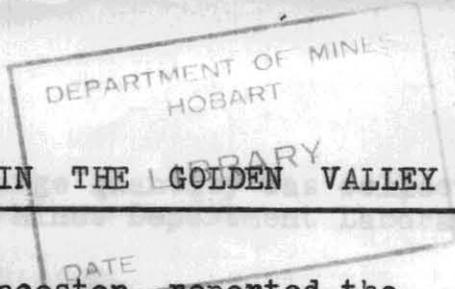


UR 1933/1-2



REPORT ON GAS OCCURRENCES IN THE GOLDEN VALLEY DISTRICT.

Mr. B.H. Whittle, of Launceston, reported the occurrence of Gas in the Golden Valley district, and it was arranged that an inspection of same should be made.

The Golden Valley district is situated about 6 miles to the south-south-east of Deloraine and immediately to the north of Quamby Bluff.

Access is gained by the Great Lake road from Deloraine.

After leaving the basalt near Deloraine, the road passes over a tract of country occupied by schistose rocks probably of Proterozoic age intruded at places by schistose porphyries. In the vicinity of Mr. Mahoney's house and for some distance west, quartz schists outcrop and have a strike of  $315^{\circ}$  and a high dip. Further west and the land blocks charted in the name of Woolnough schistose limestones outcrop and have opened up in a number of quarries. The limestone has a strike of  $315^{\circ}$  and a dip of  $45^{\circ}$  to the north-east.

Permo-Carboniferous shales, mudstones, sand-stones conglomerates etc. overlie the above and form the foothills of Quamby Bluff. They also occupy the valley of Quamby Brook and on the east side thereof contain a seam of Tasmanite shale.

It was stated that gas occurred at several localities and a number of these were visited. One locality was a small creek entering a larger one near Mr. Cousins' house. The bed contained much dark sediment. Little if any gas was observed escaping, but on stirring up the sediment with a stick, numerous bubbles were observed. It was stated by Mr. Whittle that oil films could be seen on the water, but none were observed during the inspection. No rocks outcrop in the vicinity but it is probably occupied by Permo-Carboniferous mudstones etc.

Another locality was 200 yards south of Mr. Mahoney's house where a water-hole had been opened up on the site of a spring. Gas bubbles were observed on stirring up the mud at the bottom with a stick. The rocks in the vicinity are probably Permo-Carboniferous mudstones etc.

Another locality was 40 to 60 chains west of Mr. Mahoney's house and probably on a block charted in the name of Woolnough. A large flat occurs here and has a general north westerly trend to the Meander river. At the head of the flat limestone outcrops and this rock apparently underlies the flat judging by its strike and the occurrence of "sink holes" in the flat. Two of these sink holes were visited, one being dry and the other filled with water. Occasional bubbles were observed rising through the water and on stirring up the sediment at the bottom of the hole, numerous bubbles came to the surface. The gas was collected in an inverted funnel fitted with a tap and on being ignited, it burned with a

Hole 5

slightly luminous flame. A large quantity was collected in a bottle for testing in the Mines Department Laboratory at Launceston.

The gas was tested for light petroleum fractions and gave a "nil" result. A leak prevented the gas being determined as methane or marsh gas, but it can reasonably be regarded as such.

These tests tend to prove that the gas has no connection with petroleum. This is supported by the geological structure and the actual conditions under which the gas occurred. In every case the gas was observed in pools, streams etc. with mud and decaying vegetable and/or animal matter on the bottom. It is under such conditions that marsh gas is formed and under such circumstances the methane has no connection with petroleum.

The gas is given off from pools on country occupied by Permo-Carboniferous sedimentary rocks, by schistose limestone, and by quartz schists. It might be said that petroleum could be formed in the Permo-Carboniferous strata. If so, it would need to migrate into the limestones and schists in order to rise through pools on these rocks. Such a migration is most unlikely in view of the local geological structure.

It must be concluded, therefore, that the gas is marsh gas formed by decaying vegetable and animal matter at the bottom of pools, streams etc., and that it has no connection with Petroleum.

- 3. On the Mining Districts between Corinna and Waratah. J. Harcourt Smith, 1897.
- 4. On the Mineral Fields (Signed) P.B. Nye. and Corinna. W.F. GOVERNMENT GEOLOGIST
- 5. Long Plains. W.H. Twelvetees, 1903.
- 6. Ore in Long Plain and Zeehan Districts. A.M. Reid, 1919. Mineral Resources No. 6.
- 7. Osmiridium in Tasmania. A.M. Reid, 1921.

Mines Department,  
HOBART.

5th January, 1933.

Of the above reports Nos. 1, 2 and 3 deal with the Specimen Reef Mine; No. 4 deals mainly with the general geology; Nos. 5 and 6 contain descriptions of the Rio Tinto lodes; and No. 7 describes the osmiridium deposits.

GEOLOGY

The rock types examined and mapped during our brief stay in the district may be subdivided as shown in the following table.

TABLE SHOWING SOURCE OF ROCK TYPES

	<u>Sedimentary</u>
Cambro-Ordovician	Slates and Quartzites.
Tertiary	Gravels, Sands and Clays
Recent	River Gravels.