

over 88 p.c. comes from underground mines. Production decreased to 913,196 tons, about 9 p.c. of the country's output, and had an average value of \$6.63 a ton at the mine. The average output per man-day was 38.8 tons for strip mines and 5.2 tons for underground mines.

Beneficiation facilities located at Union Bay (Vancouver Island) and Michel (East Kootenay) process nearly all of British Columbia's coal production. Of the 1962 total production, 16.5 p.c. was shipped to Manitoba, 2.1 p.c. to Ontario and small quantities to Alberta and Saskatchewan. Nearly 335,000 tons of medium volatile bituminous coking coal from the Crownsnest area were exported, some to the United States but most of it to Japan for blending in the manufacture of metallurgical coke.

In the Yukon Territory, 7,649 tons of coal were mined from a single underground mine with an average output per man-day of 2.5 tons. This coal was valued at \$15.06 a ton and was all used locally.

## Section 2.—Government Aid to the Mineral Industry

### Subsection 1.—Federal Government Aid

Federal assistance to the mining industry takes the form of the provision of detailed geological, topographical, geodetic, geographical and marine data which are of basic importance to the discovery and development of the mineral resources of Canada; the provision, through metallurgical research, of technical information relating to the processing of ores, industrial minerals and fuels on a commercial scale; financial and technical assistance to the ailing coal industry; assistance to the gold mining industry under the Emergency Gold Mining Assistance Act, and certain tax incentives (see Chapter XXIII, Section 2 on Taxation in Canada).

**The Department of Mines and Technical Surveys.\***—The federal Department of Mines and Technical Surveys came into being in January 1950 in the reorganization of the former Department of Mines and Resources. The Department has six branches—Surveys and Mapping Branch, Geological Survey of Canada, Marine Sciences, Mines Branch, Dominion Observatories and Geographical Branch—and its functions include the administration of the Emergency Gold Mining Assistance Act, the Explosives Act and the Canada Lands Act.

The *Surveys and Mapping Branch* provides the base maps required for use in the development of Canada's natural resources, is responsible for legal surveys of federal lands and provides a national system of levelling and precision surveys for use as geodetic control by federal, provincial and private agencies. The functions and current operations of the Geodetic Survey, the Topographical Survey, and the Legal Surveys and Aeronautical Charts Division are covered in Chapter I, Section 3 on Federal Government Surveying and Mapping (pp. 17–24). The compilation and printing of maps and charts of all types for which data are secured by departmental surveying and research operations is conducted by the Map Compilation and Reproduction Division of this Branch.

The primary function of the *Geological Survey* is to obtain information on the geology of Canada that will be of assistance in the search for and development of mineral deposits. The results of its activities also provide a basis for the appraisal and conservation of Canada's mineral resources generally, as well as for soil surveys and for the solution of geological problems that frequently arise in construction projects. Geological mapping activities are covered on pp. 21–22.

The *Marine Sciences Branch* was established in April 1962, combining hydrographic surveys and research in oceanography, marine geology and the geophysical sciences of the seas. These functions have the threefold purpose of ascertaining the resource potential

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