the valley of Coal Creek and the sequence of the rocks the same as in Koiterangi, but the reported coal-seam proved unworkably thin and of no value whatever. Between Kanieri Lake and the Mikonui River, along the line of junction between the granite and the slate and sandstones to the west, there is a series of patches of the coal formation either involved among the older rocks or occurring as but slightly inclined strata resting on the granite or slate. Such limited areas of the coal formation are found in the Kanieri Valley, on the Kokatahi Plain, and in Koiterangi, the south side of the Hokitika, and thence, by way of Constitution Hill, they extend across the Totara Valley to Ross, and for the time being terminate on the Mikonui River. Farther south on the same line continued there show other areas of the coal formation at the Paringa, at Abbey Rocks, and between the Haast River and the southern boundary of Westland. In all of these localities the area of coal is of a limited extent, although in the south some of them are considerable. All along the line the measures are apt to be disturbed, the coal crushed and standing at high angles.

Petroleum at Deep Creek, Kotuku, South-west Nelson.

Petroleum appears as oozings to the surface at four different places along the bed of Deep Creek. At the three lower places the escape is through the modern gravels of the creek-bed and its banks. At the fourth locality there is some evidence—not decided—that the oil is escaping from a breccia conglomerate that may be of Pliocene or older date, and a mile and a half to the eastward there are bluish-grey Miocene sands strongly charged with petroleum. These are all the facts that could be ascertained at the time the locality was visited, and it will suffice to remark that the appearances at the surface warrant vigorous prospecting of the district for oil. The lowest beds in which oil appears cannot have given rise to the oil itself, which, emanating from a more deep-seated source, simply finds storage in the higher beds. The oil is somewhat of a heavy character, not yielding a great percentage of illuminating oil; but this may in part be accounted for by volatilization of the lighter constituents on the oil reaching to and its exposure on the surface of the ground, or of the stream or pools in which it collects.

The Petroleum-yielding District North-west and North of Poverty Bay.

I have on two previous occasions examined the district, but more with reference to its general geology than having regard to the possibilities of oil being found in particular localities.

On this occasion the valleys of the Waipaoa, Mangatu, and Waikohu were explored, with special reference to the character of the rocks as producing or affording storage for oil. The Waipaoa was explored into its upper valley, the Mangatu to near its source, and the Waikohu to near the foot of the main range from which it takes its rise. An oil-spring at Dobbie's, to the south of the Waikohu Valley, was also visited. On completion of these examinations I still remained in doubt as to the conclusions I should arrive at. At two places only was oil met with, and at two or three places more emanations of gas are known; but these evidences can hardly be said to be sufficent to warrant a pronouncement respecting the probabilities of payable oil in the district, the more so as attempts already made, by boring to considerable depths, have failed, I, therefore, while indicating four or more localities as the more favourable at which to bore, do so without even implying that boring at these places will prove successful.

Copper at Maharahara, near Woodville, Hawke's Bay.

An examination of this mine made during the month of December last showed that, while copper-ore is generally present throughout the lode, the percentage is too low to constitute this a paying mine. During 1888 a bunch of comparatively rich ore was struck, and a bulk sample of this was collected by me, and shown in the collections of the Geological Department at the New Zealand and South Seas Exhibition. Since then no considerable patch of rich ore has been found.

Copper in the Ruahine Range, West of Norsewood.

Samples of copper-ore, yellow sulphide, were forwarded from this locality, and in the Colonial Laboratory gave a return of 12 per cent. of the metal. While in Napier during January last I learned from Mr. H. Hill, Inspector of Schools, who had visited the place, that a strong body of ore existed, and on my return from the Kaimanawa Mountains, about the end of February, I sent my assistant to examine this reported mountain of copper-ore. From his report it would appear that, while copper is not absent, both the size of the lode and the average of its yield in copper have been exaggerated. In its main features the lode resembles that at Maharahara, the best ore appearing at and near the surface, the lode pinching in both directions along the lode, and also underfoot, while the ore at the same time becomes of less value or totally disappears.

Geology of the Kaimanawa Mountains.

During January and February of the current year I made an examination of the upper valleys of the Ngaruroro and the Rangitikei Rivers, of the Kaweka Range, and the eastern Kaimanawa Mountains. The principal object was the verification of reported discoveries of gold in this region, such reports having been current for the past twenty-five years. After duly investigating the matter, and visiting most of the places at which gold was said to occur, I came to the conclusion that no encouraging prospects had ever been found. A colour of gold can be found both in the Ngaruroro and the Mangamaire, the eastern main branch of the Rangitikei, and traces of gold are to be found in some bands of cherty quartz that appear in the southern part of the range separating the Mangamaire from Kaimanawa Creek. The alluvial gold is found exclusively within the region over which æolian pumice-drifts extend, and, as in the Hinemaia River, draining the country to the north-westward into Lake Taupo, these igneous rocks may have to account for some portion of the gold.

The rocks of the eastern Kaimanawa and Kaweka Mountains, consisting chiefly of sandstones and subordinate beds of dark-blue slaty shales, are not much mineralised, and iron-pyrites or other