RIB 61/24

DEPARTMENT OF MINES
SOUTH AUSTRALIA

REPORT
ON
AMPHIBOLITE DEPOSIT - TUMBY BAY DISTRICT
Section 110, Hundred Koppio
-(Highways and Local Government Department)

by

W. B. Robinson
Geologist

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PLAN REFERENCE

Plan No.	Title	Scale
65-753	Amphibolite Deposit - Tumby Bay District, Sect. 110, Hundred of Koppio.	1" = 40'
	Geological plan and section showing proposed diamond drill holes TD1, TD2.	

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ABSTRACT

Mapping of amphibolite outcrop and float indicates that there is in excess of 100,000 cu. yds. of material possibly suitable for screenings.

Gravels and clays may obscure material which would substantially increase these reserves.

Two diamond drill holes aggregating 200' have been recommended to test the amphibolite.

INTRODUCTION

At the request of the Highways and Local Government Department amphibolite outcrops were inspected on Sections 164 and 110, Hundred of Koppio. The requirements are for 30,000 cu. yds (in the first contract) of clean hard screenings for bituminous surface treatment.

Following an initial inspection (11.5.65) it was thought that Section 110 would be more suitable than Section 164, since

1) Section 110 has more outcrop than Section 164.
2) The outcrop on Section 110 is generally less weathered than 164.
3) Section 110 would probably be a better quarry site than 164.

Subsequently an area on Section 110 was mapped by plane table (W.B. Robinson, R. Turner) at a scale of 1" to 40'. Two diamond drill hole sites (see plan 65-753) were pegged to test the amphibolite.

LOCATION AND TITLE

The area mapped is situated just south of the main road between Tumby Bay and Yallunda Flat; about nine miles west of Tumby Bay and four miles east of Yallunda Flat.

Sections 110 and 164 are owned by E.G. and A.H.D. Voumard of Yallunda Flat and are freehold with mineral rights (not including stone) reserved to the Crown.

GEOLOGY

The amphibolites are in the Hutchinson Group, a sequence containing amphibolites and schists with minor jaspilites, dolomites, quartzites and gneisses which outcrop on Eyre Peninsula.

The outcrops in the area mapped are banded dark green amphibolites which appear to consist mainly of hornblende, quartz and felspar. When fresh, the rock is hard and extremely tough. When weathered, it is soft and easily broken. The amphibolites strike mainly to the north-east and dip vertically to steeply east.

Lenses of coarse-grained quartz-felspar-mica pegmatites occur within the amphibolites mainly along the west and south-western boundaries of the area mapped. These pegmatites appear to be only minor (See Plan 65-153).

To the east of the amphibolites, are spasmodically outcropping weathered jaspilites (not mapped). These jaspilites give rise to the quartz and ironstone gravels which obscure the outcrop above the 210' contour (see plan). It is possible that further material suitable for screenings may be covered by these gravels.

The amphibolite was divided into two areas (see plan).

1) the good outcrop

2) poor outcrop, but plentiful float material.

It is thought that in the areas covered by plentiful float, amphibolites occur close to the surface.

RESERVES

The estimated reserves in the area covered by good outcrop is in excess of 40,000 cu. yds.

However reserves are more likely to be in excess of 100,000 cubic yards of stone.

This figure was estimated by

1) assuming that the area covered by float with only minor outcrop does not carry excessive overburden, and that the amphibolite is not extensively weathered.
2) calculating the reserves between the 170' and 210' contours.
3) using a strike length of 600' and a strike width of 300'.

If the area obscured by gravels and clays east of the 210' contour contains suitable material then this figure could be increased substantially.

RECOMMENDATIONS

Two diamond drill holes aggregating approximately 200' are recommended to test whether or not the amphibolite is weathered in depth, and to provide samples for testing the suitability of the material for screenings.

