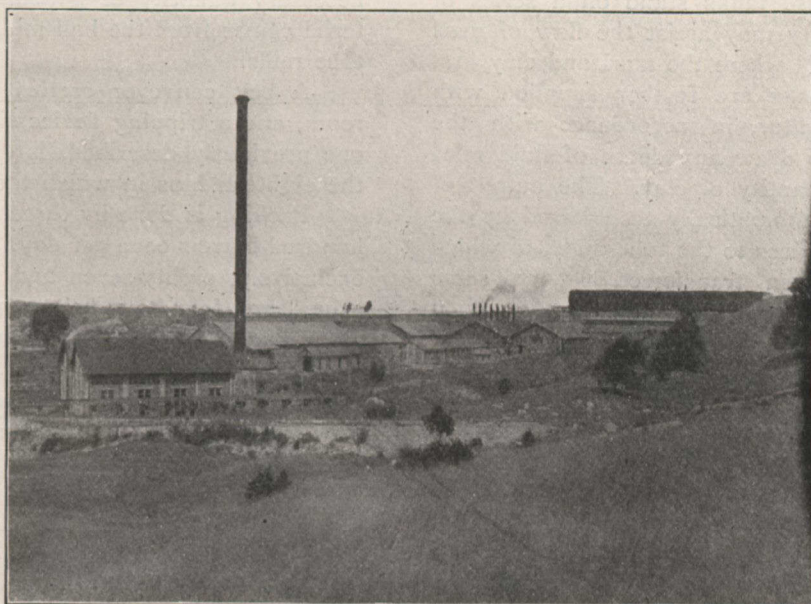


The Cement Industry of Ontario.

By P. GILLESPIE.

(From the last published Report of the Ontario Bureau of Mines).



NATIONAL PORTLAND CEMENT COMPANY, DURHAM, ONT.

General View of Works.

IV.

Ontario's Cement Plants.

The description of the various cement plants in Ontario, as seen by the writer, is continued.

The National Portland Cement Company.

President	W. F. Cowham.
Vice-president	A. F. MacLaren, M.P.
Superintendent	H. H. Farr, Durham, Ont.
Authorized capital	\$1,000,000.
Works	Durham, Ont.
Brand	"National."

The National Portland Cement Company began the manufacture of cement early in 1903. The works stand at the bottom of a rather steep declivity, and the railway supplying the raw materials is continued from the plateau on a level steel trestle over the storage rooms, thus facilitating the unloading very materially.

Wilder's Lake, five and a half miles from Durham, and Tobermory Lake, in the same neighborhood, are the sources of the marl. The former has an area of 125 acres, and the deposit varies in depth from two to fifty feet. The latter is but fifty acres in extent. The overlying water is of a depth of twelve feet in places, and beneath this is an average of twenty-five feet of marl. Clay is brought from Stratford, a distance of sixty-nine miles, and is hauled to the works on flat cars. Of this, the company has acquired a deposit of forty acres.

The marl is raised by floating dredge with an orange-peel dipper. This dredge is equipped with a stone separator and a pug-mill.

After passing through these machines the marl is conveyed through a flexible tube, carried on a series of pontoons, to the hopper-shaped cars on shore. The "Harris" system of conveying by compressed air is here employed, and is said to work to the utmost satisfaction.

The clay is fed into a plain rolls disintegrator, and after passing through a cylindrical rotary drier, 50 feet long and five feet in diameter, is conveyed to a Phillips & McLaren dry pan. This consists of a pan containing a pair of huge upright wheel-like "molars," similar in construction to the at one time familiar "edge-runners." The pan has a moveable meshed bottom, so that the size of openings can be altered from three-eighths to five-eighths of an inch. The pan is made to revolve while the axis of the molars retains its fixed position. The clay is thus pressed through the meshes and reduced to the desired size. It is then fed to a conveyor and passes to the dry clay storage room, 100 by 60 feet. Here the chemist takes samples for analysis every hour of the twenty-four.

Running longitudinally with the dry clay storage room and beneath its centre line is an underground arched tunnel, carrying a bucket conveyor. The roof of the arch is provided with hopper-like openings, which may be opened or closed at pleasure. The dry clay may thus be drawn from any part of this building and transferred to the wet department. It has been the practice of the company to store during the open season a quantity of clay for winter consumption, and for this purpose a large wet storage room from which the drying plant is conveniently supplied, has been erected. The dry clay is delivered to the mixing pug-mill by measuring hoppers, each of about 600 pounds capacity.

The marl is brought in on the high level trestle above referred to and dumped into a hopper of two cars