

DEPARTMENT OF MINES
SOUTH AUSTRALIA

REPORT ON
MARBLE DEPOSIT
PART SECTION 506, HUNDRED MOOROOROO
(Standard Quarries (S.A.) Limited).

by

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GEOLOGICAL SURVEY

CONTENTS

1. Abstract
2. Introduction
3. Geological Setting
4. Reserves
5. Summary and Conclusions

PLANS ACCOMPANYING THE REPORT

Plan No.	Title	Scale
62-398	Marble Deposit, Pt. Section 506, Hd. Mooroороо. Standard Quarries Ltd.	80ft. to 1 in

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27th June, 1962.

REPORT ON
MARBLE DEPOSIT
PART SECTION 506, HUNDRED MOOROOROO
(Standard Quarries (S.A.) Limited).

1. ABSTRACT

Reserves in the deposit amount to 230,000 cubic yards above the level of the access road. The marble is predominantly white to pale grey in colour. Some small patches of pale pink stone are present, but selective mining of this material is not possible.

2. INTRODUCTION

A geological survey of the deposit was requested by Standard Quarries (S.A.) Limited with particular reference to the following points.

- "(1) Quantity of each colour of marble.
- (2) Uniformity of colour.
- (3) Geological structure of the deposit.
- (4) Is the marble suitable for quarrying in blocks for subsequent conversion to slabs."

The property, which, with the mineral rights, is owned by Standard Quarries (S.A.) Limited, consists of an irregularly shaped block of about 10 acres occupying part of Section 506, Hd. Moorooroo: The western half of the block is made up of gently undulating ground which is planted with grapevines while the eastern half is occupied by a rounded hill which rises about 70' above the general level of the vineyard land.

A topographic plan of this and the neighbouring marble deposits was prepared in 1956 by Surveyor, M. Langsford. The geological contacts were mapped by the writer onto an enlarged air photograph and subsequently transferred to this topographic plan.

3. GEOLOGICAL SETTING

Marble occurs only on the eastern side of the property

where the hill is covered by persistent marble outcrop. In the vineyard to the west the surface consists of clayey soil with floaters of quartzite and gneiss. The edge of the outcrop is well defined and marble will not extend laterally under the surrounding soil cover.

Within the outcrop there are no structures which can be confidently interpreted as bedding. However, the geological map accompanying a report by Campbell* shows that the deposit lies on the west limb of a south pitching anticline. The bed is locally thickened in Section 506 by a crenulation on the main fold. In a quarry just over the northern boundary of the property, on the western side, deeply weathered epidote gneiss, dipping steeply south west, is exposed in contact with the marble. The western boundary of the marble in Standard Quarries' property is then inferred to be stratigraphic and will dip steeply west. To the east, the boundary of the marble and the property are nearly co-incident. The marble contact here is thought to be transgressive and gradational into impure marble or limestone. The attitude of this contact is not known and some drilling should be done if reserves below the level of the boundary fence are to be determined.

An amphibolite dyke cuts through the central part of the property, trending in a north - south direction. It is expressed on the surface by a 10' wide zone of no outcrop. Near the southern boundary it is offset by a minor east - west fault.

Generally the marble is white to pale grey or pale cream in colour throughout the deposit. A few thin bands and some irregular patches of pale pink stone occur but the quantity of this stone is only a minute proportion of the total reserve.

Numerous intersecting joints have broken the marble into blocks of various sizes and shapes. These joints fall into two main and several subsidiary sets. The two main sets are

Strike 240° - 270° dip 80° - 90° in a direction 150° to 180°

Strike 320° - 360° dip 80° - 90° in a direction 230° to 270°

* Campbell, J.D. "The Geology of the Angaston Marble"
I.C.I. Alkali (Aust.) Ltd. (unpublished)

The two most common of the subsidiary sets are

Strike 340° dip 40° in a direction 250°

Strike 320° - 350° dip 30° in a direction 50° - 80° .

In addition irregular cracks are present, particularly near the surface, which reduce the blocks formed by jointing to smaller dimensions. Some large blocks of stone have been won from the existing pits, probably the one labelled 1 on the plan producing the largest number. There appears to be a zone of larger blocks running through the property from pit 1 towards the northern boundary, except in the vicinity of the amphibolite fault where the stone is broken into small blocks.

4. RESERVES

The areas used to calculate reserves are shown on the accompanying cross sections, which have been drawn in a north-south direction. Reserves have been calculated down to R.L. 920 which is about the level of the access track. A batter of 60° has been allowed around the boundaries.

Reserves are as follows.

