

The *Radioactivity Division* is concerned with the raw materials required in the production of atomic energy. It performs research directed to the development of new processes for the economic recovery of uranium from ore and makes concentration tests on many samples of ores from newly discovered uranium deposits. In addition, it assists the Crown-owned Eldorado Mining and Refining (1944), Limited, by developing methods to accomplish increased recoveries of uranium and to lower operating costs. Much of the Division's work is under strict secret classification.

The *Fuels Division* investigates Canada's fuel resources, their characteristics, and ways of processing, utilizing, and extending the markets for them. Work in the field or in its laboratories includes, for example: the investigation of methods of mining and preparing coal at collieries; the examination of peat, oil-shales, and bituminous sands in their natural states; combustion engineering tests on coals in different types of stoves and boilers, and in locomotive and stationary power plants; briquetting tests with and without the use of a binder; high-pressure hydrogenation tests on coal for the production of synthetic liquid fuel; and analyses of crude oils and natural-gas products.

There is much inter-relation of federal and provincial activities in regard to fuels. A current illustration of this is the establishment of a joint federal and Nova Scotia office and laboratory at Sydney, N.S., to investigate the nature and extent of the coal seams in Cape Breton. Another illustration concerns the pilot-plant project, recently terminated, for separating bitumen from Alberta bituminous sands by a method devised in the Mines Branch.

The *Mineral Resources Division*, through the wealth of data amassed over many years on mineral properties and operating mines, mineral exploration and development, processing and production, new research development, uses and marketing of minerals and their products, world sources of minerals and new discoveries, and on mining laws and taxation, provides a general mineral-information service that is freely used by government departments, mining and allied industries, and others interested in mining or its significance in the Canadian economy. A mineral-resources index inventory has been established of all known occurrences and mines both active and potential, special attention being given to occurrences of those minerals in which Canada is deficient.

The Division makes specific economic studies of various phases of the mining industry. It gives technical advice as required for the administration of the Emergency Gold Mining Assistance Act and prepares reports, on request, to aid the administration also of such matters as: tax exemptions on new mining properties; tax deductions as an encouragement to prospecting for base metals, other minerals and petroleum; and tax allowances for the drilling of deep-test wells for oil in unproven fields.

The *Industrial Minerals Division* investigates deposits of such minerals, examines industrial processes that utilize them, and carries out research on ways of recovering products of desired purity from minerals that, in their natural state, are too impure for industrial use. In this way it lessens the dependence of industry upon foreign sources of industrial minerals, which comprise all non-metallic minerals, including water, sands, clays, and rocks of economic value, but excluding the fuels. Waters from the major rivers and lakes throughout Canada are investigated for the benefit of industries as to their quality and suitability for various purposes. In addition, studies are made of ores of such alloying metals as cobalt, manganese, molybdenum, tungsten, and chromium.