

Moreover, the experience gained in these operations has enabled the Survey to cut costs and to actually map large areas by helicopter at less cost than by conventional ground methods.

Last year in Operation Mackenzie, the Survey mapped 100,000 square miles of the Upper Mackenzie River drainage basin, much of which is being explored for oil and gas. The region is underlain by rocks similar to those in which producing wells have been found in Alberta and to the northwest at Norman Wells, and there is little doubt that this whole area contains a great reserve of oil to which Canada will turn in future years.

This year the Survey will use helicopters to map the geology of the Wholdaia area in southeastern Mackenzie District, large sections of which are inaccessible to canoes. This year, too, it will also establish fuel caches for two ambitious projects it has scheduled for 1959, Operation Coppermine, and the aerial reconnaissance of Banks and Victoria Islands.

In Operation Coppermine, the Geological Survey will map some 60,000 square miles of territory in northern Mackenzie District starting at the western boundary of the Shield and proceeding eastward towards Bathurst Inlet.

In the Banks-Victoria Islands project, the Survey expects to explore the main stratigraphical and structural features of some 125,000 square miles of the Islands which are still unexplored geologically.

Together, these projects are providing the data for an assessment of the mineral potential of the Canadian Northland. They are also providing a veritable storehouse of valuable information to which industry and those interested in resources development may turn in years to come.

The increasing importance of the Canadian Northland, economically and politically, in the modern scheme of things, has underlined the need for good base maps of the whole region. The first step to this end is to carry out high altitude vertical photography of the area to be mapped. This has been completed over the mainland Northwest Territories, and the Topographical Survey is now mapping this part of the Territories on a scale of four miles to the inch.

Moving into the Arctic Islands, the Department of Mines and Technical Surveys is setting under way this coming field season a \$6,000,000 project to photograph the Islands for later detailed topographical mapping.