

ANNEXURE A.

SUMMARY OF REPORTS BY INSPECTORS OF MINES.

NORTHERN INSPECTION DISTRICT (J. F. DOWNEY, Inspector of Mines).

QUARTZ-MINING.

Waihi Gold-mining Co., Ltd. (J. L. Gilmour, Manager).—The following is a summary of the principal operations carried out:—

Shafts: No shaft-sinking was done during the year. A considerable amount of repair work was carried out, and the shafts have been maintained in good condition.

No. 15 Level (1,880½ ft.)—Martha lode, north section: The stoping of Cow block was continued, and at the end of the year the roof was 70 ft. above No. 15 level.

No. 14 Level (1,752 ft.)—Martha lode: An important test of the Martha lode and adjacent country rock was carried out by diamond-drilling from this level. The starting-point of the borehole was at 133 ft. north-west from No. 4 shaft. The direction of the borehole was north-westerly and at right angles to the line of the Martha, and its inclination was 6° from the vertical. The total depth of the borehole was 372 ft., measured from No. 14 level; it therefore penetrated to a depth of 244 ft. below the No. 15 or bottom level. The drill traversed the Martha lode on a long angle between the 291 ft. and 360 ft. marks, the true width of the lode being about 40 ft. The quartz recovered was carefully sampled, and assays ranged from traces up to 10s. 9d. per ton, the average of sixteen samples being 2s. 5d. per ton. Owing to soft slidy country rock at the beginning, and hard vughy quartz in the reef, very great difficulty was experienced in putting down this hole. The work was very expensive, but, in view of the importance of ascertaining the facts about conditions below the bottom level, was persevered with. After passing through the main portion of the Martha the foot-wall was penetrated for a distance of 12 ft., and proved to be a soft white andesite or andesitic tuff, looked upon in the Waihi Mine as being of an unfavourable nature. Details of the formations penetrated are as follows: 0 to 39 ft., hard grey andesite; 39 ft. to 52 ft., hard low-grade quartz; 52 ft. to 61 ft., grey andesite with quartz stringers; 61 ft. to 78 ft., soft slidy country; 78 ft. to 106 ft., hard vughy low-grade quartz; 106 ft. to 137 ft., grey andesite with quartz stringers; 137 ft. to 257 ft., andesite with quartz stringers; 257 ft. to 279 ft., andesite with much vughy quartz; 279 ft. to 291 ft., very soft country rock with patches and stringers of quartz; 291 ft. to 360 ft., main portion of Martha lode, hard vughy quartz; 360 ft. to 372 ft., white andesite or andesitic tuff. A further important test of the Martha lode at this level was made by continuing the drive eastward from No. 4 shaft north crosscut into the Junction Co.'s ground. Starting at a point 549 ft. east of the north crosscut, the drive was extended 238 ft., making its total length 787 ft., the final 125 ft. being in Junction ground. Only low-grade quartz was met with in the course of the driving. At 785 ft. east a crosscut 23 ft. southward disclosed grey andesite. At the same point a crosscut 108 ft. in length was driven to the north and traversed the Martha lode. The formations penetrated were as follows, measured from the south side of the drive: 0 to 20 ft., quartz, and quartz and country, perhaps the Empire lode; 20 ft. to 25 ft., country rock; 25 ft. to 75 ft., quartz, Martha lode; 75 ft. to 108 ft., quartz and country mixed with quartz leaders. The crosscut terminated in whitish andesitic rock. All the quartz met with was low-grade, assays ranging from traces to 11s. 6d. per ton. It is interesting to note that this ground was tested by the Grand Junction Co. some time ago by a crosscut 156 ft. in length from their No. 10 level, above where the Waihi Co. has now crosscut. The Junction Co.'s crosscut passed through 80 ft. of quartz, which was also of very low grade.

Edward lode: Only a few feet of additional driving was done on this lode at No. 14 level, and there was no development of importance. A trial of the ore in the big low-grade Trout block is being made. This block is estimated to contain about 4,000 tons of ore.

No. 13 Level (1,578½ ft.)—Empire lode: Starting at Boundary winze, at the southern end of the 600 ft. east crosscut, 327 ft. were driven on Empire lode in the Junction Co.'s eastern section, and a stoping-block 110 ft. in length was opened up. Westward from the same point a stoping-block, known as "Ellis" block, was opened up in the Waihi Co.'s ground. This block is estimated to contain 4,744 tons of ore, of an average value of £1 14s. 6d. per ton.

No. 12 Level (1,447½ ft.): There is no special development on this level to record. Stoping was continued on a number of blocks. The Manning block, on the south branch of the Dreadnought lode in the Waihi Co.'s ground, was opened up close to the eastern boundary. It is estimated to contain 2,015 tons of ore, of an average value of £2 10s. 6d. per ton.

No. 11 Level (1,301 ft.): The most important development-work carried out on this level was the investigation of the Dominion lode in Junction Co.'s eastern section by an extension of Waihi Co.'s No. 11 level. No. 20 diamond-drill hole was also bored from this level.

No. 10 Level (1,152 ft.)—Edward lode: Further investigation of the country west of the Edward lode was made at this level. The drive on the west reef, the face of which at the end of 1927 was 88 ft. from Waihi Co.'s western boundary, was extended to the boundary and thence 196 ft. into Junction Co.'s western area. The reef proved to be only a thin leader, carrying traces of bullion. Shark north-west crosscut was extended across the line of the Royal lode 180½ ft., making its total length 654½ ft., measured from the starting-point on the Edward cross-lode. It was hoped that this extension might disclose a westward continuation of the Royal lode, but only thin leaders, carrying traces of bullion, were met with. The crosscut was stopped in grey andesite of medium hardness, marked by numerous oxidized joints. The country rock was not of favourable character. A new block, known as the "Roach" block, has been opened up in the Edward lode. It is estimated to contain 5,647 tons of ore, of an average value of £1 12s. per ton. The drive eastward on the south branch of the Dreadnought lode was extended 50 ft. to Waihi Co.'s eastern boundary, and a further 82 ft. into Junction Co.'s ground, making its total length 440 ft. Remnants of blocks of payable ore are being extracted at this point, on each side of the boundary between the two properties. Bomb east block was opened up in Waihi Co.'s ground, close to the eastern boundary, and is estimated to contain 3,343 tons of ore, of an average value of £2 0s. 3d. Further investigation of the Regina section of the Martha lode was also carried out on No. 10 level. The drive mentioned at 600 ft. in No. 4 shaft crosscut, which was standing at 47½ ft. at end of 1927, was extended to 135 ft., and work is being continued in it.

No. 9 Level (1,000 ft.)—South branch of Dreadnought lode: The drive eastward at this level was extended 13 ft. to Waihi Co.'s eastern boundary, and from there 117 ft. in Junction Co.'s eastern area, when it connected with old workings. Payable ore is being won from this reef. The drive on the Empire lode eastward from No. 4 shaft, north crosscut, the face of which at the end of 1927 was standing at 699 ft., was extended to 749 ft., from which point a crosscut, known as "Worthington's north-north-east crosscut," was driven 267 ft. and into the Junction Co.'s eastern section for the purpose of tracing the upward continuation of the run of payable ore met with at Waihi Co.'s No. 10 level extension. Nothing definite in the way of a run of payable ore had, however, been proved up to the end of the year. On the Empire lode, north section, 126½ ft. of driving was done westward from Power