RB 41/13

D.M. 974/55

DEPARTMENT OF MINES

SOUTH AUSTRALIA

GEOLOGICAL SURVEY OF SANDSTONE FOR USE AS BUILDING STONE SECTION 33, HD. MACCLESFIELD.

by

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Map Reference	Title	Scale
55.192	Building Stone Deposit, Sect. 33, Hd. Macclesfield.	50' to 1 in.

1. LOCATION

Section 33, Hd. Macclesfield, is situated about 3½ miles south of the township of Macclesfield and has a frontage on a subsidiary road running from there to Strathalbyn (see locality map).

2. INTRODUCTION

A survey of a sandstone in Section 33, Hd. Macclesfield, was requested by Mr. R.G. Rosser, Eighth Avenue, St. Peters, Adelaide. Mr. Rosser holds a lease on the land from Mr. F. Pfeiffer, c/o Post Office, Macclesfield. The latter also has an interest in the proposed building stone from a commercial point of view.

On 21/6/1955, the deposit was surveyed with tape and compass, assisted by Mr. Pfeiffer. The sketch-plan produced accompanies this report (reference number 55.192).

3. GEOLOGY

The area surveyed is composed of sandstones of the Kanmantoo Group (Cambrian), whose strike is north-south. No dip indications could be obtained owing to paucity of exposures.

The proposed building stone is a relatively soft, light purplish, rather fine-grained sandstone which is contaminated by red ferruginous material. The amount of contamination varies considerably.

This sandstone is exposed where surface gravelly clay has been removed in two small pits by Messrs. Pfeiffer and Rosser (A and B in sketch-plan). Pit A is situated at the south-west corner of a low feature which forms a "cap" at the side of the road. (The land below the cap slopes down to the west towards the creek). The overburden of the sandstone varies up to 1 foot in thickness and is composed mainly of gravelly clay. Pit B also shows gravelly clay overburden up to 6 inches in thickness. The sandstone exposed in the east side of the road as a result of roadmaking operations is soft and mottled.

The survey was extended to include the two plantations (see sketch-plan). The north plantation contains blocks of dark reddish-brown ferruginous fine-grained sandstone. The most northerly part of the south plantation contains a number of floaters of the proposed building-stone. According to Mr. Pfeiffer, these were brought up during ploughing operations in the area between the south plantation

and pits A and B. Further to the south in this plantation an outcrop of ferruginous sandstone striking approximately north-south was noted.

The area to be investigated (shown shaded in the sketch-plan) lies mainly in the south part of the area between the north and south plantations.

4. QUALITY OF THE STONE

The stone appears to be relatively soft and surface samples can be marked fairly easily by the pick. Samples tested by the Civil Engineering Department of the University of Adelaide failed at pressures varying from 490 to 910 pounds per square inch. For comparison the Basket Range sandstone and Mount Gambier stone failed at pressures of 1870 and 200-300 pounds per square inch respectively.

A closely similar stone to the proposed building stone has been used to front Macclesfield Town Hall which was built about seventy years ago. This material in the Town Hall is in a good state of preservation and little fretting is to be seen. Fretting has occurred mainly in areas which are free of ferruginous contamination.

5. RESERVES

With such uncertainty as to the extent and thickness of the proposed building stone, it is not possible at this stage to assess the reserves available in the area.

6. CONCLUSIONS AND RECOMMENDATIONS

The eastern half of Section 33, Hd. Macclesfield contains a light purplish fine-grained sandstone suitable for use as a building stone. The material shows varying degrees of ferruginous contamination which imparts a most distinctive appearance.

It is recommended that pit A be opened out in order to establish the thickness of material available. In addition, four test pits located within the shaded area (see sketch-plan) are advised to determine the lateral extent of the proposed building stone. The dimensions of these test-pits should be of the order of 4 ft. by 4 ft. by 4 ft. (depth).

The site will be a quarrying one.

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DSB:AGK
12/7/55.

