

ture plans. In our work on municipal wastes we intend to study the feasibility of recovering metals from raw (as collected) refuse. Funds permitting, a demonstration plant, designed to operate on a continuous basis, will be established, preferably at the site of a modern municipal incinerator. This plant will allow a complete economic analysis of the recovery system to be made and will serve as a model for municipalities which wish to establish similar plants.

Tailings stabilization work on test plots will be continued. Major copper and uranium producers in the Southwest are cooperating closely with the Bureau in this work and, if small-scale tests are promising, large areas will be treated by the companies with Bureau experts acting as consultants. Work on converting tailings into a raw material for construction and for making clay and ceramic products will be continued until the work reaches a stage where it can be taken over by commercial producers of these products. Research on underground disposal of wastes will be continued until fairly reliable economic data are available. If the process appears to be feasible, cooperation will be sought from a company with tailings-disposal problems in conducting a large-scale test.

Research will also be continued on the upgrading of nonmagnetic taconite by roasting with scrap. In cooperation with the Institute of Scrap Iron and Steel and the American Foundrymen's Society, an extensive program of research will be started to evaluate the feasibility of preparing low-grade scrap for efficient foundry or steel plant use by various melting processes.

We will continue the research-grant and contract program to supplement our inhouse research. The grant and contract program is closely coordinated with the solid waste research activities of the Department of Health, Education, and Welfare. The program includes financial support and technical guidance in the training of engineers and scientists in the field of solid waste disposal. Results of the program will add significantly to the store of knowledge needed for an effective attack on solid waste problems and the information gained will be applied wherever practicable for the benefit and welfare of the general public.

Solid wastes from mining, milling, and smelting of minerals are increasing rapidly as consumption of metals and minerals increases and the ore producers are forced to mine and process greater quantities of lower-grade materials. In the public interest, we need to exploit the knowledge and skills of personnel at universities and research organizations to supplement that of our own personnel in their attack on the problems involving utilization or disposal of these wastes. Of approximately 18 grants in force in 1968 about a dozen will be continued in 1969. The program includes work on the potential use of tailings of various types for the fabrication of ceramics, building materials, and insulating materials and the recovery of mineral values where possible. Removal of anthracite refuse banks in the heavily mined region of northeastern Pennsylvania, and recovery of useful materials from such banks are included in the grant program. The six contracts in force in fiscal year 1968 will be completed but no new ones will be started.

In more than 150 years of mining in the Anthracite Region of Pennsylvania over 900 million tons of mine refuse have accumulated. Today there are some 22 refuse piles containing more than 60 million tons of material that are on fire. These "burning banks" pose a menace to public health and safety and in general seriously affect the economy and welfare of a large and heavily populated region.

A demonstration project is underway at the Baker Bank in Scranton, Pennsylvania for the purposes of evaluating methods for extinguishing and disposing of burning refuse banks. Information gained from this demonstration could be used for planning action programs for the orderly quenching and removal of refuse banks that significantly contribute to the degradation of the environment.

This concludes my statement, Mr. Chairman. I shall be pleased to answer any questions that may have occurred to you or the committee members.

Mr. DADDARIO. This committee will adjourn to the call of the Chair. (Whereupon, at 12:10 p.m., the subcommittee adjourned to the call of the Chair.)