

U N C L A S S I F I E DDEPARTMENT OF MINESSOUTH AUSTRALIAINVESTIGATION OF ROAD METAL DEPOSIT NEAR TARLEEL O C A L I T Y

This deposit is situated on Section 339, Hundred of Gilbert. It is adjacent to the Kapunda - Tarlee road and approximately $4\frac{1}{2}$ miles from Tarlee (see locality plan).

I N T R O D U C T I O N

50,000 cubic yards of stone suitable for use as road metal is required by the Highways and Local Government Department from this deposit (vide D.M. 864/50). There is a quarry, known as Hogan's, on Section 339 from which good road metal has been obtained in the past.

Section 339 has mineral rights alienated from the Crown, and is owned by Mr. T. A. Hogan of Kapunda.

F I E L D W O R K A N D P L A N S

A geological and topographical survey was carried out by D. Thatcher, Assistant Geologist and the writer. A locality plan and a plane table plan accompany this report. The plan of the geology and topography is based on a scale of 100 feet to the inch. The datum for contouring was taken as 100 feet at an arbitrary point on the quarry floor.

T O P O G R A P H Y

From the contours it can be seen that the area is situated on a ridge bearing 160° . The quarry is at the northern end of the ridge and the ground rises to the south from 100 feet to above 260 feet over a distance of 300 yards.

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R E S E R V E S

An area has been blocked out on the geological plan as proposed extensions to the quarry. At least 50,000 cubic yards of good quartzite can be removed from within the boundaries of this area. A total of 4,800 cubic yards of overburden would have to be removed to give access to the good stone. Of this 2,200 cubic yards would be shales overlying the quartzite on the eastern boundary of the proposed extension. The remainder comprises 3 feet of topsoil and decayed rock.

The contact between the shales and the quartzite on the western side of the quartzite bed has been taken as a plane dipping to the east at 60° . If this contact flattens in dip it might be necessary to extend the face of the quarry, southwards of the indicated boundary, to obtain the required volume of stone.

An allowance of 10% for waste was made.

C O N C L U S I O N S

50,000 cubic yards of quartzite suitable for use as road metal is available on Section 339, Hundred of Gilbert within the blocked out area shown on the accompanying plan. This would involve the removal of some 4,800 cubic yards of overburden.

The position of the western wall of the quarry will be controlled by the contact between the shales and the quartzite. No drilling is considered necessary because the quarry can be extended southwards, beyond the boundary of the proposed extension to the quarry, if the required volume of stone is not obtained from within the area marked.

I. R. Campbell per D. Thattos

I. R. CAMPBELL,
ASSISTANT GEOLOGIST.

G E O L O G Y

The rocks in this area belong to the Adelaide System and are therefore of Pre-Cambrian age. Hogan's quarry has been worked on a quartzite bed about 90 feet thick. The quartzite has an overall strike of 160° and dips to the east at 60° (average). As seen in the southern wall of the quarry the bedding of the quartzite is curved. On the eastern side of this wall the dip of the beds is around 67° ; in the centre the dip flattens to 42° and on the western side the dip steepens rapidly until at the top of the wall in the south-western corner of the quarry the beds are vertical. Dips measured at the surface, south of the quarry, do not reflect the presence of the flexure in the quartzite. There is a prominent set of joints in the quartzite which has a strike of 70° and a dip of 70° to the north.