APPENDIX

Dept. Sample No. P160/55

- PETROLOGICAL REPORT -

Description of Sample: M 1

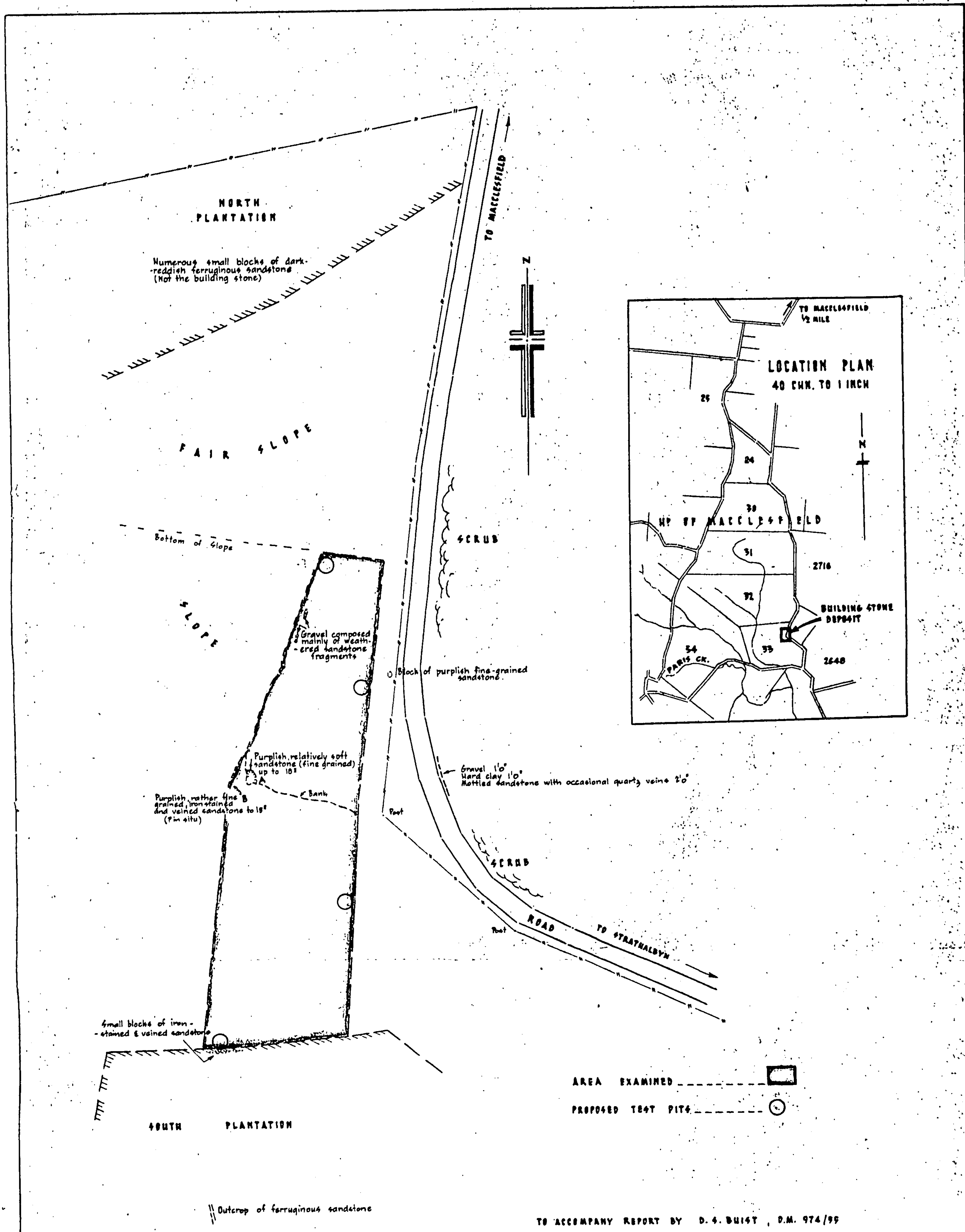
Locality: Section 33, Hundred Macclesfield, County Hindmarsh.

Submitted by: D. S. Buist and G.F. Whitten, Mines Dept.

This is a very fine-grained hematite-biotite-sandstone consisting principally of fine flakes of biotite and muscovite, quartz, amorphous silica (?) and spotted hematite disseminated throughout the rock. There are also clay material, sericite and accessory minerals, but no visible grains of felspar in the rock.

A.W.G. Whittle.
CHIEF MINERALOGIST & PETROLOGIST.

25-7-55


NORTH PLANTATION
Numerous small blocks of dark-reddish ferruginous sandstone (Not the building stone)
TO MACCLESFIELD
N
FAIR SLOPE
Bottom of Slope
SLOPE
SCRUB
Gravel composed mainly of weathered sandstone fragments
Block of purplish fine-grained sandstone
Purplish, relatively soft sandstone (fine grained) up to 18"
A
Bank
Purplish, rather fine grained, ironstained and veined sandstone to 18" (? in situ)
B
Gravel 1'0"
Hard clay 1'0"
Mottled sandstone with occasional quartz veins 2'0"
Post
SCRUB
Post
ROAD
TO STRATHALBYN
Small blocks of iron-stained & veined sandstone
SOUTH PLANTATION
Outcrop of ferruginous sandstone
TO MACCLESFIELD 1/2 MILE
LOCATION PLAN
40 CHN. TO 1 INCH
25
24
30
Hd OF MACCLESFIELD
31
2716
32
BUILDING STONE DEPOSIT
34
PARIS CK.
33
2648
N
AREA EXAMINED
PROPOSED TEST PITS

TO ACCOMPANY REPORT BY D. S. BUIST, D.M. 974/55

S.A. DEPARTMENT OF MINES

No.	Amendment	Exd.	Date

BUILDING STONE DEPOSIT
SECT. 33 · Hd. MACCLESFIELD
SKETCH PLAN

Approved — Director | Passed | Drn. | Tcd. | Ckd. | Exd.

Scale: 50' TO 1 IN.

55·192
Hcl

Date 8-7-55