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Topographical Surveys Work, 1916.

About fifty surveyors will be engaged in the western provinces this season on the survey of Dominion lands under instructions of the Surveyor-General. The chief surveys on which they will be employed may be classed under the following heads:

(1) Survey of base lines and initial meridians. (2) Township subdivision. (3) Retracement and resurveys. (4) Stadia surveys. (5) Inspection.

(1) *Meridians and base lines.*—Three surveyors will be engaged on the survey of base lines and initial meridians. As these lines form the basis for all surveys that follow, they must be established with the greatest care and accuracy, and in order to allow the department to readily proceed with subdivision surveys wherever settlement may subsequently require them. The system of base lines and meridians must be extended into the unexplored districts.

The surveys are, therefore, as a rule, carried on in places remote from settlement, where practically no means of communication with civilization exist. The work, however, is carried on with great precision. The surveyor is furnished with first class equipment in instruments, and no surveys except those made in geodetic work are carried out with greater refinement. Good results are being obtained, and are largely due to the attention which the surveyors devote to the many smaller, yet not unimportant, details of the work. Each surveyor in charge of one of these surveys has under him a party of twenty-three men. In addition to the survey of the actual line, the country for a distance of twelve miles on either side is explored; from the explorers' reports, maps are prepared which show the topography of the district, the kind and quality of the timber, and the nature of the soil. Simultaneously with these surveys, levels of the lines are taken; these form parts of a great network of levels which is being extended over the entire country.

(2) *Township subdivisions.*—Twenty-two surveyors will be employed in subdividing townships. Five of these will be engaged on various small subdivisions where it is not necessary to subdivide the whole township.

Two important improvements were made last year in the method of survey. In the third system of survey, which is the system now in use, it has heretofore been the custom to run the east and west section lines in the township at every two miles. This left either the north or south boundary of every section unsurveyed. All section lines are now run and this will enable the settlers in the more or less wooded districts to find their lines with less difficulty. Last year subdividers were instructed to run a few lines of levels in each township and the information so obtained will undoubtedly be valuable later in the preparation of drainage schemes, highways, and for other purposes. In addition to the actual survey required for the location of the section boundaries and establishment of the monuments the surveyors have for some time also been instructed to take magnetic observations. The results of these observations besides giving data of considerable practical importance give