THE HUDSON BAY RAILWAY, 1931 ADDITIONS

The Engineer and the Hudson Bay Railway.

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he last spike at April 3, 1929, and first lift of gravel the Muskeg Lim- ed as the first train the end of a long of the engineer. It f the skill of the ad, if it marked the eries of new prob- of the success with will be solved. The challenge to the it is particularly a adian engineer.

line dates back to the Hudson Bay ing up of railway the south and from 'eighties a short built north of Win- part of the road Gypsumville. The Ry. continued the ain line to Hudson a branch was com- 67 miles from Win- 1908, survey parties ocate the route to

engineer advocated lson as a terminus, 10, the first sod was In 1913 the bridge ewan was completed the season 80 miles laid. By 1917 rails le 332 and the grade n. After a lapse of were renewed in 19- ditioning of the line n of new divisional 137 and 327. Mean- s involved in estab- elson, because of the of the mouth of the sideration of the ter- Palmer was asked to tive merits of Chur- om the standpoint of berths for three ships commodation for six the ships having a han 26ft. Machinery irplane, and borings bottom of Churchill ter of 1926-1927. It would be possible to to the required depth able report from an on the possibilities of way to Churchill en- made in Aug., 1927, would be changed from oint. The importance making possible this plans cannot be over-

of railways after the frozen ground area of of The Pas has in- ing the putting down of 51 miles in 56 days. On this unballasted roadbed, supplies were rushed in, and after navigation opened ballast trains were used to dump gravel on the roadbed. The track was lifted up and gravel put underneath. The experience gained with construction on this section was elaborated on the Hudson Bay Ry. In part the problem was solved by the use of the tractor, but the basic consideration as in the Flinflon line, involved putting down the track over frozen ground, and rushing supplies, ballast trains and equipment to the various ballast pits along the line, especially at miles 396, 467 and 507, before the open season. On Oct. 16, steel had reached mile 428, and by April 3 the last spike was driven at mile 510. The ballast trains operated both ways from the pits and gradually filled up the unballasted portions of the line.

Tracklifting gangs were engaged in raising the track by jacks and pounding the gravel underneath the ties. During the open season the whole was kept under close supervision by a completed telephone system and the use of small gas cars operated over the unballasted track. The station men, employed formerly to build the grade, were transferred under this system to the task of digging extensive ditches to drain off water from the small lakes and pot-holes across which the road had been built in winter. The technique of construction involved the solution of various problems, including the thawing of gravel in the ballast pits and the thawing of ground with steam points for piles. Moreover the problem involved in securing an adequate water supply for winter operations at various water tanks and also at the terminal at Churchill and of laying out buildings and elevators on frozen ground may be satisfactorily solved only after a long period of experiment. Comparatively little scientific investigation has been carried out on frozen ground and it is limited chiefly to work in Russia and to practical experience in the Yukon and on the Hudson Bay Ry. Canada should be in a position to make distinct contributions on the subject. The construction of the railroad has been achieved successfully as the result of the skill and courage of Canadian engineers in advancing boldly to the working out of new technique.

The completed line has a maximum grade of 0.4 northbound. The elevation at The Pas is 1,190 ft. and at mile 10 it increases to the highest point, 1,290 ft. There are few curves of more than 3° and the total curvature is 12.6% of the mileage. Construction includes 51 miles in cuts, 12 miles solid rock work and the remainder embankments.

The port engineers have had a wealth of experience at Nelson and at Churchill. Dredging operations, as carried on at

signed ships, are all within the range of the engineer's problems.

But assuming that facilities have been established by which wheat can be shipped throughout a period of 12 weeks, which is generally conceded, assuming that connections have been built to The Pas by which a railway system built to converge on Winnipeg is realigned to converge on Churchill, and that sufficient time has elapsed to put the road in condition for handling heavy train loads of wheat and the port in condition for the rapid loading of ships at Churchill, the line is subject to numerous handicaps. In the first place the cost, including the abandoned works at Nelson and the port at Churchill, as well as all other equipment, with the interest charges on capital invested during construction, will not fall far short of and will probably exceed $50,000,000. It has been argued that the port will be able to handle 100,000,000 bush. in a favorable season, but it is necessary to keep in mind that freight charges, insurance and general expenses must be adjusted in line with other ports, Vancouver, Montreal and New York. The Canadian National Rys. and the Canadian Pacific Ry. to the east and to the west are strongly entrenched competitors. Allowing for a possible lengthening of the season through improvements introduced as a result of engineering skill, for a return cargo which will cut down the costs of a back haul of empty cars for at least 510 miles, and for elaborate storage facilities at Churchill cutting down the peak load haul during the open season, there is still the necessity of earning interest on the investment for eight and possibly nine months of the year.

The ultimate success of the line will depend therefore on the development of local traffic along the railway and in Hudson Bay. The task of the engineer and of Canadians is that of opening up the Canadian north made accessible by the railway. It is becoming increasingly apparent that mining and water power are the basic factors in future development. Lumbering and fishing may be developed, as subsidiary industries to mining and power, but the evidence so far available is not encouraging as to their development on a large scale. Narrowed down to minerals and power, the problem may be discussed more clearly. In the first place, in the search for minerals substantial progress has been made in working out a new technique. The construction of the railway has facilitated the establishment of depots along accessible parts of the Bay. From these depots the prospector, with canoe or airplane, is able to get into the country early in the season and to remain later than would otherwise be possible. The east and west coasts have been made accessible and also the western Arctic. The third side of the triangle, of which

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is being proceeded with.

Churchill Townsite Opening To Be Delayed.

Winnipeg press despatch, Jan. 13.—Churchill, western Canada's seaport on the inland sea of Hudson Bay, will not be opened to the public until the spring of 1932, according to well informed northern men here today. While the harbor will be opened for grain shipments to Europe by the northern route during the present season on or about Sept. 5, only a very few business houses will be allowed to establish headquarters in the seaport terminus. Opening of the northern town is under the jurisdiction of the Manitoba Government, but it is pointed out that facilities are far from the completed stage. While a water site has been obtained, months of labor are ahead before the site of the new town is ready for the hundreds that would pour in to the scene of construction. Dominion authorities are eager to delay the opening of the northern seaport until construction work is practically completed, and it is believed the Manitoba Government will follow the Dominion Government's desires in this respect.

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the Canadian National.

Hudson Bay Ry.—James Lyons, M.L.A., for Sault Ste. Marie, was reported as having, in speaking in the Ontario Legislature recently, expressed great doubt as to the commercial success of the Hudson Bay Ry., unless the line is linked up with others. He predicted large returns from the extension of the Timiskaming and Northern Ontario Ry. to James Bay, and that that railway will be extended around the south and west shores of James and Hudson Bays to Churchill. While he was of opinion that transport of grain via the Hudson Bay Ry. and Churchill will not be as successful as anticipated, he is reported to have stated that with an outlet from the Peace River territory to Churchill, and connection there with the extended T. and N.O.R., a saving of about 700 miles in the rail haul to Montreal could be effected.

Freight Car Condition and Supply.—

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