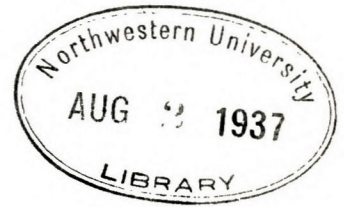


THE WORKS PROGRAM

-- Works Progress Administration --



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WPA Mine-Sealing Operations Show Huge Profit.

Destructive floods of sulphuric acid, pouring into the Ohio and Potomac River tributaries from abandoned coal mines, have been reduced 60 per cent to date by WPA mine-sealing operations, according to reports made today by Harry L. Hopkins, Works Progress Administrator. The project has been indorsed by the United States Public Health Service, United States Bureau of Mines and the National Resources Committee.

The total annual discharge of acid from these abandoned workings, particularly down the Ohio and thence into the Mississippi River, was steadily increasing and had reached 2,000,000 tons. To add to this menace, active mines were also discharging about 2,000,000 tons a year into these tributaries.

"The damage done by these acid waters to the steel piers of bridges, to the unprotected hulls of boats where the paint has become scraped off, and even to concrete abutments of dams and walls of locks, amounts to millions of dollars annually," Lt. Col. J. C. Mehaffey, executive assistant to the Chief Engineer, Works Progress Administration, writes in his report. "The cost of treating acid

waters to make them fit for human consumption or to counteract their corrosive effect on boilers, amounts to additional millions of dollars. On a fifty-mile stretch in the Monongahela River, it is estimated that the cost of purification alone reaches \$800,000 a year, without taking into account the damage done by corrosion to unprotected structures.

"In addition to these effects which can be evaluated in terms of dollars, the losses due to the pollution of water formerly used for livestock, to the gradual ruin of grazing lands and to the killing of fish constitute tangible damages which are difficult of evaluation." The general health menace was also a constant concern of the United States Public Health Service.

Under the WPA project more than 1,000 abandoned bituminous mines, with approximately 50,000 separate openings, have been sealed in Pennsylvania, Ohio, West Virginia and Kentucky, and work is also being carried on in Indiana, Missouri and Alabama.

In summing up the results of the project up to date, Colonel Mehaffey reports:

"The waters of many streams in West Virginia and other states contributing to the Ohio and Potomac River systems have been changed from a highly acid condition to a practically neutral one. Fish are now found in streams from which they have been absent for years. Industries have been enabled to reduce or eliminate their expenditures for soda ash in order to provide safe boiler water, municipalities are able to operate their water treatment plants and their sewage disposal plants with greatly reduced expenditures for chemicals, and farmers find that their livestock are now able to drink river water in localities where the pollution had previously been so great that they had

been forced to pump or haul water for their cattle.

"The total expenditures to date have been less than the annual damages to Federal locks and other navigation structures, so that the funds expended will be saved many times over each year." The cost of the project so far is slightly more than \$3,000,000. The peak employment, mostly of unemployed miners, reached 5,307 men, and now stands about 3,000.

A number of Pennsylvania, Ohio and West Virginia State officials have also sent Administrator Hopkins detailed reports on the beneficial results of the project, these reports showing a range of reduction of sulphuric acid content from a minimum of 50 to well over 90 per cent in some cases.

The State health officials of Pennsylvania, Ohio, West Virginia and Kentucky have campaigned for years, with the cooperation of the United States Public Health Service, to overcome the serious health menace and enormous economic losses of acid pollution by mine-sealing, but State laws proved ineffective until Uncle Sam stepped in.

Some fifteen years ago the Bureau of Mines discovered that coal mines, particularly idle or abandoned ones, were huge factories in which sulphuric acid was produced by the oxidation of sulphides forming a part of the rock from which the coal had been taken, or a part of the coal formation itself. In the absence of air, these sulphides remain in an insoluble form not easily attacked unless the waters filtering through the ground are themselves acid. Even though dissolved by acid waters, air containing oxygen is necessary for the formation of injurious sulphurous or sulphuric acid.

The sealing of mines, as carried out under the WPA project, does not attempt a complete impounding of water.

The technique has been: (1) to close all possible entrances for surface air and to divert as much as possible all streams that might percolate into the mines; (2) to build water traps in the drift exits so that any water in the workings is free to come out but air cannot enter.

The project dates historically from studies made by the Federal Bureau of Mines, and from the creation of an "Ohio River Interstate Stream Conservation Agreement" by health commissioners of eleven States in 1924, the reduction of sulphuric acid content in the river being one of the objectives.

The project actually started with a CWA grant in the autumn of 1933, with the approval of the Public Health Service and health departments of ten of the States signing the Stream Conservation agreement.

It has been carried on intensively by the WPA for more than two years.

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