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GEOLOGY OF THE SOUTH-WEST PART OF NELSON AND THE NORTHERN PART OF THE WESTLAND DISTRICT

(REPORT ON THE).

BY ALEXANDER MCKAY, F.G.S., MINING GEOLOGIST.

Presented to both Houses of the General Assembly by Command of His Excellency.

Mr. A. MCKAY to the UNDER-SECRETARY of MINES.

SIR,—

Mines Department, Wellington, 18th August, 1895.

I have the honour to forward my report on parts of the Grey and Buller Valleys and the Paparoa Mountains, in the district of the west coast of the Middle Island, in which I was engaged during September, October, parts of November and December, 1894, and parts of February and March, 1895.

During the latter part of November and the first half of December, 1894, I was engaged with Mr. N. D. Cochrane, Inspector of Mines, in making an examination of a portion of the Mokihinui Coalfield, a joint report on which has already been presented; and during the latter part of January and till the middle of February, 1895, I accompanied Mr. Gordon, Inspecting Engineer, on a trip to the east district of Auckland (the Urewera country), the report on which is also a joint one; and, again, I accompanied Mr. Gordon to the west coast of the Middle Island, and with him made an examination of the different blocks of land reserved for mining purposes in the Westland District, north of the Mikonui River, and in the south-west part of the Provincial District of Nelson. The report on this work is also a joint one.

In compliance with your directions, the examination of the region of the Paparoa Mountains, and parts of the Grey and Buller Valleys, was made principally with the object of studying the nature and source of the gold deposits of that district. To do this involved the necessity of paying some attention to the general geology of the district, and a study of the lithological and petrological characters of the rocks, their mineralogical composition and contents.

In exploring for mineral veins likely to contain metalliferous ores or gold, more especially the latter, I have shown that the chief areas over which auriferous quartz lodes occur, or may be expected to occur, extend—

1. As a narrow belt along the east side of the Inangahua Valley, from near the Buller River to Reefton. This work was first undertaken during January, 1874, when I examined the gold-bearing rocks of the district, distinguishing them from the associated Devonian series, and traced them from Rainy Creek and Merrijigs north to Larry's Creek; and, during the latter part of December, 1875, from Rainy Creek, through Merrijigs, in the direction of Big River to Antonio's Flat; and in 1882 I again examined the same district for the purpose of clearly discriminating between the Carboniferous (auriferous) and the Devonian (non-auriferous) strata of the district, and determining the limits of each. Also at this time I examined and determined the limits of the Lankey's Gully cements, lying between the two branches of the Inangahua River, and the same rocks lying farther to the northward.

2. The auriferous rocks occurring as a wedge-shaped area of limited extent, stretching along the middle or lower slope of the Mount Davy Range, from the Grey River at the upper end of the Brunner Gorge to within the watershed of Ford's Creek. The reefs of Langdon's Creek occur within this area.

3. The rocks of the Paparoa Range, from the northern end of Mount Davy and the source of Ford's Creek to the northern source of Moonlight Creek. This area is of considerable extent, and contains numerous lines of reefs, some of which are of gigantic dimensions, and probably auriferous to a degree that will enable them to be worked for gold. All the creeks draining from this range, with one exception, are gold-bearing, and thus give evidence of the auriferous character of the rocks into which their channels have been cut.