RB 39/95
D.M. 613/55

DEPARTMENT OF MINES

SOUTH AUSTRALIA

SECOND REPORT ON BUILDING STONE DEPOSIT, FOREST RANGE (MR. W.J. BISHOP'S)

Previous Report and Preliminary Survey

1. A request for a survey of a small part of Section 250, Hd. of Onkaparinga was made by Mr. W.J. Bishop, the landholder. It is proposed to develop a small active sandstone quarry as a major source of building stone. On 29th March, 1955, Asst. Geologist D. Thatcher made a preliminary survey (report 5th April, 1955, plan 55-94). Since then, a company, Forest Freestone Limited, has been formed and Mr. Bishop has requested that the survey be extended to cover the area to the north east.

Theodolite Survey & Sample Tests

2. The area was examined geologically on 9th and 10th May, 1955, and surveyed by theodolite by G. Saunders and the writer on 18th May. A map (55-160) scale 80 ft. to 1 inch is attached.

Samples of crushed stone thought by the quarryman (Mr. B. Lovack) to be possibly suitable as building sand has been tested (see attached report by Acting Chief Mineralogist & Petrologist) and a report by the Civil Engineering Department, University of Adelaide, on the crushing strength of stone from the active quarry is also attached.

Notes on Theodolite Survey

3. The whole area surveyed lacks exposures and the upper and lower limits of the south-easterly dipping sandstone on the north-east side of the creek are difficult to discover. Along the main road north of the bridge over the creek sandstone occurs and becomes less massive northwards. This appears to be a lower limit comparable with that on the upper road south-west of the creek. The continuation of this limit northwards is less clear.

The upper boundary is even less easy to delineate. Above the valley track parallel to and east of the creek (track C) the sandstone runs out into siltstones and blue shales at about 1060 ft. Northwards this boundary can be traced fairly certainly around the flanks of a spur towards the gully running WSW. North of this gully the boundary is obscure and the succession appears different, a considerable area being covered with blue chert fragments which suggests that the upper part of the sandstone hereabouts has been silicified.

Much of the fragmentary material on which the mapping is necessarily based is somewhat finer-grained and less well cemented than the rock at present being quarried, though the lack of cementation may be merely due to weathering.

Recommendation - Need for Test Holes

4. With such uncertainty as to the extent and quality of the sandstone it would be unwise at this stage to attempt to assess probable reserves north-east of the creek. Some testing is necessary before any reliable estimate can be made. In that quarrying would involve at least two faces, one north and one south of the gully, it is suggested that four test-pits be opened at the points shown. These are on slopes sufficiently steep that little removal of superficial material should be necessary to expose fairly fresh rock. If these reveal good stone it would then be preferable to expose the rock surface at a series of say eight points near the suggested upper boundary, in particular in the vicinity of the suggested chert outcrop.

A R Crawford

(A.R. Crawford)
GEOLOGIST
ENGINEERING GEOLOGY & MINERAL RESOURCES SECTION.

ARC:AGK
16/6/55.

Dept. Sample No. P109/55

- PETROLOGICAL REPORT -

Description of Sample:	Sand
Mark:	BR - 2
Locality:	Sec. 250, Hundred Onkaparinga
Submitted by:	W. J. Bishop, Basket Range.

The sample consists of some 50% potassic felspar (microcline and orthoclase) about 5% limonite and 45% of quartz. There is also minor clay and mica.

The high felspar renders the sand unsuitable for plaster work or other building purposes.

The sand may not be useful for any purpose except perhaps as a source of fine grained felspar.

ACTING CHIEF MINERALOGIST & PETROLOGIST

D.M. 613/55

RESULTS OF COMPRESSION TESTS ON BUILDING STONE FROM A DEPOSIT AT FOREST RANGE

(Mr. W. Bishop's Property, Section 250, Hundred of Onkaparinga)

A sandstone block 6.00 by 6.05 by 6.00 inches was subjected to a compression test by the Civil Engineering Department of the University of Adelaide.

The block failed under a pressure of ~~1780~~ 1,870 pounds per square inch yielding a cone shaped remnant.

This is a good value for freestone; by comparison Mt. Gambier Limestone fails under a pressure of between 200 and 300 p.s.i.. It is concluded that the Forest Range sandstone has adequate compressive strength for use in buildings of normal construction.

D. THATCHER
6/5/55.

C O P Y

THE UNIVERSITY OF ADELAIDE.

ENGINEERING TESTING LABORATORIES

TEST REPORT

Date: 26th April, 1955

Department of Mines,

North Terrace,

ADELAIDE. S.A.

Compression Tests on Building Blocks.

Description and Brand	Date Cast	Date Tested	Dimensions of bearing surface (in.)	Height (ins.)	Density lb. c. ft.	Comp. Stress (lbs./ sq.in.)
SANDSTONE		19/4/55	6.05 x 6.00	6.0	—	1,870

Age:

Remarks:

⅜" plywood packing was placed at the top and bottom of the block before testing.

(Sgd.) Arthur J. Robinson
Chartered Engineer, (Aust.)

Officer-in-Charge of Testing.

Blue shales 45°

Blue shales 35°

25° Blue shales

Blue shales

Blue mudstones

Siltstones

Scattered fragments of sandstone

Many scattered fragments of blue chert

Old quarry

Weir

Creek

Scattered fragments of blue-chert

Active Quarry

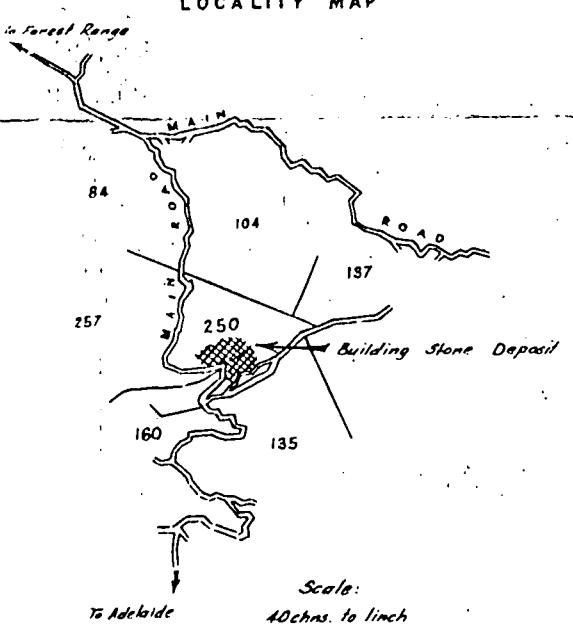
TRACK

ROAD

MAIN ROAD

1160' 1140' 1120' 1100' 1080' 1060' 1040' 1020' 1000' 980' 1000' 1020' 1040' 1060' 1080' 1100' 1120'

LOCALITY MAP



Scale: 40chns. to 1inch

LEGEND

Sandstone Outcrop

Known contact

Indefinite contact

Concealed contact

Suggested test pits

Assumed datum for levels.

To Accompany Report by A.R. Cromford in D.M. 613/55

S.A. DEPARTMENT OF MINES

FOREST RANGE BUILDING STONE

(W.J. Bishop.)

Part Sec. 250

Hd. Onkaparinga

Scale: 80 R. = 1 in.

J.F.S

55-160

Ha 7

23.5.55