RUTHERFORD'S IRON AREA, NATONE

INTRODUCTION

In co-operation with a magnetometer survey by geophysicists of the Mineral Resources Bureau a geological survey was made of a small area surrounding Rutherford's iron deposits at Natone.

A group of surveyed grid lines, laid down for the geophysical work, was used as traverse lines for the geological survey.

An accompanying map, together with a series of sections drawn along the traverses, illustrate the geological features of the area.

LOCATION AND ACCESS

The iron deposits are situated ½ mile south of Natone Post Office on the west side of Burnie-Upper Natone road. They are located on purchased land in the name of T.S. Rutherford and are principally covered by former mineral lease No. 304P/M of 57 acres in extent.

Access roads from Bass Highway pass through the area in a distance of 10 miles from the shipping port of Burnie.

PREVIOUS LITERATURE

Previous Department of Mines reports concerning these iron deposits are as follows:-

Published

W.H. Twelvetrees & A.M. Reid, 1919 - Mineral Resources No. 6, The Iron Ore Deposits of Tasmania

Unpublished

D.E. Thomas & Q.J. Henderson, 1943- Some Iron Deposits in the Vicinity of Burnie.

In addition Dr. W.G. Woolnough, Commonwealth Geological Adviser, in his "Report on Examination of Iron Ore Deposits in Tasmania", in 1939, deals briefly with Rutherford's iron area.

The following list refers to unpublished reports on pyritic copper lodes occurring within the area about ½ of a mile north of the iron outcrops:-

Q.J. Henderson, 1941 - Woodstock Copper Prospect

P.B. Nye, 1941 - Woodstock Copper Prospect

D.E. Thomas & Q.J. Henderson, 1943 - Woodstock Copper Prospect.

HISTORY

In the northern part of the mineral lease, formerly held by Ferrico Proprietary Ltd., extensive prospecting works were carried out at different stages

over a long period in the vicinity of a low timbered hill rising on the western side of a small branch of Chasm Creek, adjacent to Rutherford's House.

The first stage was undertaken by the property owner from about 1918 onwards, when the work consisted principally of shaft sinking and trenching.

This was followed during the years 1938 to 1943 by J. Linell Cook (Holdings Pty.Ltd.) and Ferrico Pty.Ltd. which sunk other shafts with some short drives, and cut trenches and open cuts. A geophysical survey covering the deposits is reported to have been carried out by private enterprise during this stage, but the results of the survey are not available.

In 1938 two drill holes, 67 feet and 68 feet respectively in depth, were bored by this Department for the lease holders, but no ore bodies were penetrated.

This prospecting disclosed a number of small isolated iron ore bodies to a few feet below the surface, but no continuity of ore could be established between the exposed bodies.

GENERAL GEOLOGY

The oldest rocks in the district consist of a series of Upper Pre-Cambrian quartzites and phyllites. Exposures are insufficient to determine the rock structure but a close series of north-east trending anticlines and synclines, in association with numerous faults, is suggested. Unconformably overlying the Pre-Cambrian rocks, in the eastern part of the area, is a group of breccia-conglomerates with minor beds of finely banded cherts and quartzites which are referred to the base of the Owen Conglomerates of Ordovician age. The rocks of this formation are striking north-easterly at 50° and dip to the south-east at 45°.

These sedimentary formations are intruded by Devonian granite which is exposed in the extreme south-western part of the district.

During the Tertiary period flows of basalt covered the older rocks to various depths. The basalt has since been largely denuded and the underlying rocks re-exposed over the greater portion of the area examined.

THE IRON DEPOSITS

These are contained in the Pre-Cambrian rocks and consist principally of hematite, but some magnetite is also present in places.

The mineralisation is genetically related to the granite which outcrops below basalt flows along a branch of Chasm Creek in the extreme south-west of the area. The overlying basalt masks the intrusive contact with the iron host rocks, which must be somewhere between the creek and the 35008 traverse.

The iron outcrops occur along a north-east trending shear zone extending over a maximum width of 800 feet. The ore is associated with fissures traversing the quartzites and phyllites. These rocks

have been considerably altered by mineralising solutions and partly replaced by iron at irregular intervals along the fissures.

On the low hill to the west or Rutherford's house about 13 small isolated iron outcrops have been revealed, principally by prospecting works. This prospecting has indicated a lack of continuity between the exposed bodies and points to the development of short discontinuous shoots of ore. Four of these occur along the 00/1000S traverse and another on the 00/1250S line.

In the cultivated field immediately south of the hill, and the 00/1500S line, a larger body than any of the abovementioned had been formerly outlined by shafts and trenches. These works disclosed iron over a width of 100 feet and 120 feet in length, but were later filled and are now covered by soil and iron debris.

Further to the south-west pieces of iron are scattered over a width of several hundred feet on the surface of cultivated land extending north of the 2000S traverse to beyond the south side of the 2600S line. The greater concentration of this debris occurs to the east of the zero points on the traverses. A small ourcrop of iron, previously reported near 2000S/200E, has since been broken down and is now covered by soil for the purpose of cultivation.

In this locality the broken ironstone at surface may indicate the presence of iron bodies at shallow depths. Any iron that may possibly occur further to the south-west towards the granite contact would be covered by the basalt mantle in that direction. Since the basalt attains a maximum thickness of 30 feet at the zero point on the 3500S line and 50 feet at 00/4000S any underlying ore bodies could not be considered for exploitation.

The only other known iron body is situated in the north-east of the zone, to the south of the zero traverse. Little prospecting has been attempted in this vicinity where an isolated outcrop occurs to the west of Upper Natone - Camena roads junction.

PYRITIC COPPER LODES

In the north part of the area a north-east trending zone of pyritic lodes occurs. This is sub-parallel to and separated from the hematite zone by a distance ½ of a mile and includes Rutherford's and Woodstock copper prospects. The outcrops of the lodes are usually expressed on the surface by iron gossan in the form of limonite boulders, but the presence of this gossanous material is not necessarily a true indication of the presence of copper deposits at depth. Several of these occurrences are situated in close proximity to the western extensions of the zero and the 500N traverses, to the north-west of Natone-Upper Stowport road.

CONCLUSION

Numerous small iron ore outcrops have been defined by prospecting over a restricted locality in

Rutherford's property. No continuity between the various occurrences has been established.

The only possibility in the search for other iron bodies exists in the mineralised zone to the south-west, between the prospected area and the basalt cover, where scattered ironstone extends over a width of several hundred feet on the surface for a distance of about 1500 feet.

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