In each of the last three Divisions mentioned, annual reviews on a number of minerals or their products are prepared giving information on new developments, production, trade and market conditions.

**Surveys and Mapping Branch.**—In 1947 all the surveying and mapping organizations of the former Department of Mines and Resources were combined in the Surveys and Mapping Bureau, which in January, 1950, was transferred to the Department of Mines and Technical Surveys as the Surveys and Mapping Branch.

The *Topographical Survey Division* provides base topographical maps that show all significant natural and artificial features fundamental to the study and economic development of mineral and other natural resources. It is organized in two major units: the Topographical Mapping Section, which is responsible for field surveys; and the Air Survey Section, which plots and produces maps from air photographs, with control provided by field surveys. In 1950, 73 field parties operated in various districts from Newfoundland to Yukon.

With the development of technique, instruments and mechanical aids to plotting maps from air photographs, topographical mapping practice has so changed that it is now held to be essential to have photographs of any area to be mapped. These are provided by the Royal Canadian Air Force and by commercial companies. Details of scale and priority of areas to be mapped are determined after consultation with the departmental branches concerned and, when applicable, with the Provincial Governments.

For the planned establishment, now about completed, of its mapping facilities, the Survey has 17 multiplex plotting units containing 144 projectors in operation, and is adding other necessary instruments and equipment as required.

The *Geodetic Survey Division* undertakes basic surveys of the highest order of accuracy for control (by means of nets of first-order triangulation, etc.) of mapping and of all other types of survey.

In regions such as northern Canada, not yet covered by accurate triangulation, where maps are required for prospective mineral and other development purposes, aerial photographs are used to map the country, and for the control points on which to base such aerial mapping the Geodetic Survey employs astronomical methods. These points, which are pin-pointed on the photographs, are indispensable for small-scale mapping.

The *Hydrographic Service Division*, in so far as its activities are directly related to mining are concerned, charts navigable waters in mining areas, as, for example, the Mackenzie River-Great Slave Lake area of the Northwest Territories.

**Dominion Observatories Branch.**—Included in the responsibilities of the Dominion Observatory at Ottawa is geophysical research in seismology, terrestrial magnetism and gravity, all such research being planned in collaboration with Canadian geological and mining organizations.

The *Seismology Division* makes field studies of all earthquakes and seismic studies of the earth's crust. It keeps in touch with methods of seismic prospecting for the location of oil and minerals. The data obtained from its research studies are furnished to seismic prospecting organizations and to construction engineers and insurance companies concerned with the evaluation of earthquake risk.