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The Construction of the Algoma Central and Hudson Bay Railway.

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The construction of the Algoma Central and Hudson Bay Railway was originally begun in the spring of 1900 by the old Lake Superior Corporation, under the management of F. H. Clergue, and a land grant and subsidy was granted at that time by the Dominion Parliament.

Construction was carried on until the spring of 1903, at which time there was graded a continuous line from Sault Ste. Marie, Ont., to a connection at Josephine Jct., 170½ miles north, with a line extending down to Lake Superior, at Michipicoten Harbor. This section, 20 miles long, was built in 1899-1900 to gain access to valuable iron mines in this territory, owned by the corporation. The grading on the main line was not completely finished, however, as financial misfortunes overtook the corporation and track was only laid to about 55 miles north of Sault Ste. Marie. A large number of bridges and trestles between this point and Josephine Jct. were also not built but otherwise the line was completed to sub-grade. Between 1903 and 1908 additional track was laid to carry the end of steel to mile 68, but no other work was done north of this point.

In 1909 active measures were begun to complete the A.C. and H.B.R. by an English syndicate, which had, in the meantime, secured control of the Lake Superior Corporation, including the Algoma Steel Co., the railways and other transportation and industrial interests, at Sault Ste. Marie. Before undertaking the completion and proposed extension of the railway, a report was made for the management on the whole project by F. H. McGuigan, of Toronto, formerly of the G.T.R. He reported favorably on the completion of the line and on its extension to connect with the National Transcontinental Ry.

The necessary financial arrangements being successfully completed, the first work undertaken was the locating of a line to connect the old grade near Hawk Lake with the C.P.R. This was accomplished by the location and construction of 30 miles of line from Hawk Lake Jct. to Hobon on the C.P.R. S. Keemle, Toronto, was in charge of the locating party on this work. A 0.6% compensated 6° maximum curve line was secured at a cost of about \$38,000 a mile complete, including track and structures. In May, 1910, a contract was let to the O'Boyle Bros. Construction Co., of Sault Ste. Marie, Ont., for this section, and on July 1, 1910, another contract was let to the same contractors for the completion of the main line from mile 68 to Josephine Jct., mile 170½, including re-grading at points where cuttings had slid in, bringing up settled embankments, all the bridging (excepting Montreal River), track laying and ballasting.

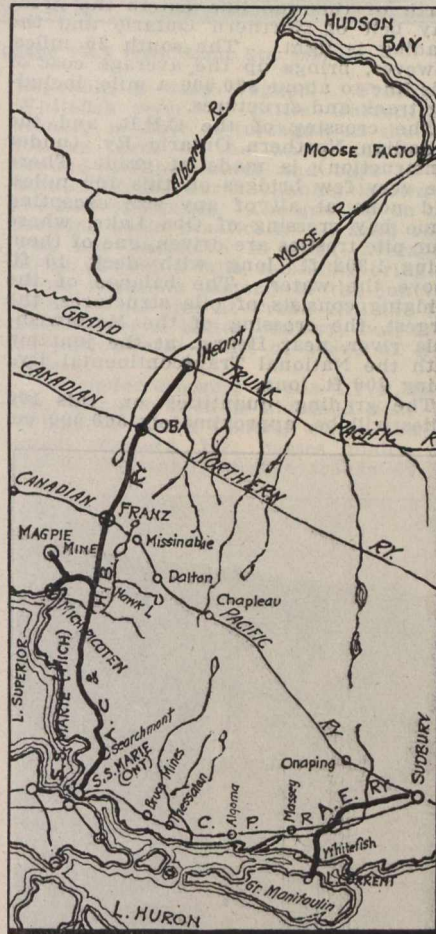
In the meantime a spur line of 9½ miles was located from a point 17 miles from Michipicoten Harbor on the line extending from the lake to the mines, northerly, to a new Magpie iron mine. This construction, including track laying, and the ballasting, was also let to the O'Boyle Bros. Construction Co., and in May, 1910 active work was started on this section.

