

LABORATORY INVESTIGATIONS

The following is a summary of work carried out at the Dominion Laboratory during 1947 in connection with mining industries.

Evaluation of cement-making raw materials from Southland in co-operation with Geological Survey.

Survey of glass-sand deposits of New Zealand started, and investigation of methods of beneficiating them.

Experimental study of the possibility of using greensand as a flux in the fusion process of phosphatic-fertilizer manufacture.

Examination of concentrates from Taranaki and West Coast (South Island) black-sand deposits with a view to ascertaining uses for iron or pigment production.

Investigation of many clays for ceramic value, including refractory clays from North Auckland and brickmaking clays from Whangarei and Wellington.

Testing of the suitability of local diatomites for filtration use.

The usual large number of analyses of minerals and ores forwarded by prospectors and others, including assays for gold and silver and limestones for agricultural use.

Other samples included mine airs and gases, and stone dusts used in the suppression of the inflammability of coal-dusts.

As part of the survey of the Dominion coal resources, a very large number of bore core, outcrop, and mine samples were analysed.

COAL SURVEY

Coal Survey Laboratory.—During the year, 523 samples were analysed for various purposes. Nearly 60 per cent. of samples received were from drill-holes, and a further 20 per cent. were taken from outcrops for prospecting purposes. The drill-hole and outcrop samples were all taken by the Mines Department or the Geological Survey and came from the three main South Island coalfields—viz., Westport, Kaitangata, and Ohai—where the present coal areas are being actively extended.

Other investigations have covered the following: analyses of samples from open-cast or underground mines; examination of Waikato peats for wax content; analysis of coal and residue samples in connection with boiler trials; analysis of mine airs; and other substances such as briquettes, coke, shale, and petrolatum.

Coal Survey: Geological.—Field-work on the various coalfields of the Dominion has been continued, but staff shortages have severely hampered the work. Reefton and Kaitangata Coalfields were the scene of regular geological work, while drill-hole location and correlation was carried out in consultation with Mines Department at Ohai, Greymouth, and Kamo.

The lignite deposits of the Mataura Valley, Southland, were mapped, and a preliminary report prepared indicating provisional quantities and suitable drilling locations.

Among the reports issued by the Coal Survey during the year, the following geological reports were included: Paparoa reserves; Pivot Creek area, Wangaloa; drill-holes, Nightcaps-Ohai area; Wangaloa State Block and Newton River area Murchison.

DRILLING ACTIVITIES

Drilling-operations were carried out by the Department during the year ended 31st December, 1947, at Stockton; Brunner; Smoko area, Blackball; Fisher and party, Dunollie; Strongman Colliery; Dobson Colliery; Harrison and party; Wangaloa; Morley area; Mossbank area; Star area; Wilton Colliery; Wilton opencast; Kemp's opencast; Pakotai; and Kimihia.