Down to R.L. 920 230,000 c. yards.

Below R.L. 920 there are 5,500 c. yards per foot of depth.

(no batter being allowed in the calculation below R.L. 920).

5. SUMMARY & CONCLUSIONS.

The deposit in Section 506 lies on the steeply dipping west limb of an anticline. The western boundary of the marble is conformable with bedding which dips steeply to the west. The eastern margin is probably gradational into impure marble. The attitude of this boundary is not known.

The marble is predominantly white to pale grey in colour. A small quantity of pale pink stone is present but its occurrence is such that selective mining for it will not be possible.

Blocks of varying size and shape have been formed by several sets of intersecting joints. The spacing and frequency of these joints, on which the size of blocks depend, is irregular

and little can be said with regard to the size of blocks present in the deposit. A zone of less intense jointing runs from near Pit 1 towards the northern boundary and should produce a higher proportion of large blocks than the remaining part of the property.

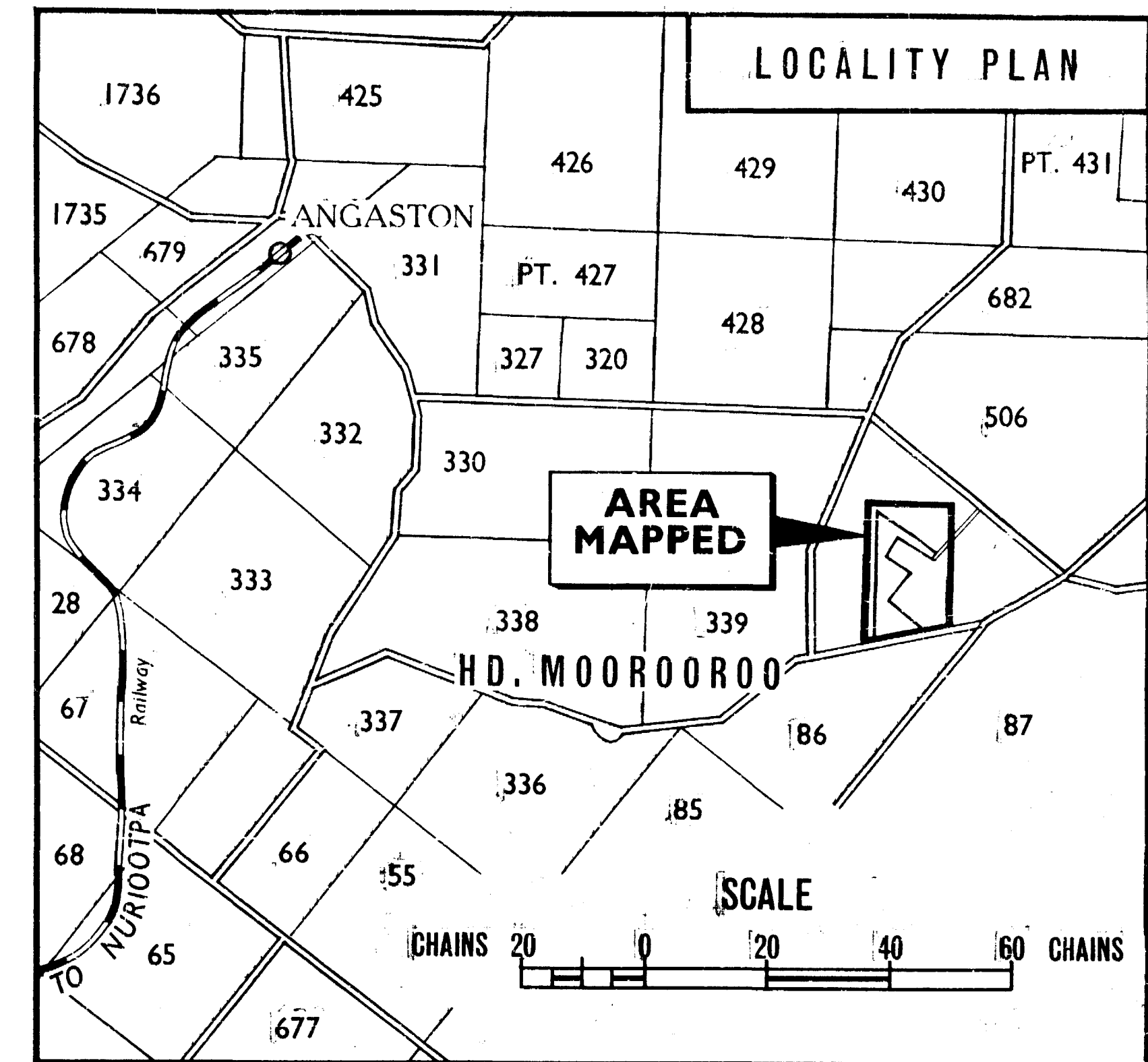
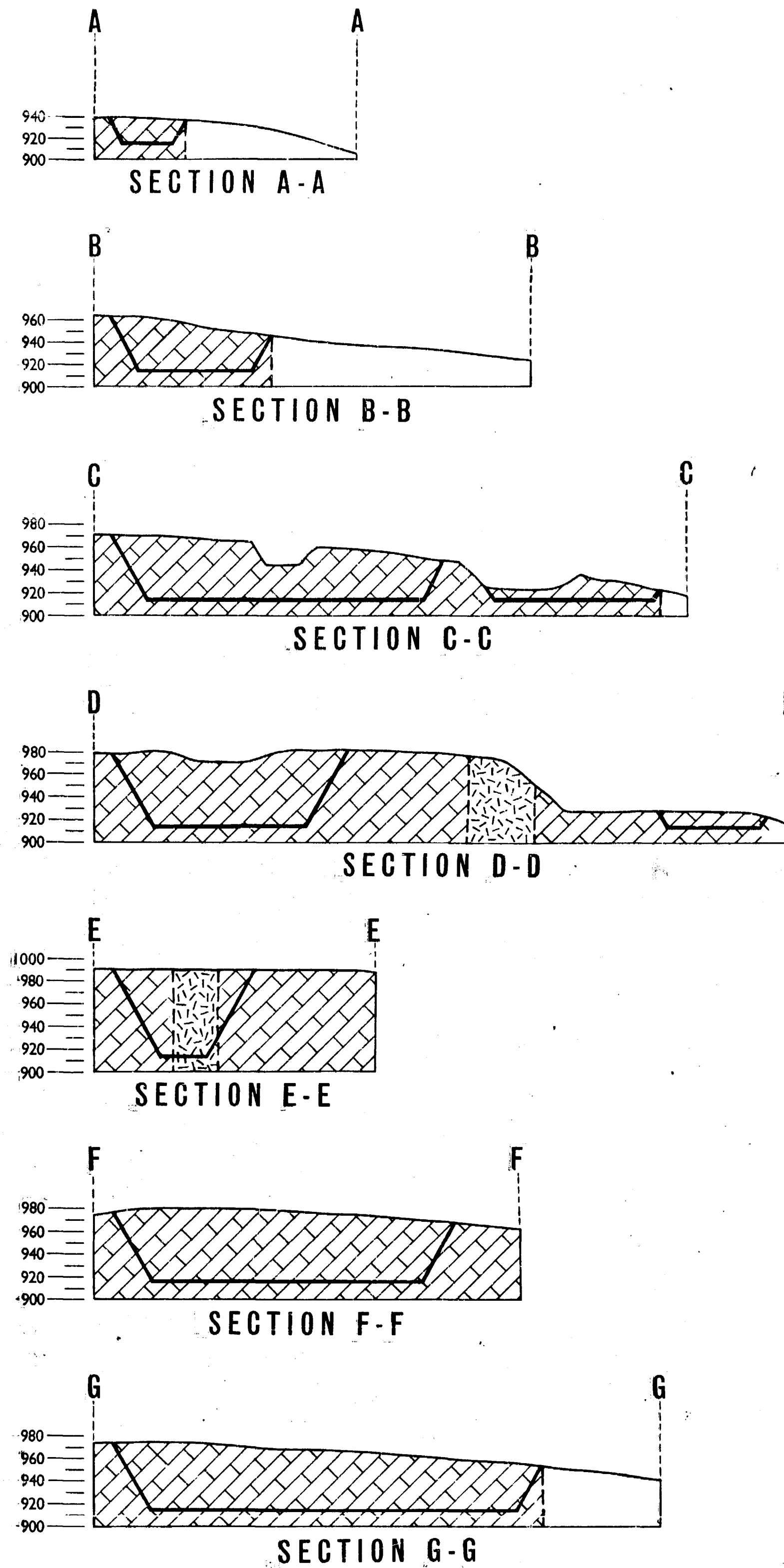
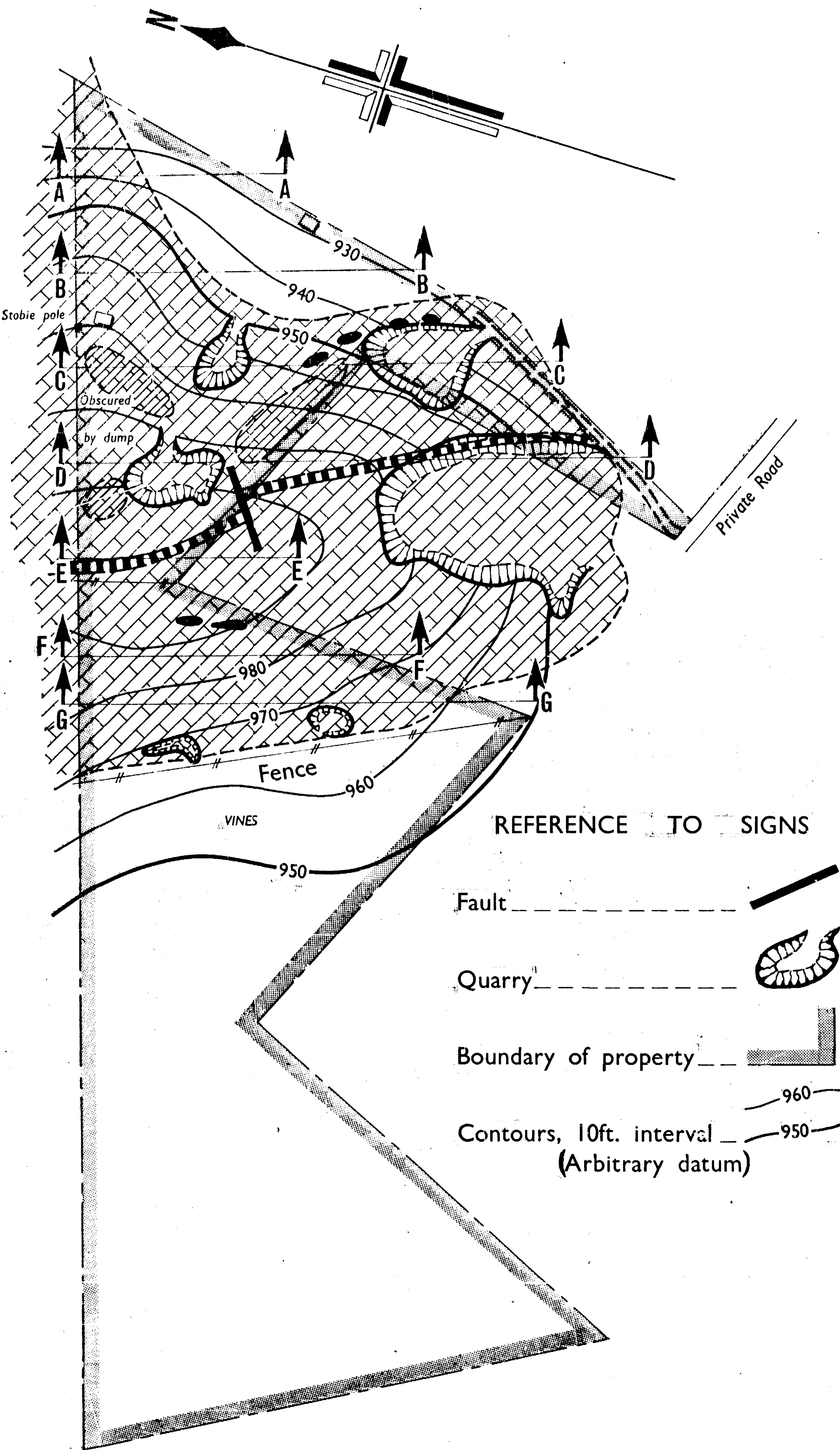
Reserves down to R.L. 920 total 230,000 cubic yards.

Diamond drilling is required to define the marble boundaries below this depth but it is not unreasonable to expect a further 500,000 cubic yards from the deposit. However, much of this may not be available for mining because of the shape of the property.



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LEGEND

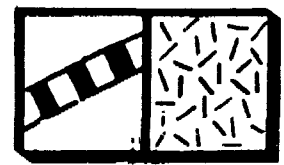
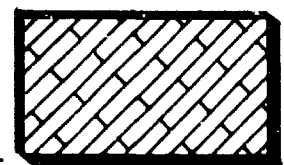
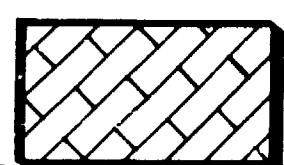
MARBLE

White, pale grey and pale cream

Pale Pink

Large blocks outcropping

AMPHIBOLITE



PLAN SECTION

SCALE

