

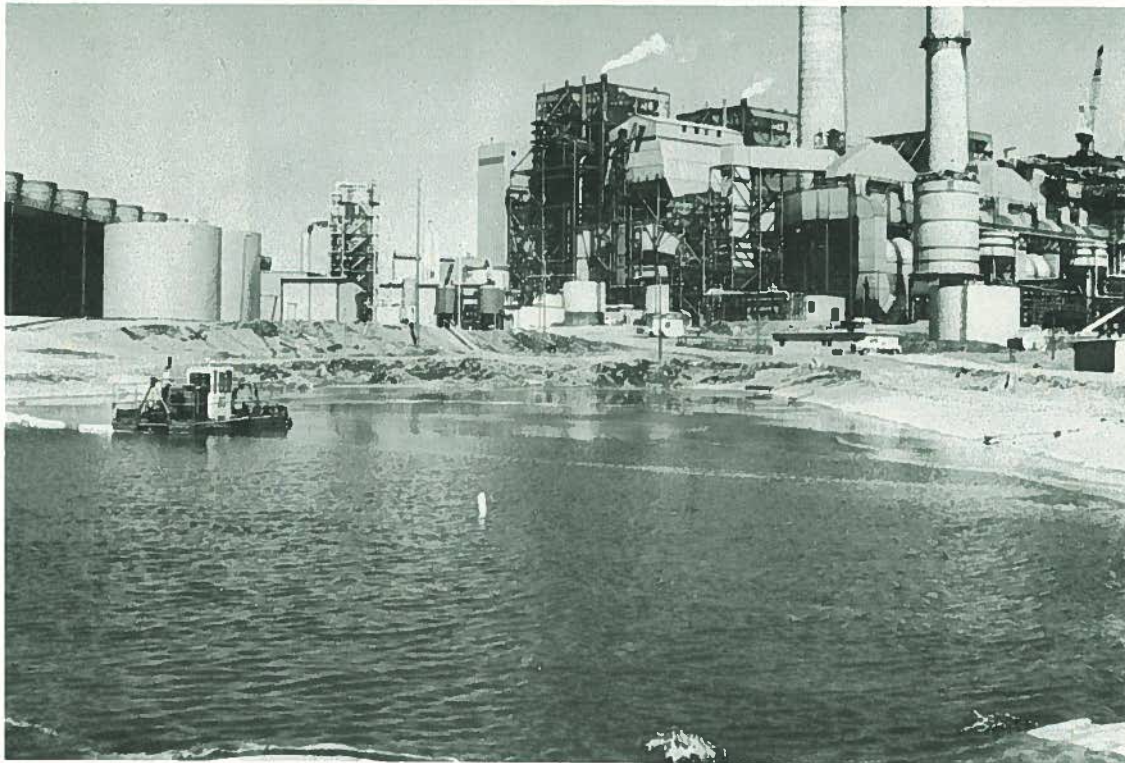
Soil-Cement FOR THE ENERGY AGE

STRONG, ECONOMICAL, DURABLE, IMPERMEABLE



Ash Settling Pond

San Juan Power Plant, New Mexico



Ash settling pond, San Juan Power Plant, New Mexico.

The Public Service Company of New Mexico owns and operates the San Juan Power Plant located near Fruitland. A settling pond was constructed in 1973 to treat the fly ash slurry generated from Unit 1 of this operation. The pH of the slurry ranges between 3 and 10. After the ash settles, the supernatant is decanted into a concentrator, boiled down, and stored for use as boiler water. The ash sludge is periodically removed and discharged to a dump truck and hauled to a strip mine for disposal.

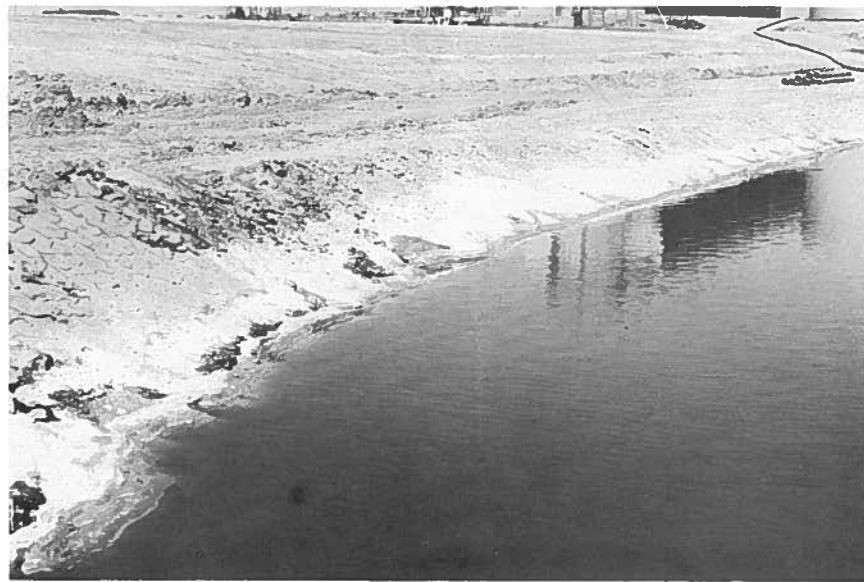
The pond is approximately 460 ft (140 m) long and 150 ft (45.7 m) wide with 3:1 (horizontal to vertical) side slopes. Operating depth is approximately 6 ft (1.8 m). Since it was necessary to provide seepage control and a firm working surface to support construction equipment for sludge removal, the designers selected soil-cement as the lining material. In addition, material in the pond is acidic at times and with a thick lining, some soil-

cement could be allowed to deteriorate without impairing the performance of the lining. Therefore, an 18-in. (457-mm) compacted thickness of soil-cement was constructed and placed in three 6-in. (150-mm) layers on the bottom and side slopes of this pond. Onsite soils were plant-mixed with cement and water to produce the 9000 cu yd (6870 m³) of soil-cement.

The soil-cement is performing satisfactorily. In addition to being exposed to an ash generated from subbituminous coal, it has supported construction equipment such as front-end loaders and clamshells during the annual removal of sludge. More recently only a dredge was used. However, due to the low viscosity of the sludge, a small farm-type tractor is now being utilized in conjunction with this dredge. The tractor is equipped with a rear scraper blade and is used to keep the slurry fluid so pumping can take place.



Sludge removal with dredge and farm-type tractor.



Soil-cement slope protection at ash settling pond.

This publication is intended for the use of professional personnel competent to evaluate the significance and limitations of its contents and who will accept responsibility for the application of the material it contains. The Portland Cement Association disclaims any and all responsibility for application of the stated principles or for the accuracy of the sources other than work performed or information developed by the Association.

PORTLAND CEMENT  ASSOCIATION

An organization of cement manufacturers to improve and extend the uses of portland cement and concrete through scientific research, engineering field work, and market development.