The railway company also started work to repair and re-tie that section of the 20 miles extending from Michipicoten Harbor to Josephine Jct. known as the Josephine branch, being the upper 10 miles of the line which had been wholly unused for over eight years, and which was in wretched shape, as the ties were rotten, and very little ballast having originally been put on when first constructed it was necessary to re-ballast the whole section. The railway company did this work with its own forces with some help from the O'Boyle Bros. From May, 1910, to Aug., 1911, the work on the main line, north from mile 68 and south from Josephine Jct., the grading of the Hawk Lake-Hobon sec-

and 2.5% flat, with the traffic. The first 4½ miles to the crossing of the Magpie River was light work, except for some heavy side cutting descending the slope to cross the river, at which point the adverse grade of 1.5% compensated was located. From the river crossing, however, to the mine the line is heavy, and at mile 7½ there is a timber trestle 900 ft. long, 80 ft. high, on a 12° curve and a 1.75% grade. Up to this point the grade is 2% maximum, from here to the mine site it is 2½%, 12° being the maximum curve. Very large expenditures are being made by the company in opening the mine, and in addition to a plan for treating the siderite ore, a model mining town is being built. This branch is laid with 80 lbs. A.S.C.E. rail with Seller's shoulder tie plates on all curves and is most substantially built in all respects, excepting that timber and piles were used in bridging.

On July 15, 1911, the sub-contractors on the Hawk Lake-Hobon section finished the grading. Murdoch Bros. had the lower 19 miles, and Cavicchi and Pegano the upper 11 miles. The work was quite heavy, the grading quantities being 732,933 cu. yds.; classified 261,269 cu. yds. solid rock; 94,378 cu. yds. loose rock, and 377,286 cu. yds. common excavation. In addition there was 20,178 cu. yds. over break in rock cuttings. About 3,000,000 ft. b.m. of bridge timber and 40,000 lin. ft. of piling was also used on this work. Other items of grading, etc., included 1,500,000 cu. yds. overhaul, 170,000 ft. b.m. culvert timber, 220,000 lbs. bridge iron, 291 cu. yds. dry stone masonry, 423 cu. yds. cement masonry and other small items. The rock work was exceptionally well done, as the specifications only allowed common excavation for over break and all the time the work was in progress this was enforced. On final estimate, however, a fair amount of over break was given as solid rock. Track laying and some ballasting was done this year and the bridge work was completed. On Jan. 10, 1912, track was connected up, giving railway connection from the C.P.R. into the mines of the Michipicoten district. Some ballasting was also done this year.

Work on the main line completion progressed slowly from June, 1910, to May, 1911, at which time track had reached the Montreal River, mile 91½ north of Sault Ste. Marie. Here a steel viaduct 1,550 ft. long and 130 ft. high, situated at the head of a falls 150 ft. high, had to be built. This viaduct was designed in 1902 by Boller and Hodge, of New York city, and a contract was arranged at that time with the Canadian Bridge Co. for its erection. Due to the suspension of this work the contract was never carried out, and upon taking up the work to complete same the writer awarded another contract to the Canadian Bridge Co. There is 1,745 tons of steel in this viaduct, and the alignment being on a curve at each end it was a very interesting job of erection. The viaduct consists of tower girders supported on steel legs, with concrete pedestal piers with end abutments. There are thirteen 30-ft. tower girders and one 40 ft. situated on an island in the middle



Algoma Central and Hudson Bay Railway and Algoma Eastern Railway.

tion, the building of the Magpie branch and the rebuilding of the ten miles of the Josephine branch, proceeded with the usual ups and downs peculiar to railway construction work in such a country. Poor labor, generally a lack of same, bush fires, whiskey and all the troubles incident thereto, known only to the experienced, were faced and fought.

By Aug. 1, 1911, the Magpie branch was completed, at a cost of practically \$275,000. The line was built on a 1.5% compensated grade against the traffic