

U N C L A S S I F I E D

DEPARTMENT OF MINES

SOUTH AUSTRALIA

GEOLOGICAL SURVEY OF ROAD METAL DEPOSIT  
IN SECTIONS 319 & 320, HUNDRED OF BELALIE  
C O U N T Y V I C T O R I A

INTRODUCTION:

A request for a geological survey of a road metal deposit in Sections 319 and 320, Hundred of Belalie, was received from the Highways and Local Government Department (D.M. 293/54).

Section 319 is owned by Mr. W.E. Simons whose homestead lies on the section. Section 320 is part of the estate of the late George Longbottom and is leased by Mrs. S.P. Longbottom of Jamestown.

REFERENCE:

A paper entitled "The Geology of the Jamestown District, South Australia" by T. Langford-Smith, (Trans. Roy. Soc. S.A., Vol. 71, pp 281-295, 1947) provided a valuable picture of the regional geology.

FIELDWORK:

A plane table and geological survey was carried out by I.R. Campbell (Assistant Geologist) and the writer on the 23rd, 24th and 25th of February, 1954. A locality plan and a topographical and geological plan of the area surveyed accompany this report. *PLAN. No 54-78*

TOPOGRAPHY:

The two sections are adjacent, with Section 319 north of Section 320. Section 319 is bounded on the north by the Jamestown - Yarcowie road and the Jamestown - Hallett

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road lies on the southern margin of Section 320. Between these two roads the land rises to a summit just north of the fence dividing the two sections. This higher land extends south-westwards as a ridge into Section 319. The summit is 30' above the remainder of the ridge, whose altitude is some 180' higher than that of the boundary roads.

Within Section 319 there are several small pits on the north-eastern flank of the high land. The eastern pit is the largest, being 60' long and having a maximum face height of 12'. The western pit is 30' long and is 8' deep. None of the pits has been worked recently and they are all in poor condition with crumbling faces and floors covered by mud and vegetation. Access from the Jamestown - Hallett road is by a track in a sheep run which follows the eastern margin of Section 319 for some 22 chains, but beyond this there is no clearly defined track leading to the pits. By road Jamestown is 4 miles west-south-west of Section 319.

#### GEOLOGY:

The rocks of the region belong to the Pre-Cambrian Adelaide System and are disposed in a broad syncline trending north-south. Sections 319 and 320 lie on the western limb of the syncline; the rocks dip eastwards towards the axis which is about a mile away.

The high land of Sections 319 and 320 is an outlier of calcareous slates. At the surface weathering has leached and partly decomposed these slates, resulting in a slightly porous rock light grey in colour. Exposed in the pits the rocks are darker and more compact. They dip eastwards at  $26 - 37^{\circ}$  and trend nearly north-south. The natural exposures show prominent banding but the bedding planes are usually obscured. Weathering has proceeded along the cleavage folia which dip at  $45 - 70^{\circ}$  to the west and follow a strike very

close to that of the bedding. The rocks are out by regular joints, one set trends at  $270^{\circ}$  magnetic and is vertical whilst another trends at  $317^{\circ}$  magnetic and dips at  $80^{\circ}$  to the north-east (mean values)

