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**MICROFILMED**

GEOLOGICAL REPORT NO. 2

RAZORBACK TIN MINE

ZEEHAN - TASMANIA

D. R. Brown  
17/5/1971

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1' to 20' map of Stoped Areas

002 INTRODUCTION

Since the first geological report was finished (19/3/71), the oxidised zones of the mine have been the subject of further investigation.

Additional chip sampling has been carried out in Brocks Adit, Placer No. 2 Adit and the top open cut. Three costeans have been cut across the strike of the oxidised zone above the open cut. The costeans have been channel sampled over 5 ft. intervals.

A surface map at a scale of 20' to the inch of the top open cut and oxidised zone has been prepared. The volume of the stoped out areas in Brocks Adit have been accurately estimated.

SURFACE MAPPING

The surface outcrop of the oxidised zone has been shown to extend for an observable 275 feet to the south of the present workings in the top open cut. Near this open cut this zone appears to thin to a probable width of 15 feet, but 80 feet to the south, it widens to a probable width of between 32 and 40 feet.

COSTEANS

Three costeans have been cut as deep as possible across the strike of the oxidised zone (see map No.1). These costeans are numbered 1, 2 and 3, and are 60 feet and 30 feet apart respectively. They have been channel sampled for a total horizontal length of 320 feet.

SAMPLING1. Brocks Adit

An additional 16 chip samples were taken along the southern most workings to check for a southern extension of the ore zone. Values ranged from .15% Sn to .01% Sn. No further information was gained from these assay results (see plans from first report).

2. Placer No. 2 Adit

An additional 47 chip samples were taken. 30 of these samples were obtained along the adit to the north of the orebody and along the northern most cross-cut, (see plans from previous report).

The results were poor, the highest tin value being .06% Sn. It is apparent that the orebody does not have a further northerly extent than already postulated on the Placer No.2 Adit level.

The remaining 17 chip samples were taken northward from where the adit and lower open cut meet (see plans from first report). The highest value obtained was .82% Sn, the lowest .03% Sn. The first 10 feet northward from the open cut averages .53% Sn, after that, values are low and sporadic.

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These low values are unexpected, as the adit immediately below (45 feet vertically) Placer No. 2 here, is the No. 9 Adit, off the lower open cut floor, shows high values (Aberfoyle) and an ore zone of 4550 square feet at 0.6% Sn (see plans for first report). This ore zone may die out completely with increasing vertical height from the No. 9 Adit level, or it may not have an easterly dip, in which case the Placer No. 2 Adit would probably intersect the western limit of this ore zone, with the correspondingly low tin values. This second possibility is supported by the high assay results obtained across the northern face of the lower open cut (see first report).

However, as this ore zone is not observable except in the open cut face, and no length can be determined, the ore previously outlined from Aberfoyles work is now considered to be probable and not proven ore.

### 3. Top Open Cut

An additional 8 chip samples were taken. These showed that the ore zone can be extended for 10 feet into the greywacke conglomerate from the gossanous contact. Values within the sediments ranged from 1.03% Sn to .27% Sn. This now gives an ore zone width of 51 feet within the top open cut.

### Costeans

A total of 65 channel samples were taken over 5 foot intervals in the three costeans (see map 1).

Assay results ranged from 1.28% Sn to .01% Sn.

The No. 1 costean showed an ore zone width of 20 feet at 0.6% Sn. No. 2 costean showed an ore zone width of 45 feet at 0.6% Sn, while the No. 3 costean failed to show any values as high as 0.6% Sn.

### ORE RESERVES

#### 1. Within Top Open Cut Workings

##### (a) Gossanous Zone

Cross sectional area (from map) = 2564 sq. ft.  
Average width = 41 ft.  
Volume = 2564 x 41 = 105,124 cubic ft.

##### (b) Greywacke Conglomerate Zone

Cross sectional area (from map) = 3576 sq. ft.  
Average width = 10 ft.  
Volume = 3576 x 10 = 35,760 cubic ft.

Total volume = 105,124 + 35,760  
= 140,880 cubic feet  
at 0.6% Sn

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2. South of Top Open Cut Workings

Surface outcrop area (from map) = 7164 sq. ft.

Area of ore zone at Brocks Adit Level (first report) = 5,582 sq. ft.

$$\begin{aligned} \text{Average} &= \frac{7164 + 5582}{2} \\ &= 6373 \text{ sq. ft.} \end{aligned}$$

Average elevation of surface outcrop is:  
(calculated at 20 ft. intervals on map 1)

$$\begin{array}{r} 985 \\ 995 \\ 1005 \\ 1015 \\ 1027 \\ 1036 \\ 1037 \\ 1037 \\ 1025 \\ 1018 \\ \hline \div 10 \quad 10180 \\ \cdot \quad \quad 1018 \text{ ft. average elevation} \end{array}$$

Brocks Adit level (floor) is 937 ft.

