This is in the Busseron Creek Watershed, and there is an index map attached at the back of my statement here if you wish to refer to it, Busseron Creek Watershed in western Indiana, which is a Public Law 566 project of the U.S. Soil Conservation Service.

Because of the 26 projected flood-control structures in this area that contains underground mines, part of which were surface mined, part are now being remined, and part will probably not be mined in the future this is a natural laboratory to study and evaluate the effects of surface-mining activity on a small watershed project.

Mr. Kenneth Grant, who you recall was one of the gentlemen testifying a couple of days ago—he was then Soil Conservation Service State conservationist for Indiana—saw the possible applications of this study to other small watershed projects in areas of surface mining and his agency provided funds to construct and install six stream-gaging stations in this watershed. The construction was done by the U.S. Geological Survey and the stations became part of the cooperative network of that agency, the USGS, and the Indiana Department of Natural Resources, which will now have to pay the cost of maintaining them.

In addition, Mr. Max Noecker, chief of the Evansville Field Station of the Federal Water Pollution Control Administration, accepted the challenge of obtaining such closely controlled data to supplement his agency's studies. This group has made countless sample runs and has analyzed their samples together with many more that have been provided by our university personnel.

Many of these sample runs were made jointly in the field and numerous conferences have been held regarding the relationship between quantity and quality of water. This has resulted in very close cooperation in the acquisition and interpretation of a huge amount of data.

The Indiana State Board of Health, even though it has limited funds for such work, has shared in some of the sampling and analytical efforts, and just as important, the three mining companies that are supporting our research—and these three are Ayrshire Collieries Corp., Enos Mining Corp., and Peabody Coal Co.—have willingly permitted their personnel to work with us in identifying chemical problem areas and have supplied much critical information.

Well, with this natural laboratory of the Pusseron Creek watershed we have learned several things that cast a cloud over some of our cherished beliefs. Four of these are cited in the following paragraphs and I will just mention the names of them and you may read them at your leisure.

Impoundments, such as the Soil Conservation Service reservoirs, of acid waters in permanent-pool reservoirs that have no outlet-regulatory mechanism may provide no relief from acid-mining drainage. In fact, during periods of no flow, which are common in late summer and fall, downstream acid conditions may really be aggravated if there is a flash-flood runoff that stirs up this stored water in a reservoir.

In an acid-producing area, acid water is not discharged from all mines and by careful study we can isolate the troublemakers and also those that are good, and we think that we can use the water that is impounded by the mining companies as part of their processing as a regulatory mechanism to help dilute some of the bad water at various times during the water year.