The Golden Mara Mine, Warrentinna.

1. Introduction:

The Golden Mara mine is situated at Warrentinna, ½ a mile west of the railway siding and on the west side of Branxholm - Warrentinna road, at a distance of 2½ miles north of Branxholm.

The mine has not been worked since 1921 and with the exception of East Volunteer adit, is now inaccessible. The workings are located on forfeited leases 1367/G of 20 acres, 1420/G and 1410/G of 5 acres each.

II. Previous Reports:

There are no previous departmental reports on the mine. Brief items concerning the workings are contained in the Secretary for Mines Annual Reports for the years 1897 to 1901 and 1911 to 1929 inclusive. Various details also appeared in the quarterly editions of the "Mineral Industry of Tasmania" during the years 1898 to 1902.

III. History and Production:

Several reefs were discovered on the property in 1890 and two mineral leases of 10 acres each were granted to A.E. Hodge and O. Reece. In 1894 the eastern lease, covering Branxholm and Little Branxholm reefs, was transferred to the Branxholm Prospecting Association. At the same time the western lease containing Coronella, Blue, Riley's and Ascot reefs was taken over by the Coronella Extended Gold Mining Company. The reefs were worked to shallow depths, largely by tribute parties until 1896 and the ore was crushed in a local customs treatment plant known as the "Dauntless" battery. Branxholm lease was transferred in 1897 to the East Volunteer Gold Mining Company and mining was carried out intermittently on Branxholm and Little Branxholm reefs over a period of four years principally by way of an adit, 1100 feet in length. This company erected a battery and as far as can now be ascertained, treated 96 tons of quartz for a yield of 100½ oz. of gold. Following the transfer of the Coronella lease to H.W. Bayley in 1898, several reefs were cut in Bayley's adit which was 1091 feet in length. Between 1900 and 1901 the adit was connected with surface by a vertical shaft (Bayley's), 136 feet in depth. The first crushing, in the East Volunteer battery towards the end of 1898, yielded 33½ oz. of gold and in the following year 479 tons of mullock was treated for a yield of 33 oz. In 1901 a 10 head battery was erected but only one crushing of 150 tons was put through, the yield amounting to 33 oz. of gold. By the following year all work had ceased. Although the workings were again held under lease between 1906 and 1908 the year 1911 marked the next stage in the history of the mine when the Golden Mara Mining Company commenced operations on the leases abandoned by Bayley and the East Volunteer Company. After prospecting and exploring the old workings good results were obtained from trial parcels of ore forwarded to Mt. Lyell and Cockle Creek for treatment. Further capital was obtained in the following year when the company was refloated under the name of New Golden Mara Gold Mining Company. Between 1912 and 1914 the Mara main shaft was sunk to 294 feet, crosscuts extended westerly from the shaft at the 200 feet and 274 feet levels and Coronella

reef driven on at both levels. A rise was also put up to connect with a winze coming down from Bayley's adit (136 feet level) and some stoping and rising done above the latter level. Following a six weeks run of the battery erected in 1915, crushing results proved unsatisfactory as the gold yield was shown to be only slightly better than 3 dwts. per ton. The company was assisted to the extent of £1000 on the £ for £ basis by the State Government but subsequent crushings showed only a slight improvement in values and operations ceased early in 1916. The Mara Gold Mining Company was next formed in 1917 and took over the mine under the management of Mr. J.T. Stubbs. Operations in this year produced 80½ oz. gold from 53 tons of quartz. In the next year 857 oz. of gold valued at £2663-7-10 was won, principally from Coronella reef at the 136 feet and 200 feet levels. Included in this return was the result of several crushings from Ascot reef at the 200 feet level, which proved the value of the reef to there approximate 7 dwts. of gold per ton. Operations continued for 3 more years, with a further production of 472 oz. of gold, and the mine was finally closed in 1921.

The following table shows the available records of production by the several lease holders from the reefs developed in the Golden Mara mine, at different stages between 1892 and 1921.

Years	Producers	Ore in tons	Gold oz.	dwts.	grs.	Value £
1892-1895	Coronella Extended Gold Mining Company and tributors	649¼	805	11	1	
1893-1895	Branxholm Prospecting Association & tributors	1323¼	950	16	12	
1899-1901	Bayley's lease	903	101	10	0	
1898-1900	East Volunteer Gold Mining Company	96	100	10	0	
1917	Mara Gold Mining Company	53	80	10	0	
1918-1921	" " " "	-	1328	18	0	4258
	Total		3367	15	13	

The above indicates that the average value of ore mined was slightly more than 1 oz. of gold per ton.

IV. General Geology

The mine is located in the wide belt of slates and quartzites (Mathinna Group) of Silurian age which extends northerly from the south Esk River to the North Coast.

Near the mine, the rocks strike north-westerly and dip to the south-west at angles varying from 45° to 70°.

V. Economic Geology.

In the vicinity of the mine, a series of gold bearing quartz veins occur within a narrow zone having a general

northerly trend.

The veins strike in two general directions viz. north and north-east and appear to largely follow lines of weakness in the form of tension and shear fractures respectively. The veins are not necessarily continuous throughout the fracture lines but have been formed where openings have been occasioned by stresses acting on the enclosing rocks. In places, particularly towards the west of the zone, veins in the shear fractures junction with others in the tensional openings. Near the intersection of the two systems ore shoots have been produced. These usually occur for short distances from the junction in both series of veins but in some instances they are only developed in one. Some of the shear veins are continuous between two parallel tension veins and when this occurs the ore shoots are usually found throughout the length of the former.

