

brick plants and two face brick plants were in operation, and that for only part of the time.

On the strength of the boom a plant was built at Claybank before the coming of the Canadian Northern Railway to the locality, but, unfortunately, the railway was not available until the wane of the building boom. This plant at Claybank, owned by the Dominion Fire Brick and Clay Products Co., has turned out a fine range of flashed brown face brick, made by the dry-press process from the refractory clays of the Fort Union formation. At present, the company is concentrating on the production of refractories, and the outlook is very promising. The product made should be equal to the standard firebrick imported from the United States.

One of the oldest and largest plants in the Claybank area is that of the Estevan Coal and Brick Company, located on the bank of the Souris valley, one mile south of Estevan. It is producing an excellent red face brick made by the dry-press process, and common, buff, stiff-mud brick.

Six miles south of this, at Shand station, the Maple Leaf Mines, Limited (Shand Coal and Brick Co.), operate a stiff-mud brick plant, using buff-burning calcareous clays. The product is an excellent grade of common wire-cut brick.

At Weyburn, the Weyburn Brick Company operated a dry-press and stiff-mud plant for a number of years; but it has been shut down since 1914. The raw materials present some difficulties, and, should the plant be operated again, it would be well to consider using the refractory clays of Yellow Grass and Halbrite. East of Weyburn, at Arcola, the Arcola Brick Works operate a stiff-mud brick plant for making common buff brick.

In the oldest settled part of the province, along the main line of the Canadian Pacific Railway, several small, soft-mud brick plants have been manufacturing common brick, but at present only one, that of the Broadview Brick Company, is in sufficient repair to operate. The product is a good grade of common buff brick. This plant was not working during 1916-17.

At Pilot Butte, east of Regina, the Pilot Butte Brick Company have a small soft-mud brick plant making a rather low grade of common brick from clay found in irregular pockets in a glacial outwash plain. The plant was operated during part of 1916. At times in the past, small local brick yards have been in operation at Balcarres, Moose Jaw, in the Qu'Appelle valley north of Indian Head, and at Wolseley.

Sewerpipe or stoneware clay is being shipped outside the province to Medicine Hat, for the manufacture of sewerpipe, sewer block, flue lining, wall coping, and stoneware pottery. No plant for the manufacture of these wares has yet been established in Saskatchewan.

### Railways

Until recently, rail transportation has been lacking in the most valuable clay areas. The Portal-Moose Jaw branch of the Canadian Pacific Railway has served the Estevan field for a number of years, but the important refractory clays do not occur there.

Just three years ago the Canadian Northern Railway completed its Avonlea-Gravelburgh branch, as far as Claybank in the Dirt Hills, and made the high-grade clays of this locality available. However, the market for high-class face brick broke about the time the railway was laid down, and the plant at Claybank suffered accordingly. During the past two years the same Canadian Northern Railway branch has been constructed farther

west, and made available the clays of the north end of Lake-of-the-Rivers, near Mitchellton.

Four years ago the Canadian Pacific Railway started its Weyburn-Stirling line; and since then has tapped the clays of the south end of Lake-of-the-Rivers and of the Frenchman River valley. The line is now completed as far west as the Alberta boundary, and it is hoped that the time is not far distant when connection will be made with the construction east from Stirling, Alberta.

South of the Canadian Pacific Railway the Canadian Northern Railway Company has a branch line extending westward to near the southeast end of Willowbunch Lake. If this line is completed along the proposed route, it will open up the clay and lignite areas immediately to the north of Wood Mountain.

### Fuel Supply

At present, most of the fuel used is brought by rail over the main line of the Canadian Pacific Railway from Alberta. It is mostly a semi-bituminous coal, and, because of the long haul, the price is high. In the Estevan field a certain amount of the local lignite is utilized, but its full efficiency is not being realized.

Extensive tests carried on at the fuel testing plant of the Mines Branch, Department of Mines, Ottawa, have shown that the lignites are ideal for making producer gas for power generation in a gas engine. No steaming tests have been made, but the analysis points to its successful application in this way under suitable mechanical conditions.

Lignite of the same age as that at Estevan is being used with decided success in the plant of the Hebron Fire and Face Brick Co., Hebron, North Dakota. The gas is used in a large Richardson continuous kiln, burning fireclay face brick.

Recent development in methods of firing intermittent kilns with gas, indicate that it is a great saving in fuel and kiln expense. The so-called Underwood system has been installed in a number of American plants, and is worthy of investigation.

The gas producer has come to the clayworking industry to stay, and the clayworkers of Saskatchewan, and the West generally, should not be slow to adopt it as an economical means of converting a poor fuel to a high-grade one.

Natural gas has not been struck, as yet, in commercial quantities anywhere in the southern part of the province. Preparations are being made to sink a well at Eastend, in the hope of getting a cheap fuel to aid in the local development of the clays.

That satisfactory progress is being made in connection with the work on the Halifax shipyards is stated by the managing director, Roy M. Wolvin. The graving dock is working to capacity day and night, and the number of men employed has recently been doubled. On the completion of the plant the company will proceed to build the 10,000-ton vessels contracted for by the Dominion Government. The largest ocean freighters now being built in Canada are 8,400 tons, constructed at the Vickers yard in Montreal.

The Canadian Stewart Company, contractors on the Toronto harbor work, have entered an appeal against the assessment by that city of \$102,100 on 10 11-100 acres of land leased by them on the water front south of Front Street. The land is assessed at \$10,000 an acre, and the buildings at \$1,000. The contractors' business assessment amounts to \$25,525. In their reasons for appeal they say: "We are cancelling our lease with the G.T.R. as of June 30th, 1918, and at present are moving our plant away from this site. Most of the plant has been sold and the balance is being moved to the foot of Cherry Street, to the site of our work for the government and the Toronto Harbor Commission."