

SESSIONAL PAPER No. 13

Continuing east, there are no records for Fish creek, (diagram 13) beyond the end of August ; it appears also to lie without the area of the precipitation shown by McKay and Ross creeks, as there are no indications of a rise during August.

Maple, Piapot and Swiftcurrent creeks (diagrams 12 and 15) furnish no information beyond the end of August, and, except in the case of Piapot creek, show no unusual rise during that month.

The above records are, in themselves, of no great importance, but taken in conjunction with measurements for velocity, they become most valuable. Last summer was the first during which records have been obtained from these streams, and no opportunity then presented itself to have cross-sections made of the beds, levels taken for fall or current-meter measurements for discharge.

It has been arranged for the coming season to commence the gauge rod readings as soon as the streams are flowing free from ice, and to have proper measurements made and sufficient data obtained to enable an estimate to be computed of the amount of discharge at any stage of water.

OFFICE WORK.

During my absence in the field, the office was in charge of Mr. C. D. Rickards, who attended to the correspondence and other matters connected therewith, in addition to his duties of taking the records of the Bow and Elbow nilometers and gauge rods, and the evaporation pans.

It was necessary that I should come in from the field at the beginning of each month to clear up matters of correspondence requiring my personal attention, and to make the payments due for gauge rod readings in the various parts of the district and Assiniboia, also to receive progress reports from parties Nos. 2 and 3, and direct their further movements.

The office work performed during the winter may be briefly outlined as follows:—

Mr. Macintyre, assisted by Mr. McIntosh, who for a part of the season acted as his assistant in the field, has been engaged upon the reduction of the levels taken throughout the section covered by his topographical survey, the plotting of the contours and topography upon township diagrams, drawn on a scale of half a mile to the inch, and the transference of the same to a map embracing his survey, drawn on a scale of one mile to an inch. The work has been tedious owing to the necessity for reducing, checking, and fitting in a quantity of outside data such as railway profiles, ditches, &c. The results, however, are satisfactory, and the map will supply valuable information.

Mr. McIntosh subsequently plotted the cross-sections of streams made during the year, and computed their several discharges. He also computed the current-meter ratings, and made up the various schedules required for the 1897 and 1898 general reports on irrigation, and irrigation surveys, as well as attending to numerous minor details in connection with the office.

Personally, in addition to the routine of the office, I developed the views taken while in the field and spent all available time upon the final topographical maps of the Alberta watershed ; it has also been necessary, owing to arrears, to prepare the general report on irrigation surveys for 1897, as well as that for 1898.

The negatives have been properly indexed and numbered, and forwarded to the Surveyor General's Office, to have bromide enlargements made for plotting purposes ; these bromides have been duly received. This matter was attended to by H. G. Wheeler, who next computed the angles of the foot-hills triangulation, and made a plot and tracing showing the stations occupied during the last season and their connection with those previously established ; he then compiled and draughted a map to show the contours of Mr. Macintyre's survey, and finally, prepared the diagrams of the rise and fall, and other diagrams to illustrate the 1897 and 1898 reports.

Mr. Child having been transferred from Calgary soon after the close of the season's work, to fill the appointment of Assistant Chief Engineer of the Department of Public Works for the North-west Territories, his returns of survey have been prepared at the Irrigation Office at Regina.