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IRON ORE AT PENGUIN CREEK

by M. J. Longman.

INTRODUCTION

At the request of Mr. A. Pearson of Ulverstone an examination of the iron ore deposits at Penguin Creek was made to determine the reserves. Field work was carried out on 5th and 6th December, 1960.

LOCATION

The iron ore occurs in two pits on the eastern bank of Penguin Creek about three miles from its mouth. Access to the area is by the Iron Cliffs road from Penguin. (See figure 3.)
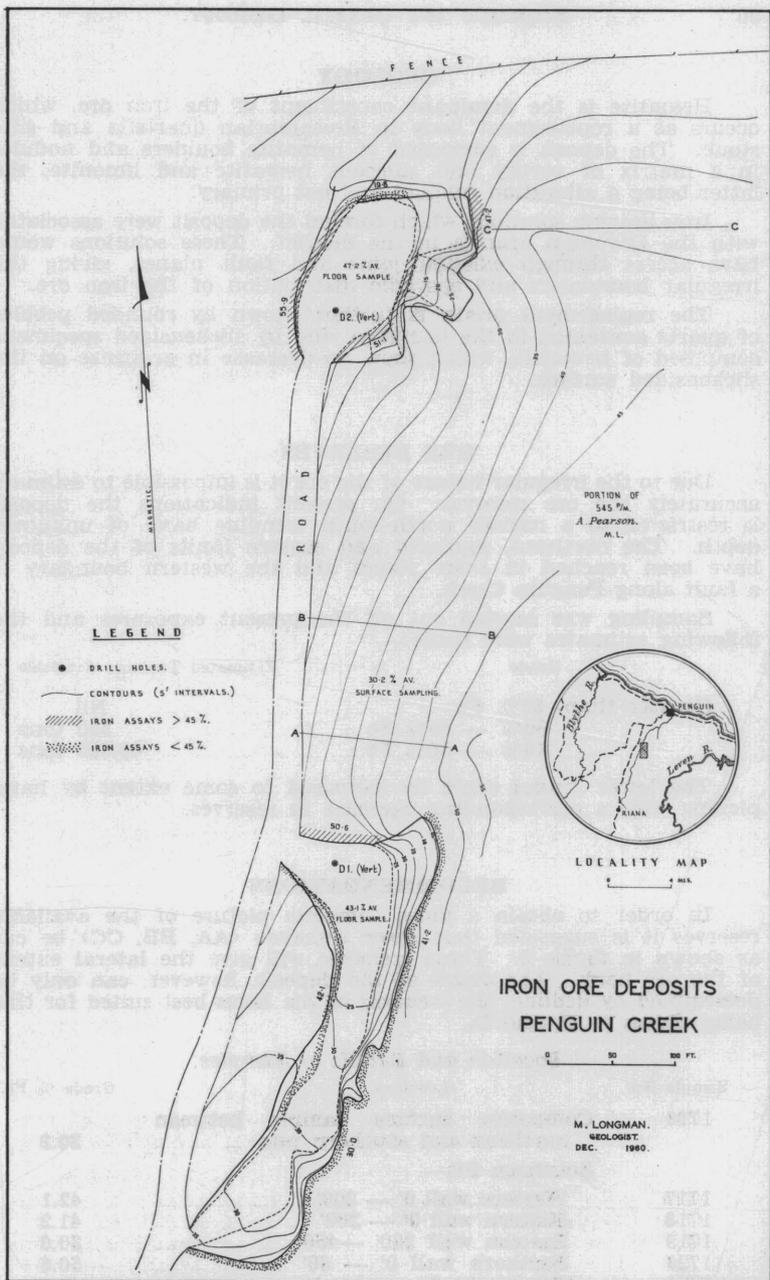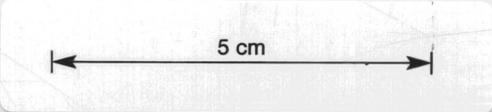
IRON ORE DEPOSITS
PENGUIN CREEK

0   50   100 FT.

M. LONGMAN.
GEOLOGIST.
DEC. 1960.

FENCE

47·2 % AV.
FLOOR SAMPLE

D2. (Vert)

PORTION OF
545 P/M.
A. Pearson.
M.L.

30·2 % AV.
SURFACE SAMPLING.

50·6

D1. (Vert)

43·1 % AV.
FLOOR SAMPLE.

80·0

R O A D

LEGEND

●   DRILL HOLES.

——   CONTOURS (5' INTERVALS.)

▨▨▨   IRON ASSAYS > 45 %.

▨▨▨   IRON ASSAYS < 45 %.

LOCALITY MAP

0   4 MLS.

PENGUIN

Leven R.

RIANA

FIGURE 3.

5 cm

GEOLOGY

Hematite is the dominant constituent of the iron ore, which occurs as a replacement body in Precambrian quartzite and siltstone. The deposit is composed of hematite boulders and nodules in a matrix of earthy and siliceous hematite and limonite, the latter being a alteration product and not primary.

Iron bearing solutions which formed the deposit were associated with the Devonian granite in the district. These solutions would have access through existing joint and fault planes, giving the irregular boundaries and sporadic distribution of the iron ore.

The replacement origin is further shown by rounded pebbles of quartz contained in the hematite, and by slickensided specimens composed of hematite, which show no decrease in grainsize on the slickensided surface.

ORE RESERVES

Due to the irregular nature of the ore it is impossible to estimate accurately the ore reserves. On present indications the deposit is restricted to a narrow north-south trending band of unknown depth. The northern, southern and eastern limits of the deposit have been reached in some places and the western boundary is a fault along Penguin Creek.

Sampling was carried out on the present exposures and the following estimates were made:—

Grade	Estimated Tonnage Available
Greater than—60% Fe	Nil
50% — 60% Fe	500 tons
40% — 50% Fe	40,000 tons

The lower grades could be increased to some extent by hand picking with a corresponding decrease in reserves.

RECOMMENDATIONS

In order to obtain a more complete picture of the available reserves it is suggested that three trenches (AA, BB, CC) be cut as shown in figure 3. These trenches will give the lateral extent of the ore body. The depth of the deposit, however, can only be determined by drilling, the location of the holes best suited for this being shown as D_1 and D_2.

Location and Details of Samples.

Sample No.	Location	Grade % Fe.
1716	Composite surface sample between northern and southern pits	30.2
	Southern Pit—	
1717	Western wall 0' — 200'	42.1
1718	Eastern wall 0' — 200'	41.2
1719	Eastern wall 200' —450'	30.0
1720	Northern wall 0' — 60'	50.6
1721	Composite floor sample	43.1

Northern Pit—

1722	Western wall 0' — 125'	55.9
1723	Northern wall 0' — 45'	19.8
1724	Eastern wall 0' — 105'	51.1
1725	Eastern wall crosscut	47.9
1726	Composite floor sample	47.2

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