

The problems of environmental pollution are, to a large degree, a byproduct of our economic progress, as well as past neglect and apathy. Our scientific knowledge of the causes and character of environmental pollution is more extensive than the technology to handle the waste byproducts of our industrial civilization. Because of our failure to undertake adequate measures to prevent and treat pollution, the American people have finally come to a general realization that the air we breathe is laden with products foreign to the original environment, our water supplies are contaminated by waste products, and our landscapes are being despoiled by waste materials for which we have found no good hiding places nor any feasible methods of utilizing or destroying them. The situation is becoming more critical each day as the trend toward population concentration in urban centers continues.

ROLE OF THE BUREAU OF MINES

The Bureau of Mines, by its organic act, is charged with the responsibility to conduct scientific and technologic investigations in the mining, preparation, treatment and utilization of minerals and mineral fuels with a view of improving health conditions, increasing safety and efficiency, and conserving our resources through prevention of waste. In accordance with its original Congressional mandate, the Bureau has been engaged for more than 50 years in research investigations designed to conserve our natural resources, and in many studies aimed at minimizing pollution. Over the years, much time and effort has been expended on investigations to decrease the amount of pollutants entering our water supplies as a direct, or indirect, result of mining operations. These investigations include: acid mine drainage alleviation through mine sealing; economic means of utilizing or disposing of mine wastes; and prevention of contamination by leaching of mine tailings. While we feel we have made progress in these endeavors, problems have been arising even more rapidly than the solutions.

In the field of air pollution abatement, the Bureau of Mines has published over 200 treatises based on its work. For many years the Bureau has been a leader in the battle for the elimination of smoke which tended to cover so many of our industrial centers, and has been active in other aspects of smoke control. While this battle has not been completely won, industry and government have developed economically feasible methods of controlling the largest proportion of the smoke resulting from the combustion of fossil fuels. Likewise, the Bureau in the early 1920's initiated research on fumes released by internal combustion engines, and has continued active investigations leading toward the use of fuels with minimum pollution by motor vehicles. However, the Bureau's research and investigations have not kept pace with the incremental growth of the problems resulting in part from the tremendous increases in the number of automobiles, trucks, and buses. Owing largely to lack of sufficient funds, work on the technology for pollution control has not been sufficient to cope with the needs.

The Bureau also has a long-standing interest in the reduction of sulfur oxides pollution resulting primarily from the combustion of fossil fuels and metallurgical operations. Investigations of particular note which we have conducted, include: the cleaning of coal to remove sulfur-bearing waste; desulfurization of petroleum products; improving combustion efficiency to conserve fuel resources and produce less pollutants for a given energy production; and the removal of sulfur oxides from waste gases and conversion to useful products of commerce.

COMMENTS ON THE REPORT OF THE RESEARCH ADVISORY PANEL

With this long-term background of scientific and technologic effort in the field of pollution abatement, the Bureau is most pleased to endorse much of the report of your Research Management Advisory Panel on this subject. In particular, we wish to draw attention to the viewpoints expressed in the first paragraph of the section entitled, "The Need for Additional Technology." While it must be recognized that the environmental pollution problem is much broader than the samples cited in this section, the illustrations given are among the more pressing problems now confronting the Nation. Industry and Government can, I am sure, develop economically feasible ways to improve the environment in which we live. The necessity for such improvement is only too apparent.