In the beneficiation process the ore is separated from the sand tailings and clays. The sand tailings do not have great moisture holding capacity and may be readily used in reclamation projects. The ore, of course, is utilized to make salable products. The colloidal clays, however, create a very major problem.

In order to conserve and reuse process water to the greatest extent, the suspended clays are circulated through a settling system and the better water is then withdrawn from the system for reuse.

It is the ultimate disposal of these suspended clays which creates our difficulty. Many acres of land must be devoted to water recirculation systems and settling out the clays.

However, there is an ionic attraction between the very small clay particles and the water in which they are suspended. This attraction causes the suspended materials to settle out very slowly. It usually takes 20, 30, or even 40 years after the area ceases to be used for water recirculation purposes for the suspended particles to become sufficiently consolidated to support even ordinary farm animals and equipment.

Thus, such areas are not even candidates for reclamation for several decades.

It is due to this problem that, at least according to present technology, the phosphate industry can never reclaim 100 percent of the land mined. The process water must be conserved and reused. The colloidal clays must be settled out and deposited somewhere, and, it will be recalled, they constitute approximately one-third of the ore body.

If some technological breakthrough could be found which would allow the suspended particles to be compacted into firm ground at a much more rapid rate, the phosphate industry could make even more significant strides in reclamation.

It is precisely in this area that the Federal Government could be of tremendous assistance. Our industry would welcome a grant of Federal funds, or any other Federal assistance, in helping to solve this complex problem.

If this were accomplished, industry and Government could work together in a constructive partnership which would allow us to produce even more notable reclamation results and better fulfill our stewardship of the land. We have lately been working on this problem in a cooperative effort with the Bureau of Mines, but the results so far are quite meager due to lack of funds.

In summation, the uniform Federal regulations as contemplated in the proposal now pending before you might be acceptable in some areas, but would be impossibly restrictive in others.

We believe that tax funds could be most advantageously spent in assisting us with our technological problem of colloidal clay disposal as I have described. However, if additional regulation is deemed necessary—and we do not believe it is—it can best be accomplished at State and local levels where specific solutions can be tailored to fit the unique problems of industry in the local area.

In support of my presentation I would like to place in the record a number of photographic exhibits, complete with captions, which describe in detail the work being accomplished in land reclamation and restoration by the Florida phosphate industry.