Average height of this ore zone is

$$\begin{array}{r} 1018 \\ - 937 \\ \hline 81 \text{ feet} \end{array}$$

Volume of ore zone from Brocks Adit level to surface is:

$$\begin{aligned} &6373 \times 81 \\ &= 509,840 \text{ cubic feet} \end{aligned}$$

However, some of this ore has been removed by stoping  
(see map No. 2)

width of stoped area = 30 ft. average

cross sectional areas = 1668 sq. ft. &amp; 1840 sq. ft.

$$\text{average} = \frac{1668 + 1840}{2}$$

$$= 1754 \text{ sq. ft.}$$

$$\begin{aligned} \text{volume removed by stoping} &= 1754 \times 31 \\ &= 52620 \text{ cubic ft.} \end{aligned}$$

$$\text{allowing 10\% safety margin} = 57882 \text{ cubic ft.}$$

$$\begin{aligned} \text{Total volume} &= 509,840 - 57,882 \\ &= 458,331 \text{ cubic ft. at} \\ &\quad 0.6\% \text{ Sn} \end{aligned}$$

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Total Volume above Placer No. 2 Adit Level (870 ft.)

140,880 cubic feet  
 + 458,331 " "  
 + 745,200 " " between Brocks Adit and Placer  
 No. 2 Adit (see first report)  
 1,344,415 cubic ft.

At 12 cubic ft. to the ton  
 112,035 tons  
i.e. 112,000 tons at 0.6% Sn

Total Volume above the 825 ft. level

1,344,415 cubic ft.  
 + 421,330 " - " between the 870 & 825 ft. levels  
 1,765,745 cu.ft. (see first report)

At 12 cubic ft. to the ton  
 147,145 tons  
i.e. 147,000 tons at 0.6% Sn

3. Probable Ore

Top Open cut (see map 1)  
 Surface area = 1540 sq. ft.  
 approx. average height = 36 ft.  
 Volume = 1540 x 36  
 = 55,440 cu. ft.

## Near Costean No. 1 (see map 1)

Surface area = 1516 sq. ft.  
 average height = 88 ft.  
 Volume = 1516 x 88  
 = 133,405 cu. ft.

Probable Ore available immediately to the north of the lower  
 open cut (see first report)

= 318,550 cu. ft.

Total Probable Ore

55,440  
 133,405  
318,550  
 507,395 cu. ft.

At 12 cubic ft. to the ton  
 42,283 tons  
i.e. 42,000 tons of probable ore at 0.6% Sn

CONCLUSIONS

Total ore available down to Placer No. 2 Adit level  
(870 ft.) = 112,000 tons at 0.6% Sn.

Total ore available down to the 825 ft. level  
= 147,000 tons at 0.6% Sn.

Total probable ore available down to 825 ft. level  
= 42,000 tons at 0.6% Sn.

200 000 ( + 300 000 to 725 ? )

