

RB 53/76
GS 2120

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IRON ORE DEPOSITS

OPEN FILE.

Ed. Moorehead, allotment 759, Sec. 1735.

(H.E. MEYER & H. MICHEL)

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INTRODUCTION

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GRADE AND RESERVES

D.N. 680/61

Plan No.

Title

Scale

61-570

Iron Ore Deposits
Ed. Moorehead Allotment 759, Sec. 1735

1 inch = 100 ft.

IRON ORE DEPOSITS

HD. MOOROOO, ALLOTMENT 759, SECTION 1735

DESCRIPTION

An inspection of a mineral claim situated on a deposit of ironstone in allotment 759 (sec. 1735) Hd. Mooroo, $\frac{1}{2}$ mile westerly from Penrice was made on August 9th. 1961. The claimholders, Messrs. H.E. Heppner and M. Kuchel are seeking an export licence from the Federal Government.

REFERENCES

- JACK R.L.** The Iron Ore Resources of South Australia,
Geol. Surv. S. Aust. Bull. 9. p. 29.
- JOHN R.K.** Limestone Deposits - Hundred of Mooroo
Mining Review 90 pp. 152 - 159
- JOHN R.K.** South Australian Rock Phosphate Deposits
Mining Review 114 (in press)

GEOLOGY

Rocks underlying the area inspected comprise marble, impure limestones and mica schists of the Kanmantoo Group which have been deformed by folding. The marble is a coarsely crystalline white rock which generally outcrops strongly - the bed varying considerably in thickness. The enclosing beds consist of calc-silicate rocks, impure limestones and mica schists.

Traversing allotment 759 in a general north-south direction over the crest of the hill and more or less completely replacing the marble at the surface are deposits of iron ore. These have been exposed in a number of quarries for the production of smelter flux. The workings are shown on the accompanying plan (61-570)

The ironstone deposits comprise irregular bodies of haematite set in a matrix of yellow brown clays and pseudo-breccia. The pseudo-breccias have been observed in a number of other localities in association with phosphate deposits where solution cavities in limestone have been filled by irregular fragments of slate, schist, occasionally quartz or quartzite, with nodules of haematite, limonite or phosphate rock set in a matrix of yellow brown clay which may be limonitic or ochreous. The deposit under review and the phosphate deposits referred to are believed to be analogous and related to replacement of the limestone beds during the Tertiary period of peneplanation.

In the eastern approach to the main quarry marble having a karst surface is exposed, being here overlain by limonitic clays and haematite. Elsewhere the relationships are not observable.

Haematite as rounded nodules and large irregular bodies occur sporadically throughout the quarries - their occurrence beyond these exposures being quite unpredictable. The ore is generally hard and dense but micaceous, powdery and ochreous ores are present. The main bodies of exposed haematite are indicated on the accompanying plan.

GRADE AND RESERVES.

Three samples were taken from the main quarry and were submitted to A.M.D.L. for analysis as follows;

SAMPLE NO.	A583/61	A584/61	A585/61
Ferric oxide (Fe_2O_3)	67.1	92.4	81.1
Ferrous Oxide (Feo)	0.11	0.32	1.76
Total Iron (Fe)	47.0	64.9	48.1
Manganese (Mn)	0.11	0.13	0.12
Phosphorus Pentoxide (P_2O_5)	0.42	0.09	0.03
Silica (SiO_2)	19.1	1.40	12.8