VI. The Reefs

Gold bearing quartz has been obtained from 6 reefs or veins, but the greatest amount was mined from Coronella reef.

The attached plans and section illustrate the following features:-

(a) General plan showing reefs, surface workings and adits in relation to former lease boundaries.

(b) Plan of underground workings on Ascot, Coronella, Blue and Little Branxholm reefs.

(c) Longitudual section showing stoping on Coronella reef.

(d) Cross-section of underground workings showing Ascot, Coronella, Blue, Riley's, Little Branxholm and Branxholm reefs.

The following description of the reefs are given in their order from west to east.

(1) Ascot Reef is situated in the eastern part of abandoned section 1420/G. The surface workings indicate that the strike at the northern end is about 12° but where cut underground at the southern end, north-west of Bayley's shaft, it had changed to 25°. The surface stopes appear to be almost vertical. At the 200 feet level from Mara main shaft, Ascot reef was cut and driven on for 35 feet. The lode channel was reported to range from 4 to 5 feet wide and contained patches of good stone, but the bulk proved to be low grade. Trial crushings yielded about 7 dwts. per ton and the value of the gold was approximately £3 per oz.

(2) Coronella Reef - This reef is located about 40 feet east of Ascot reef and passes from section 1420/G into 1367/G. The strike changes direction in several places from almost due north to north-easterly as the reef alternately follows tension and shear fractures. The surface stopes at northern end indicate a south-easterly dip of 70°. The reef dhannel is reported as generally ranging from 10 inches to 24 inches wide and to carry 6 to 7 inches of quartz. The early work by Coronella Extended company on the upper part of the reef was carried out by way of Neenan's shaft over a length of 90 feet, from the 40 feet level. The underground section of workings from Mara main shaft shows a south-west pitching

ore shoot stoped from surface along a length of approximately 200 feet down to the 200 feet level, where the length has shortened to 40 feet. At the bottom level (274 feet) very little stoping was apparently undertaken.

Records are not available of the quantity or quality of the ore produced from Coronella reef. As the greater part of the ore mined by Coronella Extended Gold Mining Company, Bayley and Mara Gold Mining Company came from the reef, it can be assumed from the production figures given above that large quantities of the ore averaged 1½ oz. of gold per ton and was valued at about £3 per oz.

(3) Blue Reef is situated on the boundary between sections 1420/G and 1367/G, 50 feet east of Bayley's shaft, where it is outlined by a vertical shaft at the south end and open stopes up to 90 feet further north. The vein has been cut in a short adit about 20 feet north of the stopes, over a width of 2 to 4 inches where it strikes at 342° and dips to the west at 45°. To this point the reef has followed a northerly trending tension fracture but the strike then changes north-easterly along a shear fracture for 70 feet. Over that length it was worked from Neenan's shaft and stoped to surface from the 40 feet level, and to a limited extent below. Southern end of the reef was driven on for 100 feet in a northerly direction from the 200 feet level in Mara main shaft workings, but it is doubtful if any stoping was undertaken.

(4) Riley's Reef - The northern part of this reef follows a shear fracture parallel to, and 40 feet south east of, the northern extension of Blue reef. At the northern end it appears to junction with Little Branxholm reef. The ore shoot was attacked by means of a cross-cut and winze at the 40 feet level from the 79 feet shaft, put down on Little Branxholm reef to the east. Stoping was carried 60 feet to surface over a length of 100 feet. At southern end of the stopes the reef had turned to the south along a tension fracture. Riley's Reef also appears to have been cut in Mara main shaft at 150 feet from surface and driven on for 80 feet in a southerly direction at the 274 feet level.

(5) Little Branxholm Reef - This is the most persistent reef of the series and has been traced over the greater part of 950 feet in a general north and south direction, from the north-west part of Section 1367/G to the north-east portion of 1410/G. The reef is defined along the surface at intervals by several groups of shafts and stopes. The strike is generally in the tensional direction but in places, notably at the north and south ends and to the south-west of Mara main shaft, the trend changes over short distances along shear fractures. The dip is principally to the east at angles from 65° to 80° but in a few places the reef inclines steeply to the west.

Southern end of Little Branxholm reef was cut in Bayley's adit at 670 feet from the mouth, where it was driven on for 160 feet in a northern direction and 40 feet to the south.

(6) Branxholm Reef is located in southern part of section 1367/G. It trends north-easterly and for the most part is vertical, although steep dips to the north-west and south-east occur in places. Width varies from 3 to 5 feet.

The reef can be traced for 300 feet at surface along a line of old shafts and trenches. The deepest shaft, near the northern end, was sunk vertically to a depth of 20 feet and afterwards on a south-easterly underlay of 70° - 80° for a further depth of 64 feet. Stopes have been worked,

to within several feet of the surface, along the reef on either end of this shaft.

Stoping was also carried out from a 50 feet vertical shaft towards the south-western end of the reef.

In East Volunteer Adit, at 550 feet from the portal, Branxholm reef was cut and driven for 25 feet each way. The reef formation here consists of numerous quartz veins, traversing slates and quartzites, over a width of 4 feet. The general disposition of the veins is vertical but a defined hanging wall at north-east end of the drive dips to the north-west at 83°.

Branxholm reef was also reported to have been cut in a crosscut going east from Mara main shaft workings.

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