

REPORT ON BARRIER CREEK - SULPHIDE LODES, KING ISLAND.HISTORY:

In the year 1904 prospecting by the King Island Prospecting Association No Liability disclosed a quartz lode carrying galena, and in 1906 a Reward Claim of 78 acres (932/M) was granted for a period of 5 years. In 1908 the lease was transferred to V.H. Morecroft and others, and expired in 1911.

The lode was found outcropping on the steep slopes of Barrier Creek, and an adit was driven along its course for a distance of 160 feet. A little surface work was also carried out some 20 chains to the south. As far as is known no ore was marketed. The workings at this period were known as the "A.1" mine. Subsequently 146a.1r.6p. of the surrounding land was purchased from the Crown by E.O. Denby.

This year the Barrier Creek Syndicate obtained a permit to enter and search on the property and commenced prospecting in vicinity of the old workings. A shaft was sunk on a lode about 5 chains to the north-west of adit entrance and a trench cut, on probably the same lode, in the bed of a small creek to the south-west.

LOCATION and ACCESS:

The area is situated near the east coast of King Island, 2½ miles S.E. of Naracoopa.

Access is gained from Naracoopa by means of the formed, but unmetalled, road to Stronach and others holding for a distance of 1½ miles. From this point a recently cleared foot track deviates south-westerly to vicinity of the workings.

TOPOGRAPHY:

No outstanding topographical features exist in the area. The general surface of the country is represented by an undulating plain at an average height of 200 feet above sea level. Near the workings the plain has been dissected to a marked degree by Barrier Creek and its affluents, which drain the area. Barrier Creek runs south-easterly in a steep sided V. shaped valley, at a general height of 150 feet below plain level.

GEOLOGY:

The only rocks outcropping in the proximity of the workings are argillaceous quartzites. These rocks are hard when fresh and have a dark grey colour, but on weathering the colour alters to light brown and they become softened.

Further south, near City of Melbourne Bay, the quartzites are intercalated with slates.

The quartzites at Barrier Creek strike north-west on a bearing of 339° and dip to the south west at angles

of 75° to 80°.

In lithological appearance the rocks are similar to certain slates and quartzites of the Cambro-Ordovician series of north western Tasmania, and on this evidence are tentatively placed in that period.

#### WORKINGS:

Insufficient work has been done along the line of lodes to definitely establish their number and continuity, but there appear to be two or possibly three lodes in either rough parallel alignment or in echelon.

The lodes strike north-west and south-east and are exposed at intervals by means of shallow workings and outcrops over a length of 25 chains.

Near the north boundary of section 932/M, 78 acres, and on the south bank of Barrier Creek a shaft was recently sunk to a depth of 17 feet on a quartz-sulphide lode. The lode consists of dense white quartz containing several narrow parallel bands of sulphide minerals varying from  $\frac{1}{4}$  inch to 3 inches in width. Probably two thirds of the lode is composed of quartz. The sulphides constitute an intimate mixture of the minerals arsenopyrite, sphalerite, galena, pyrite and chalcopyrite in approximate order of abundance. Small amounts of the iron carbonate gangue mineral siderite are associated with these sulphides. Partings between the bands and the lode walls are stained with a coating of fuchsite, a green coloured chromium mica. Near the surface the lode was oxidised and the sulphide minerals did not appear till 7 feet below outcrop. At this point the chief mineral in the bands was arsenopyrite but at lower depths galena and sphalterite increased slightly in proportion.

At the bottom of shaft the main quartz-sulphide portion of the lode is 18 inches wide, but a lateral extension of the lode channel is showing on the hanging wall side for a further 10 inches. This consists of altered country rock impregnated with a little of the sulphide minerals.

A sample was taken across 18" of the main portion of the lode near bottom of the shaft, but the assay result is not yet to hand. An assay carried out by the Government Chemist and Assayer in May last on a sample submitted by the Barrier Creek Syndicate from this shaft gave the following result:-

Gold .. .. .	0 ozs. 1dwt. 7 grs.
Silver .. . . .	2 " 6 " 12 "
	<u>Per cent.</u>
Lead .. .. .	3.86
Copper .. .. .	0.02
Zinc .. .. .	3.74
Arsenic .. .. .	10.88

The old adit, still accessible, is situated 5 chains south-east of shaft. This was driven on the course of a lode outcropping in a small cliff face about 10 feet above the bed of Barrier Creek. The lode was followed for approximately 100 feet on a general bearing of  $160^{\circ}$  where it was found that the lode was gradually trending eastward. From here the drive was continued on a general bearing of  $140^{\circ}$  for a further 60 feet. At 100 feet in the adit short cross-cuts were excavated to the north-east and south-west without disclosing any further lodes. From this point also a winze was sunk on the lode but no details of this are now available.

Another adit, 15 feet in length, was also driven on the outcrop at a point 20 feet immediately above the lower adit.

The lode as exposed in the adits varies in width from 6 inches to 2 feet 6 inches and has an even dip with the country rock of  $80^{\circ}$  to the south-west. It consists of quartz much stained by oxides of iron.

Thirteen chains to the south of the adits a quartz lode outcrops on the steep northern fall to a small tributary of Barrier Creek. This lode can be traced for a distance of  $4\frac{1}{2}$  chains to a point  $\frac{1}{2}$  a chain south of the creek. The average strike of the lode is  $335^{\circ}$  and it seems probable that it represents a discontinuation of the lode exposed in the shaft about 18 chains to the north west. A recent shallow trench sunk on the lode in the bed of the small creek shows 2 feet of quartz carrying traces of galena, while the quartzite walls are impregnated with fine pyrite.

The lode appears to be vertical but may have a high dip to the south-west. At 4 chains south of the trench another quartz lode striking at  $354^{\circ}$  and dipping steeply to the north-east outcrops on the hillside. Small quantities of pyrite and arsenopyrite are visible in the quartz and the lode can be traced for half a chain at surface.

#### CONCLUSION:

Several narrow quartz lodes containing small amounts of mixed sulphides consisting of arsenopyrite, zinc-blende, silver-lead ore, iron pyrites, copper pyrites and gold have been exposed over short lengths and proved to a maximum depth of 30 feet below the surface.

Owing to the small quantities of economic minerals contained in the lodes and to the complex nature of the ore this prospect appears to be of little importance.

F. Blake (Sgd).

ACTING GOVERNMENT GEOLOGIST.

Dept. of Mines,  
Hobart.

27th August, 1935.

APPENDIX.

A sample taken by the writer across the lode, 18 inches wide, near bottom of shaft at Barrier Creek has been assayed by the Government Chemist and Assayer, with the following result:-

	Oz./	dwts.	Grs.
Gold .. .. .	0.	0.	19
Silver.. . . .	1.	1.	17

	Per cent.
Lead .. .. .	1.58
Copper.. .. .	0.06
Zinc .. .. .	2.86
Arsenic .. .. .	0.77

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ACTING GOVERNMENT GEOLOGIST.

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