

established in any area, thereby encouraging the development of mineral properties.

The field of Government assistance I have mentioned are quite apart from the services of our Geological and Topographical Surveys and our Bureau of Mines. We have been extending these services and we plan further extensions as qualified staff becomes available.

In the geological mapping of Canada we have accomplished much, but we have a tremendous task ahead. Since its establishment in 1842 the Geological Survey has mapped about 27 per cent of the total area of the Dominion. Much of this work has been done on the standard one-mile and four-mile scales and we have also issued many maps on more detailed scales. Much of the work in the less accessible areas and most of that in the remote areas has been in the nature of reconnaissance surveys.

In line with our endeavour to speed up the work of mapping the geology of Canada we have 70 field projects tentatively in mind for the 1949 season. Emphasis this year will be given to the Yukon, the Northwest Territories and to the mapping of areas having metal mining possibilities. We are assigning geologists to the Quebec-Labrador region.

In Newfoundland, we are arranging this year to complete the geological work that the Government there has had in progress, and to start some new work. This latter will be mainly in the nature of inspectional surveys. In due course a geological map of the Island of Newfoundland will be made.

Our geological programme will perhaps include a reconnaissance survey of the Frobisher Bay area, Baffin Island.

Looking further ahead, we are endeavouring to increase our geological staff to the point where we can place 100 parties in the field each year. As soon as base maps become available it is our intention to map that almost wholly unexplored section of the Northwest Territories extending from Hudson Bay westwards for about 500 miles.

We anticipate a steadily increasing need in the years ahead for work on Pleistocene geology -- such matters in particular as soil surveys and ground water supplies. Work in this field of endeavour is to be expanded, as is our work in engineering geology. We propose to train several geologists in this work during the 1949 season.

Under the best of conditions, geological mapping is a relatively slow process. However, we have some reason now to believe that it can be greatly speeded up by use of the airborne magnetometer. This instrument should prove of great assistance in the interpretation of geological structures in Canada's many large drift-covered areas. It can also be used to locate directly any ore deposits that are themselves magnetic. By use of it, regional geological features can be identified and their possible relationship to local features assessed in a fraction of the time that would be otherwise required to study these features.

Last year, in a continuation of our experimental work with the airborne magnetometer, we covered the entire area of the Quebec-Ontario gold belt from Kirkland Lake to Senneterre, or roughly 15,000 square miles. Had this instru-