is to other countries who don't follow this type of approach.

Protectionism measures promise only higher costs to the domestic processing industries, much higher prices to the consumer and a further deterioration in the capability of U.S. manufacturers to compete for foreign markets.

Technology, I am convinced, has the inherent power to improve the competitive position of domestic mineral sources. Energetically employed it will be the most powerful force we can exert. But we must not lose sight of the fact that technology is universally applicable. Consequently, if significant advantages are to be gained, they must be sought in areas where the technology will be immediately and particularly applicable to our domestic situation.

For example, the type of low-grade gold ores discussed a moment ago.

An unusual mineral aggregation would be another example. Or perhaps large concentrations of minor minerals, unusually favorable coproduct or byproduct relationships, ready accessibility, and source-to-market relationships that gain through transportation differentials or unusual use or marketing patterns.

Special emphasis will be needed on advancing the development of underground mining systems that will permit achieving costs at least comparable with those incurred in surface mining.

We have in our country very excellent underground mining equipment, the continuous mining equipment in the coal industry, in the potash industry, the tunnel borer.

But do you realize that continuous mining, if it is operating in a big coal mine, will operate only one-third of the time, because we don't have the capability in this system to take the material from the mine and bring it above ground on a continuous basis. So what we really need is a total mining system which will permit that continuous mining to operate around the clock. And this means a special system of removing the material, of providing roof support, of providing ventilation. And this is the controlling step in underground mining.

We can cut coal and we can cut potash and we can break rock an awful lot faster than we can handle it beyond that. And for some reason or other the equipment industry has concentrated on the speed of cutting and let the rest of the system go.

When I was up in Coeur d'Alene they were using one of these tremendous raise borers, and they could move through that hard rock tremendously fast. But they had to leave all the cuttings in the hole, because they couldn't remove them fast enough. And so all the economic advantages of this tremendous rock cutting device were lost.