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THE RED DEER RIVER BRIDGE—ALBERTA CENTRAL RAILWAY

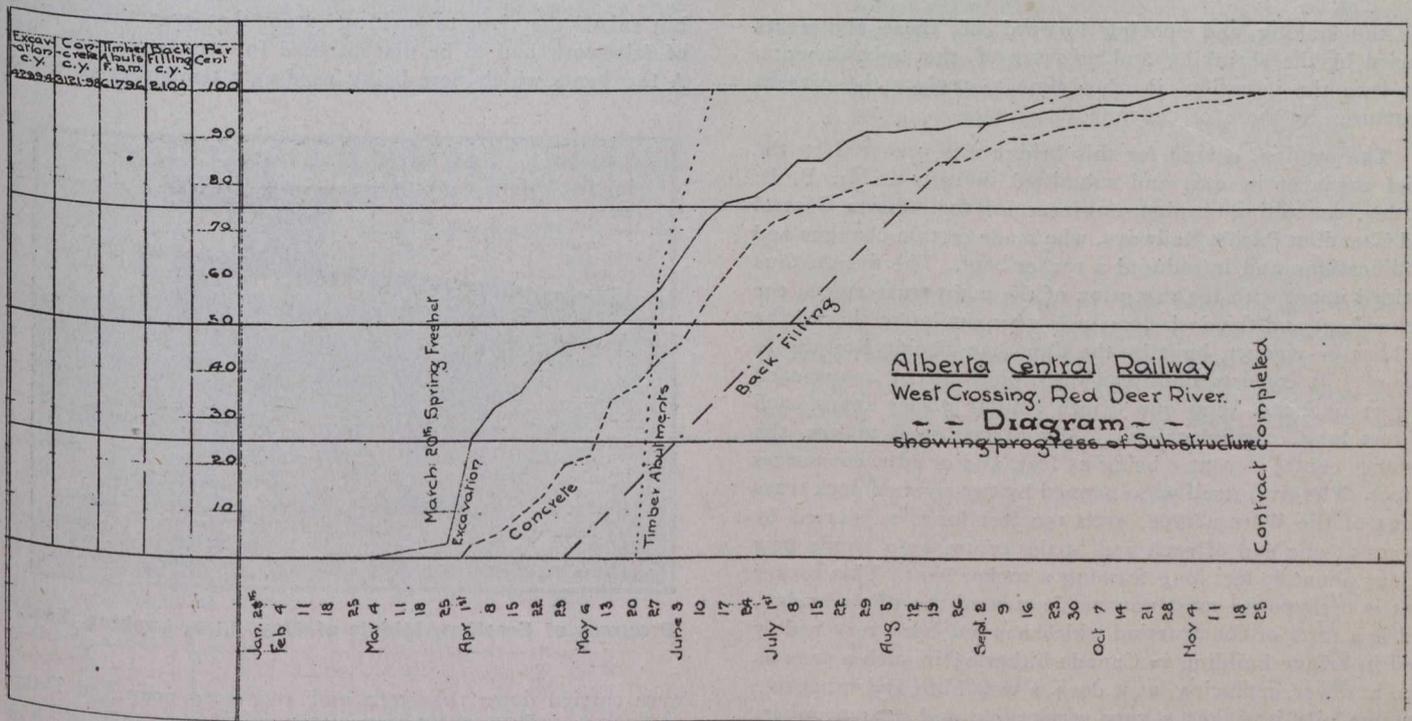
By HUGH A. LUMSDEN, B.Sc.

The Alberta Central Railway obtained its charter from the Dominion Government in 1909. The line was projected both east and west from Red Deer, a growing town of about 2,500 population, midway between Calgary and Edmonton on the C. & E. branch of the Canadian Pacific Railway. Mr. J. Grant MacGregor was appointed chief engineer and location surveys were made during the winter of 1909-10.

Construction was commenced by the company in the summer of 1910, the first spike being driven by Sir Wilfrid Laurier in August of that year. The Waskasoo Creek and

about 2,200 cubic feet per second, but both the height and discharge vary very greatly with the season of the year. The valley through which it flows, is fairly wide, and in very few places only are the banks less than half a mile apart. The ground is a clayey loam with a layer of rock underlying the river bed. The east bank slopes gradually and reaches the flat 90 feet below in about 1,200 feet, falling slightly thereafter to the river's edge; the west bank is steeper, rising from the river bed 135 feet in a distance of 1,000 feet.

In the fall of 1911 track was laid from Red Deer to the



also the C. & E. track were crossed in the first quarter mile by a single overhead crossing consisting of three plate girder spans, the centre one resting on concrete pedestals 25 feet above the C. & E. track, and the ends resting on wooden abutments. No other engineering difficulties were met with until mile 5.5, where the banks of the Red Deer River were encountered, and it is with the crossing of this valley that this article is chiefly concerned.

Many preliminary surveys for the bridge were made, and after months of careful study of the ground, the present and best possible location for the bridge was decided upon.

The Red Deer River itself is only about 300 feet wide, and averages about 5 feet deep with a mean discharge of

bridge approach and a temporary siding for the bridge material put in.

The bridge is approached from the east on a 2 degree curve ending about 700 feet back of the abutment. The alignment is a tangent throughout and the gradient a 0.4 per cent. rising westward. The total length of the bridge is 2,172 feet 6 inches from end to end of the abutments. Three hundred feet west of the bridge a long 5 degree curve commences and the line swings northwards.

The wooden abutments at either end of the bridge were built by the Alberta Central, the pile driving being commenced about the end of March, 1911, and the abutments completed early in June.