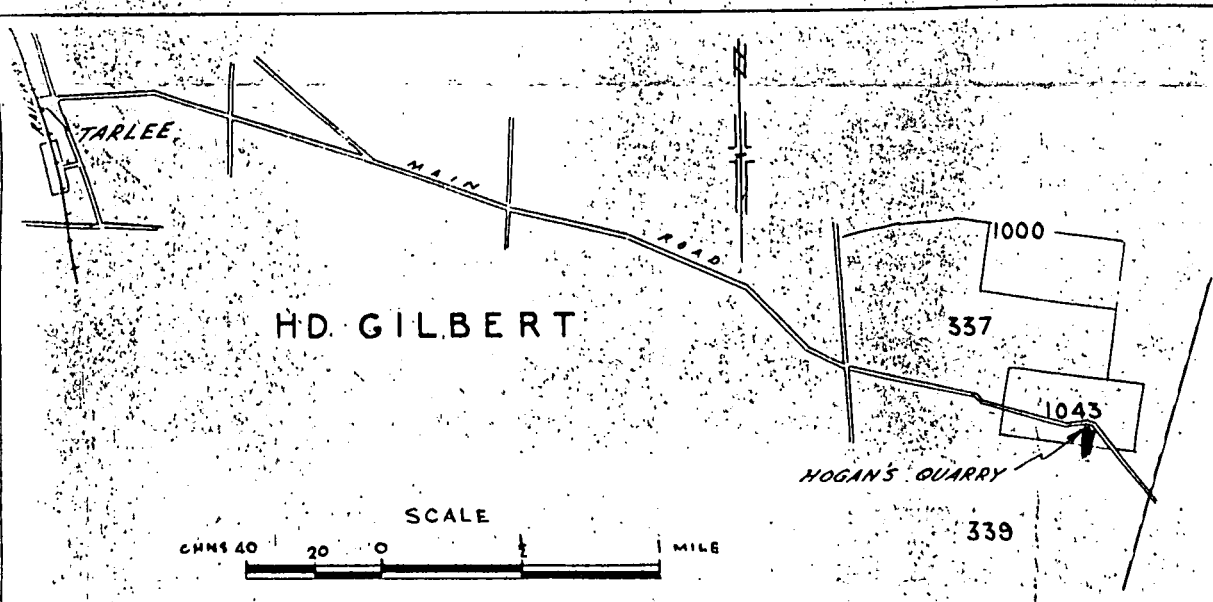
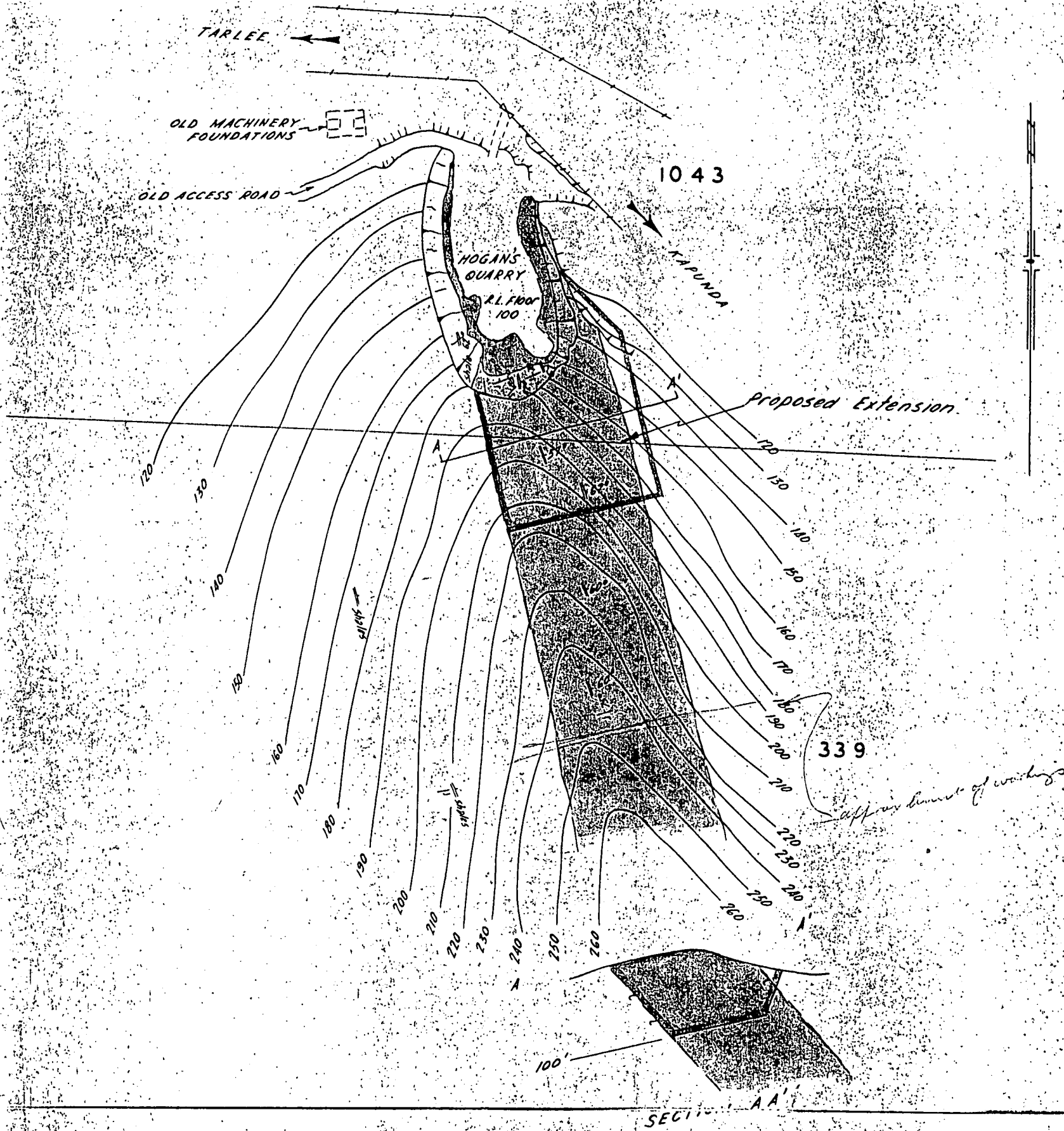
Shaley partings within the quartzite are rare and, when present, are narrow.

The quartzite is massive, tough and unaffected by weathering, therefore it would be suitable for use as road metal.

The rocks to the east of the quartzite were not seen in situ. The floaters indicate that these beds are argillaceous, probably a shale.

There are shales in the western wall of the quarry and they also outcrop on the surface farther west.

The boundary between the quartzite and these shales is not well defined in the quarry nor on the surface. The dip of this contact is not precisely known; from several measurements it appears to dip to the east at 60° . However, this contact may also show a flexure similar to the curve of the beds seen in the quartzite.



LEGEND

- Quartzite ———— [stippled pattern]
- Argillaceous beds ———— [horizontal line pattern]
- Scree & rubble ———— [cross-hatched pattern]
- Strike & dip of bedding ———— 475°
- Jointing ———— 170°
- Contour Interval 10'

Survey by I. Campbell & D. Thatcher

S. A. DEPT. OF MINES

ROAD METAL DEPOSIT SECS 1043 & 339 HD GILBERT

Approved	Passed	Scale: 100' to 1"
Director	60	54-83 Gk 4 Date 23-4-54

Amendment Exd. Date