

SESSIONAL PAPER No. 19a

In February, 1906, Mr. Rainboth resigned to resume private practice, and as most of the surveys were completed, this part of the Ottawa river was added to the Montreal district, under the direction of Mr. C. R. Coutlee.

*Section No. 6.*

This section extended from the head of the Chats rapids to Ottawa, a distance of about 35 miles and was originally placed under Mr. Alexander McDougall, Mem. Can. Soc. C.E., who remained in charge from September 27 to December 31, 1904, when he was appointed as hydraulic engineer for the collection of hydraulic data regarding the proposed canal. Mr. W. G. Warner, who had been acting as first assistant engineer was promoted to the vacancy. He died, however, in April, 1905, after a few months of faithful and valuable services and was succeeded by his first assistant engineer, Mr. H. A. K. Drury. Mr. Drury remained in charge until after the completion of the field work, resigning in June, 1906, to accept a position with the Board of Railway Commissioners.

The survey work on this section was particularly heavy at the Chats rapids and falls, where the river drops 50 feet and is divided into numerous channels. Over 300 islands were triangulated, traversed, and contoured, as well as both the Ontario and Quebec shores. Several lines were run at the Chats and back of Hull and many sites for dams investigated. A complete survey of Brewery creek was made. All river stretches were covered by close soundings, and through Chats lake and Deschenes lake soundings were taken on a strip wide enough to cover all possible desirable channels. A complete net of levels was run and bench marks established along both shores for the entire section. Cross-sections were run over all low areas for contours, and lines of railways on both shores were included in the survey whenever there was a possibility of them being affected by any condition of raised water surface.

A complete survey of the Chaudière falls, with all power canals, tail races, slides, &c., was made and soundings taken where possible.

This party finished the field work in January, 1906, and the engineers commenced their office work at Ottawa.

*Section No. 5.*

Engineer, A. Robert, who, I regret to say, died shortly after the completion of the field work.

This section extended from Fort Coulonge, through Calumet, Portage du Fort, Chenaux rapids to the head of Chats rapids, a distance of about fifty-six miles.

Below Fort Coulonge numerous islands and channels had to be surveyed.

A low valley called Grand Marais, extending from Coulonge village to a sharp bend in the river some seven miles below, was developed as a possible short cut.

A few miles below Coulonge, the river divides into two branches forming a large island known as Calumet. The north channel is called Calumet and that on the south is known as Rocher Fendu. Only the Calumet channel was developed by party No. 5, the survey of the Rocher Fendu being left aside until an opportunity offered to make a complete reconnaissance through it, in order to decide whether it was advisable to survey it in detail. This was done during the winter of 1906 and a supplementary party placed at work under Mr. C. E. Macnaughten, who took all necessary soundings, contours and cross-sections.

In carrying out the triangulation, traverse, topography, soundings, levels, &c., to the east end of the section on Chats lake, party No. 5 investigated a gulley passing back of Portage du Fort, and all possible locations which might offer some advantages over the main river route. Bench marks were established as close as possible, and the soundings on Chats lake were completed in January, 1906, when the party was discharged and the engineers transferred to head-quarters for work on the plans.