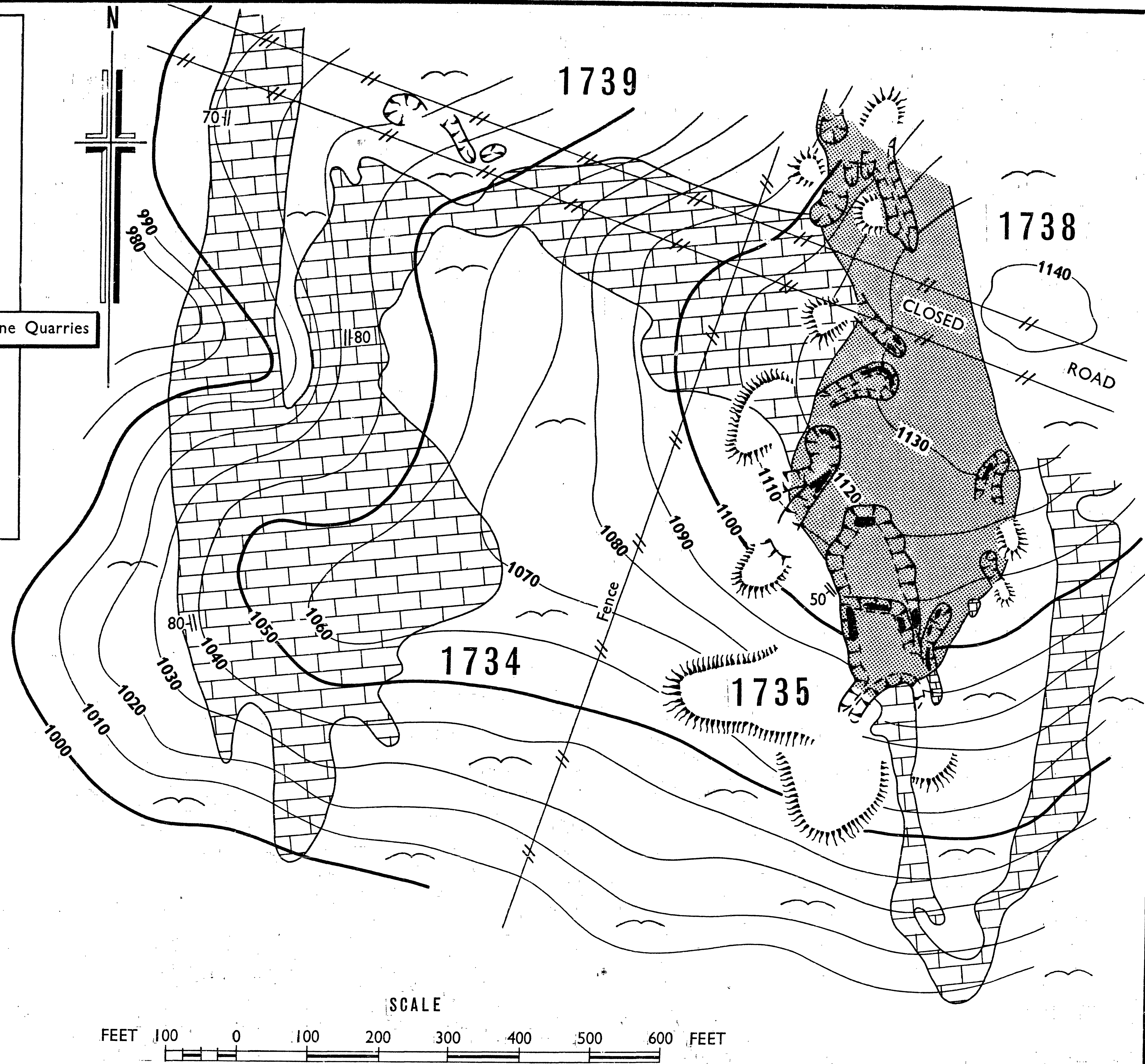
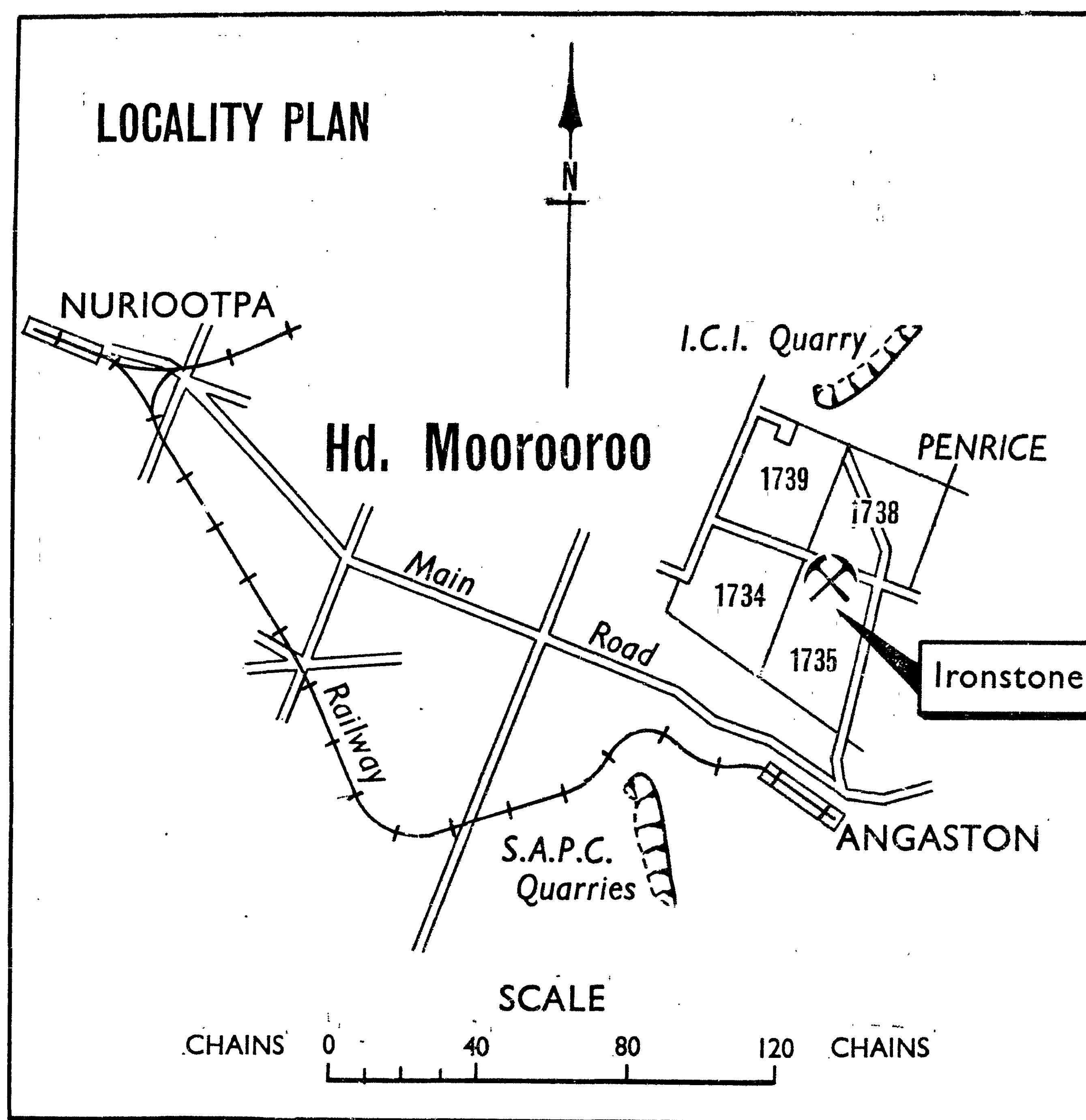
Sample A583/61 represents pseudobreccia, the matrix to samples A584/61 and A585/61 which are of massive and powder haematite ore respectively. These are grab samples only and though they cannot be taken as being fully representative, serve to indicate the grade of ore present. Possibly only No. A 584/61 containing 64.9% total Fe would constitute export grade, the others showing high silica contents.

A reliable estimation of reserves of high grade haematite ore remaining on the property is impossible. Previous production figures are unavailable, so that the ratio of ore to waste already mined is not known but the large size of the dumps suggests that this is less than 50%. The depth of replacement is not known and is undoubtedly an irregular surface.

Assuming that the marble is completely replaced to the 1090 ft. level (the only exposed floor) and that the dimensions of the deposits are as indicated on the plan, the volume of ironstone in allotment 759 is 178,000 cu. yds. allowing for that already mined. If 50% is considered to be saleable haematite ore (say 60% Fe) then these reserves amount to approximately 90,000 cuh. yds.

18.9.61
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LEGEND

- Soil covered areas, underlain by Mica schists and limestone
- "Ironstone"
- Haematite
- Marble
- Quarries
- Dumps