1:5,000,000 or about 80 miles to the inch, for easy comparison with the new geological and tectonic maps of Canada on a similar scale. Geothermal studies in mines and deep boreholes provide information to the mineral industry on the underground thermal regime, including permafrost.

No mineral development is possible without accurate, large-scale topographical maps. The Surveys and Mapping Branch, in conjunction with the Mapping and Charting Establishment of the Department of National Defence, has completed the topographical mapping of the country at the medium scale of 1:250,000, or about four miles to the inch. About 40% of the larger-scale mapping at 1:50,000 has been completed in the more settled areas and areas of greater economic importance. Also available for selected areas are maps at scales of 1:25,000; 1:125,000 and 1:500,000. Another important Branch function is the establishment of a basic network of survey control points across Canada that provide precise figures of latitude, longitude and elevation above sea level. In addition to its topographic maps, the Branch produces various multicoloured maps for other government agencies, aeronautical charts and the National Atlas of Canada, which describes Canada's physical, economic and social geography. The National Air Photo Library, operated by the Branch, has on file over 4 million aerial photographs of Canada, taken over the last half-century from aircraft flying at various heights and more recently from the Earth Resources Technology Satellite (ERTS) and Skylab, in black and white and in colour.

The Explosives Division is responsible for the administration of the Federal Explosives Act, which is primarily an Act of public safety to control the manufacture, authorization, storage, sale, importation and transportation by road of explosives.

The Mineral Development Sector is responsible for resource-economic research, program development and policy formulation in the field of non-renewable resources. It conducts fundamental and applied resource-engineering-economic research and field investigations into non-renewable resource problems, policies and programs on a commodity or total industry basis, in a regional, national and international context. The work covers all aspects of the mineral industry from resources through exploration, development, production, processing, transportation and consumption. On the basis of this work, the Sector publishes resource-engineering-economic reports and advises government departments and agencies on non-renewable resource policy matters. Current activities include regional studies of the mineral economy of a number of areas in Canada; assessment of mineral projects in various parts of Canada for which federal support has been requested; mineral resource and mineral reserve studies in a number of mineral commodities and the safeguarding of Canadian mineral interests through participation in international agencies such as the United Nations Lead-Zinc Study Group, the Economic Commission for Europe, the Committee on Natural Resources on the Economic and Social Council, and the International Tin Council. The Sector administers the Emergency Gold Mining Assistance Act as a means of aiding mining communities largely dependent upon the gold mines. In collaboration with the Canadian International Development Agency and with the support of industry, the Sector sets up training courses for mineral scientists, technologists and economists brought to Canada under various aid programs, and advises on mineral projects undertaken by Canada as an aid to developing countries. The Sector publishes an extensive series of reports and other material, and maintains the National Mineral Inventory, which is a listing of about 16,000 mineral showings and deposits in Canada that may be consulted by anyone interested.

The Energy Development Sector is primarily a policy-making group with a direct impact on the mining industry. Some specific areas of assistance are considered here. The Sector studies and assesses individual projects and developments relative to each of the energy sources and in terms of interrelationships with other energy sources. It appraises trends in oil and gas exploration and production, transportation, processing and marketing in Canada and on an international scale, and provides information to federal government agencies, industry and the general public on oil and gas developments in Canada and abroad. In the field of uranium, the Sector continues to co-ordinate uranium matters on such subjects as stockpile programs, possibilities of the establishment of uranium-enrichment facilities in Canada and export opportunities. With respect to coal, in addition to its wider role it provides assistance in the form of research and development grants to help improve the quality and utilization of coal, and provides advice on production expansion rates compatible with profitability and