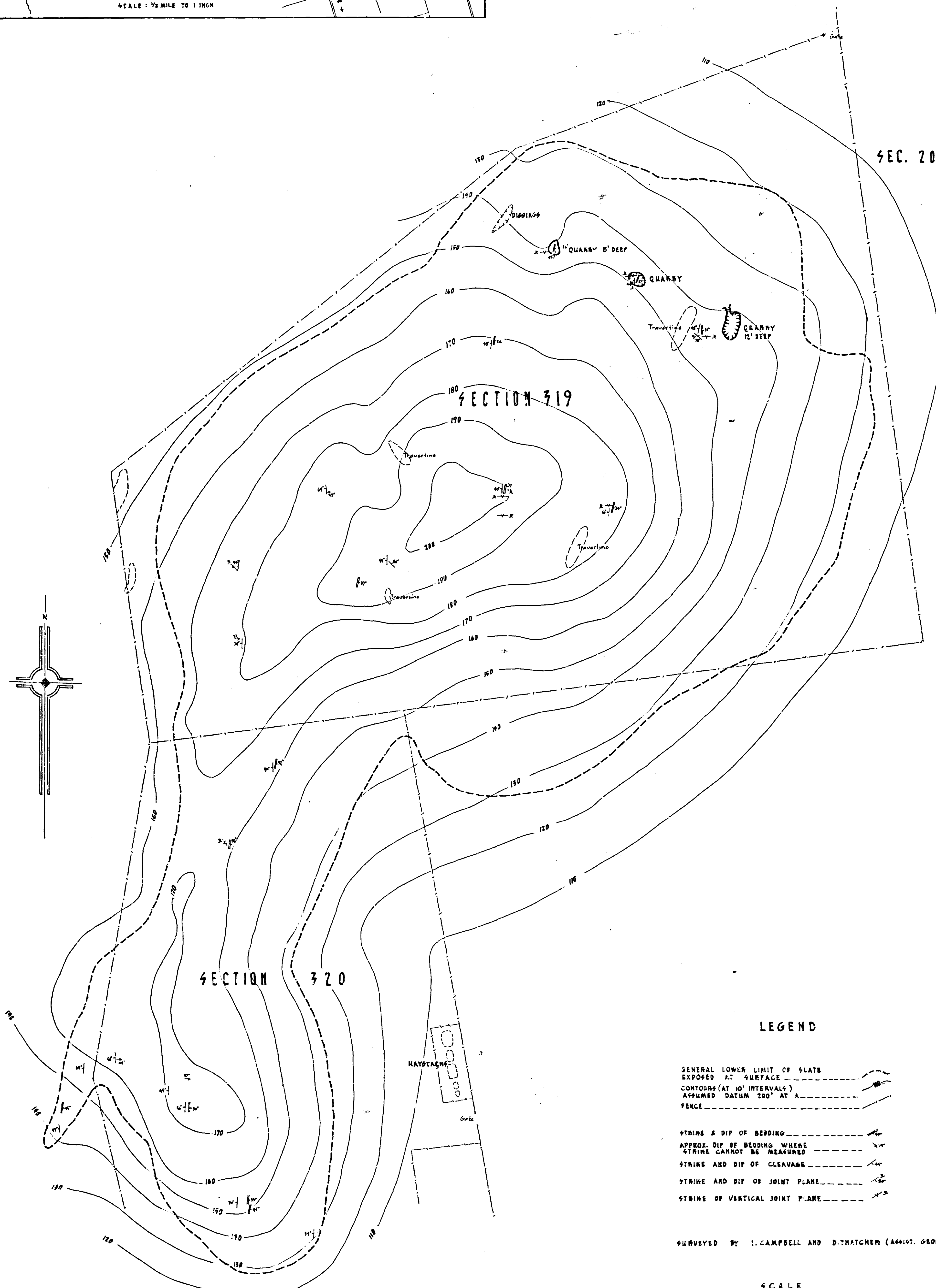
The calcareous slates of Sections 319 and 320 are soft and can be easily scratched with the point of a hammer. When struck with a hammer the rock tends to fracture along the cleavate folia and the bedding planes giving flakes and splinters of rock. The softness, fissility and general lack of cohesion of these argillaceous rocks render them unsuitable for high grade road metal aggregate.

CONCLUSIONS:

The rocks of Sections 319 and 320, Hundred of Belalie, are dominantly argillaceous. They are soft, easily abraded and fissile. They cannot therefore be recommended for use as road metal, and no attempt has been made to estimate reserves.

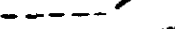
(D. Thatcher)  
ASSISTANT GEOLOGIST  
ENGINEERING GEOLOGY & MINERAL RESOURCES SECTION


DT:BK  
12.3.54





~~SECTION 319~~


SECTION 320

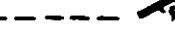
GENERAL LOWER LIMIT OF SLATE  
EXPOSED AT SURFACE ----- 


CONTOURS (AT 10' INTERVALS)  
ASSUMED DATUM 200' AT A ----- 


FENCE ----- 

STRIKE & DIP OF BEDDING ----- 

APPROX. DIP OF BEDDING WHERE  
STRIKE CANNOT BE MEASURED ----- 

STRIKE AND DIP OF CLEAVAGE ----- 

STRIKE AND DIP OF JOINT PLANE ----- 

STRIKE OF VERTICAL JOINT PLANE ----- 

SURVEYED BY J. CAMPBELL AND D. THATCHER (AGGREG. GEOLOGISTS)

### SCALE



**S.A. DEPARTMENT OF MINES**

STONE DEPOSIT

328, 618 5334

М. БЕЛАЛИ

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