

REPORT ON THE OCCURRENCE OF CINNABAR IN THE KAUAERANGA VALLEY, THAMES COUNTY.

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Wellington, 9th June, 1898.

CINNABAR occurs in the Valley of the Kauaeranga about six miles from where the river enters the Firth of Thames at Shortland. The mercury-ore occurs within the valley of Mangakirikiri Creek, about a mile from where that joins the Kauaeranga, and is more particularly located along the south-west side of Otonui Creek, a tributary of the Mangakirikiri. Mercury-ore, as cinnabar, is found along the hill-slopes on the south-west bank of this creek over a distance east and west of about 6 chains, and from the crest of the ridge, 500 ft., to the level of the creek, which may be some 200 ft. above sea-level. The exact location is about a mile north-west of the Kauaeranga River, and the most westward and highest of the outcrops examined appears near the crest of the ridge at the height indicated, as a series of sinter blocks, so arranged that they appear to dip to the east and indicate the occurrence of a solid lode in the near neighbourhood; but as yet this supposititious lode has not been traced at this, the highest outcrop. Distinct traces of cinnabar are to be found here, both in the quartz blocks and in the country-rock upon which they rest, and to all appearances there is here the outcrop of a band or stratum of highly siliceous country, carrying a percentage of mercury-ore.

Two or three chains to the eastward, and at a slightly lower level, another outcrop of quartz, carrying cinnabar, occurs. This also strikes north and south, and dips to the east at angles varying from 40° to 48° . The stone is from 3 ft. to 4 ft. in thickness, and at various horizons, principally in the middle of the lode, carries medium to rich ore. Some work has been done at this place to expose the lode along its strike, which shows that both this and the higher outcrop is underlain by a grey rock, consisting mainly of feldspar, corresponding to the "kindly sandstone" of the miner; whilst in both cases the more siliceous deposit is overlain by breccias and tufaceous sandstone that are evidently of younger date.

Descending the slope east towards the Mangakirikiri Creek some 6 chains, a third exposure of quartz-rock carrying cinnabar is seen, which has been exposed at three places sufficiently to show that its extent is considerable. The ore at this place is more generally distributed throughout the stone than at either of the two localities mentioned as occurring higher up the slope of the hill, and from stone which at first sight shows little trace of the presence of cinnabar a fair prospect can be obtained by the rudest method of crushing and panning-off. Passing to the south-east along the middle slope of the hill a continuous exposure of quartz-rock is met with, which at several points shows the presence of cinnabar, and at one place there is a very considerable development of quartz-rock, forming a line of cliffs, which, though not closely examined, seemed likely to carry the ore of mercury, being similar to the outcrop already mentioned.

More to the east, masses of quartz are met with on the slope of the hill, and as loose boulders in the hollow forming the source of a small creek descending to the Mangakirikiri, and here also it was said prospects of cinnabar could be obtained from near the surface and the soil. Finally, near the crest of the ridge, the most easterly of the various prospecting-holes is situated. Here but little work has been done, not more than to prove the presence of the ore, and the quartz-matrix seems to be but feebly developed. Some 12 chains to the westward of this area good prospects of cinnabar, it is reported, can be washed from the soil, and that masses of quartz there occur similar to what appears within the area more particularly prospected and reported on.

Numbers of analyses have been made of the stone at the Thames School of Mines, giving results stated at from 2 to 25 per cent., from the least promising that showed cinnabar to the best that could be found. Some of the samples collected should exceed 25 per cent.; but such rich ore is limited, while, so far as there was opportunity for judging, there is a considerable amount of ore of medium richness. There is warranty for further opening up and developing the property, and as thermal deposits are at or near the surface, the ore-bodies are favourably placed for working.

The cinnabar deposit is likely to be confined to the limits of the property within which it occurs, there being little evidence of the occurrence of similar deposits to the west and south, while more to the north and north-north-west similar quartz deposits, so far as known, contain gold only.

GEOLOGICAL SURVEY OF CAPE COLVILLE PENINSULA: PROGRESS REPORT FOR THE YEAR 1897-98.

By ALEXANDER MCKAY, F.G.S., Government Geologist.

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LAST year a reconnaissance of the whole of the Peninsula was made, and the results of this have already been published.

During the present season work was commenced in the southern part of the field within the Ohinemuri County, and more particularly along a strip of country commencing on the western plain on the road from Paeroa to Te Aroha, and thence continued east-north-east across Karangahake, along the Ohinemuri Gorge to Owaharoa and the same line to Waihi and the seaboard on the east coast. Along this line a belt of country about a mile in width was more especially examined, and samples of the different rocks occurring generally and rarer rocks in particular localities were collected always in duplicate, and frequently, where of more than ordinary interest, several specimens were taken.