

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.

*Dominion Observatories.**—The two main units of the Dominion Observatories are the Dominion Observatory at Ottawa, Ont., and the Dominion Astrophysical Observatory at Victoria, B.C. Permanent magnetic observatories are maintained at Agincourt, Ont., Meanook, Alta., and at Resolute Bay and Baker Lake, N.W.T. Seismic stations for recording earthquakes are operated at Victoria, Horseshoe Bay and Alberni, B.C.; Ottawa and Kirkland Lake, Ont.; Seven Falls and Shawinigan Falls, Que.; Halifax, N.S.; Saskatoon, Sask.; and Resolute Bay, N.W.T. (See also pp. 43-55.)

The Dominion Observatory, Ottawa, Ont., is responsible for the time service of Canada which involves nightly astronomical observations of star positions and radio broadcast services for distributing accurate time to all parts of Canada. Other astronomical activities centred at Ottawa include upper atmospheric studies by means of meteor observations, studies of the sun and its effect on earthly conditions and mathematical studies of the atmospheres of the sun and stars. The geophysical work, also administered from Ottawa, includes the magnetic survey of Canada with emphasis on aids to air and sea navigation, as well as field and observatory work of interest to the geophysical prospector. The methods of seismology are employed to study important aspects of the earth's crust in Canada and to assist in worldwide investigations of the earth's interior. Gravity observations are carried on throughout Canada with a generally similar purpose, special attention being paid to methods of locating mineral deposits.

The Dominion Astrophysical Observatory, Victoria, B.C., is devoted to fundamental research into the physical characteristics of the sun, stars, planets and the material of interstellar space. Its 73 inch reflecting telescope is one of the largest in the world and through its use many important contributions have been made to astronomical knowledge.

The Geographical Branch.—The function of the Branch is to organize and make available all the geographical data on Canada that might be of use in promoting the economic, commercial and social welfare of Canada. The work is of two kinds—the compilation of geographical material of national significance, and geographical surveys in the field. The chief project at present is the compilation of an Atlas of Canada.

The Dominion Coal Board.†—The Board was established by the Dominion Coal Board Act (R.S.C. 1952, c. 86) which was proclaimed on Oct. 21, 1947. By this Act the Board was constituted a department of government to advise on all matters relating to the production, importation, distribution and use of coal in Canada. The Board is also charged with the responsibility of advising upon and administering transportation subventions.

Ancillary to these principal duties the Board is empowered to undertake research and investigations with respect to:—

- (1) the systems and methods of mining coal;
- (2) the problems and techniques of marketing and distributing coal;
- (3) the physical and chemical characteristics of coal produced in Canada with a view to developing new uses therefor;
- (4) the position of coal in relation to other forms of fuel or energy available for use in Canada;
- (5) the cost of production and distribution of coal and the accounting methods adopted or used by persons dealing in coal;
- (6) the co-ordination of the activities of Government Departments relating to coal;
- (7) such other matters as the Minister may request or as the Board may deem necessary for carrying out any of the provisions or purposes of the Act.

In addition the Dominion Coal Board Act provides authority in the event of a national fuel emergency to ensure that adequate supplies of fuel are made available to meet Canadian requirements.

* Information on the work conducted by the Dominion Observatories is given in greater detail in the special article "Geophysics in Canada", at pp. 44-47.

† Prepared under the direction of W. E. Uren, O.B.E., Chairman of the Dominion Coal Board.