Hole No.	Angle	Depth	Direction
TD1	-30°	120'	A-A' (see plan)
TD2	-30°	80'	A'-A (see plan)

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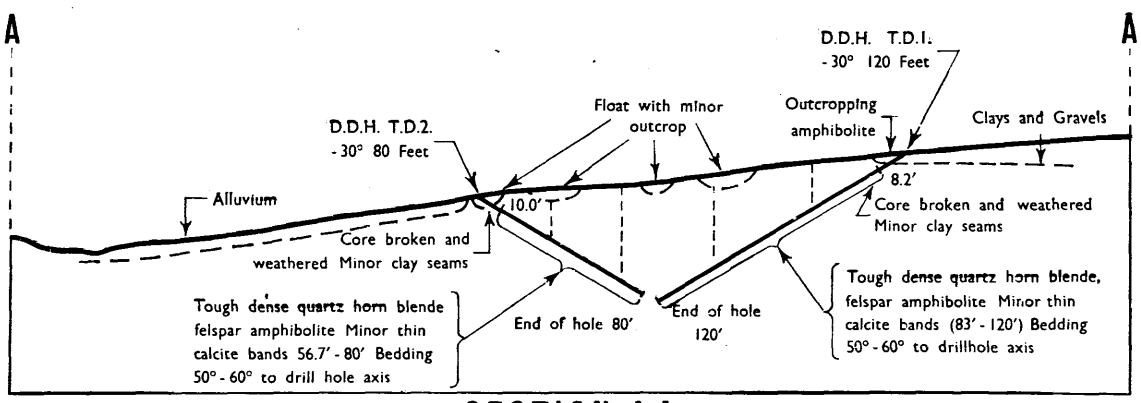
IRON SECTION

WBR:MO:AGK
22/7/65



SECTION A-A

SCALE

FEET 40 0 40 80 120 160 200 240 FEET

MAIN ROAD

MAIN ROAD

DDH TD2 - 30°
120 Feet

DDH TD1
-30° 80 Feet

A

A

150 140 160 170 180 190 200 210

SCALE IN CHAINS 1000 0 40 80 120 160 200

SCALE IN METRES 1000 0 1000 2000 3000 4000

N

Amphibolite

60

outcrop

Pegmatite lens

Amphibolite

Quartz and Ironstone gravels with clay

Pegmatite outcrop

LEGEND

Amphibolite — good outcrop

Amphibolite — mainly float with minor outcrop

Pegmatite — lenses within the amphibolite

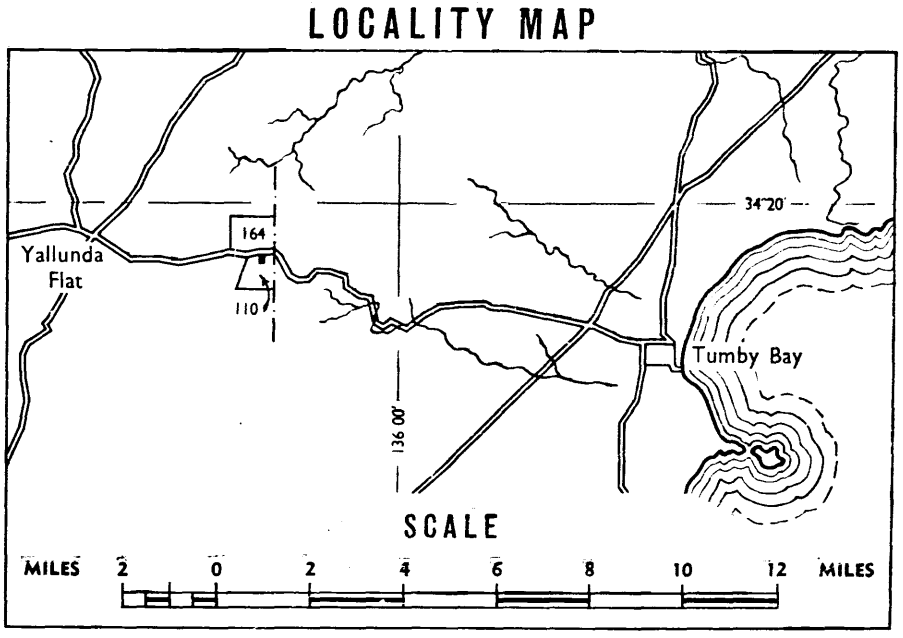
REFERENCE TO SIGNS

Contours at 10ft. intervals 180 190

Diamond Drill Hole D.D.H. T.D.2.

Fence

LOCALITY MAP



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S. A. Dept. of Mines