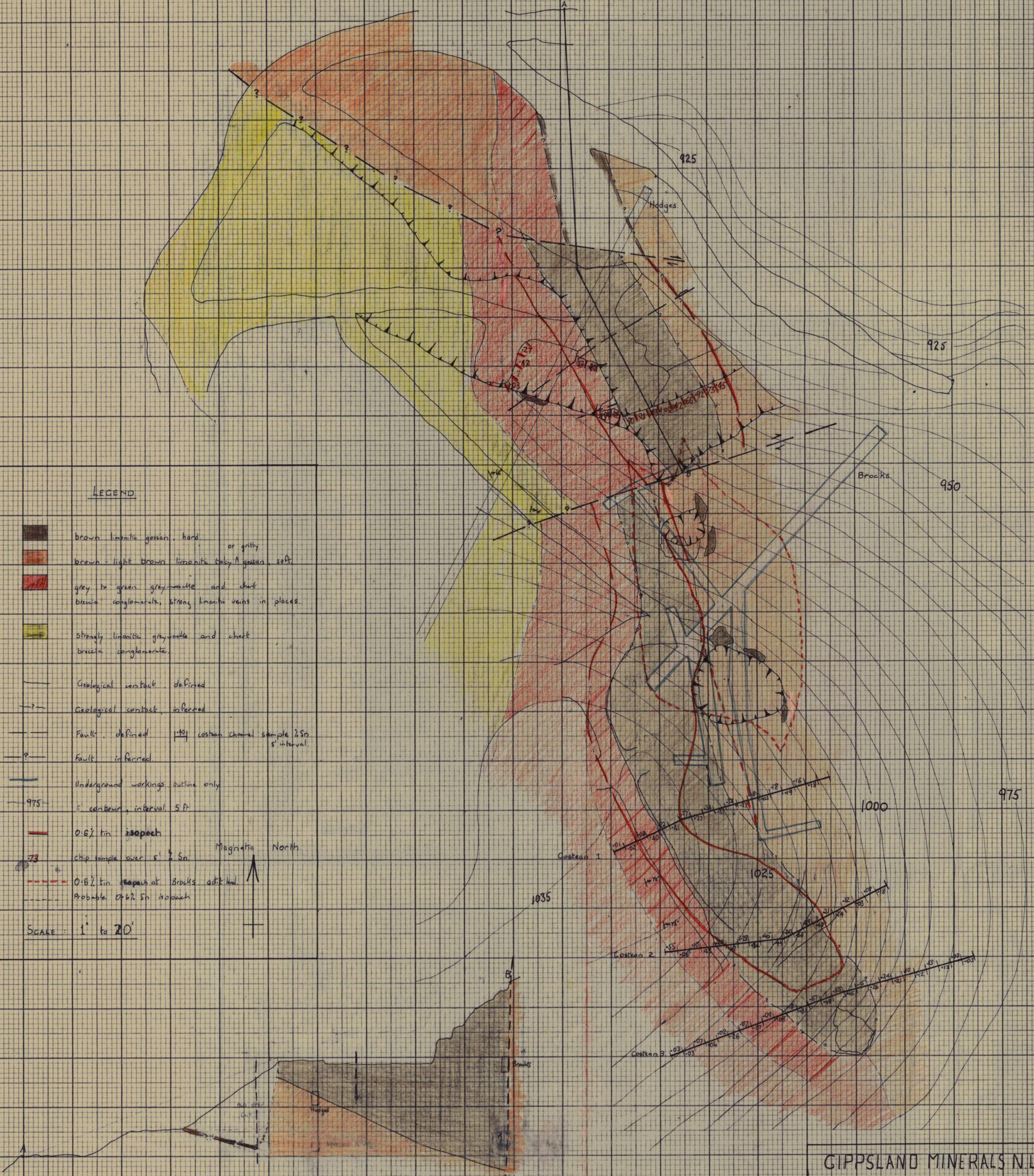
Maps in envelope

1. Razorback - Dundas Tas

2.        ✓                    ✓                    ✓

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D. R. BROWN  
GEOLOGIST.

Recovery 60% ±

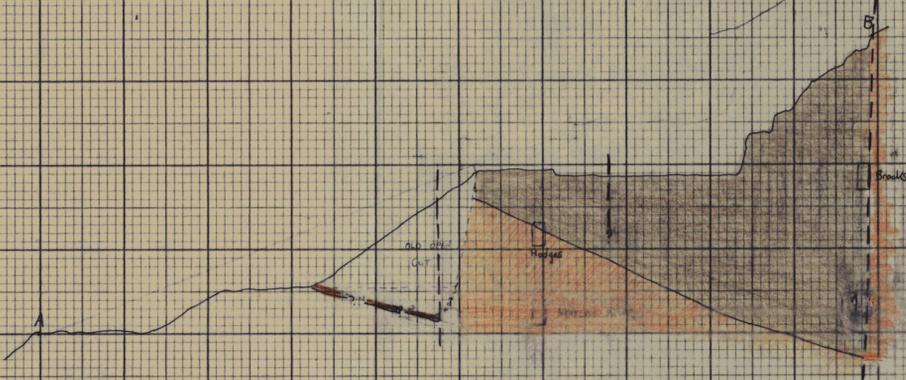


LEGEND

- brown limonite goossan, hard or gritty
- brown - light brown limonite, talc, A goossan, soft
- grey to green grey-sandstone and chert breccia conglomerates, strong limonite veins in places.
- strongly limonitic grey-sandstone and chert breccia conglomerates.
- Geological contact, defined
- Geological contact, inferred
- Fault, defined 1:500 contour interval sample 2 Sn 5' interval
- Fault, inferred
- Underground workings, outline only
- 975 contour, interval 5 ft
- 0.6% tin isochron
- chip sample over 5' Sn
- 0.6% tin isochron at Brocks additional
- Probable 0.6% Sn isochron

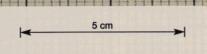
SCALE: 1" to 20'

Magnetic North

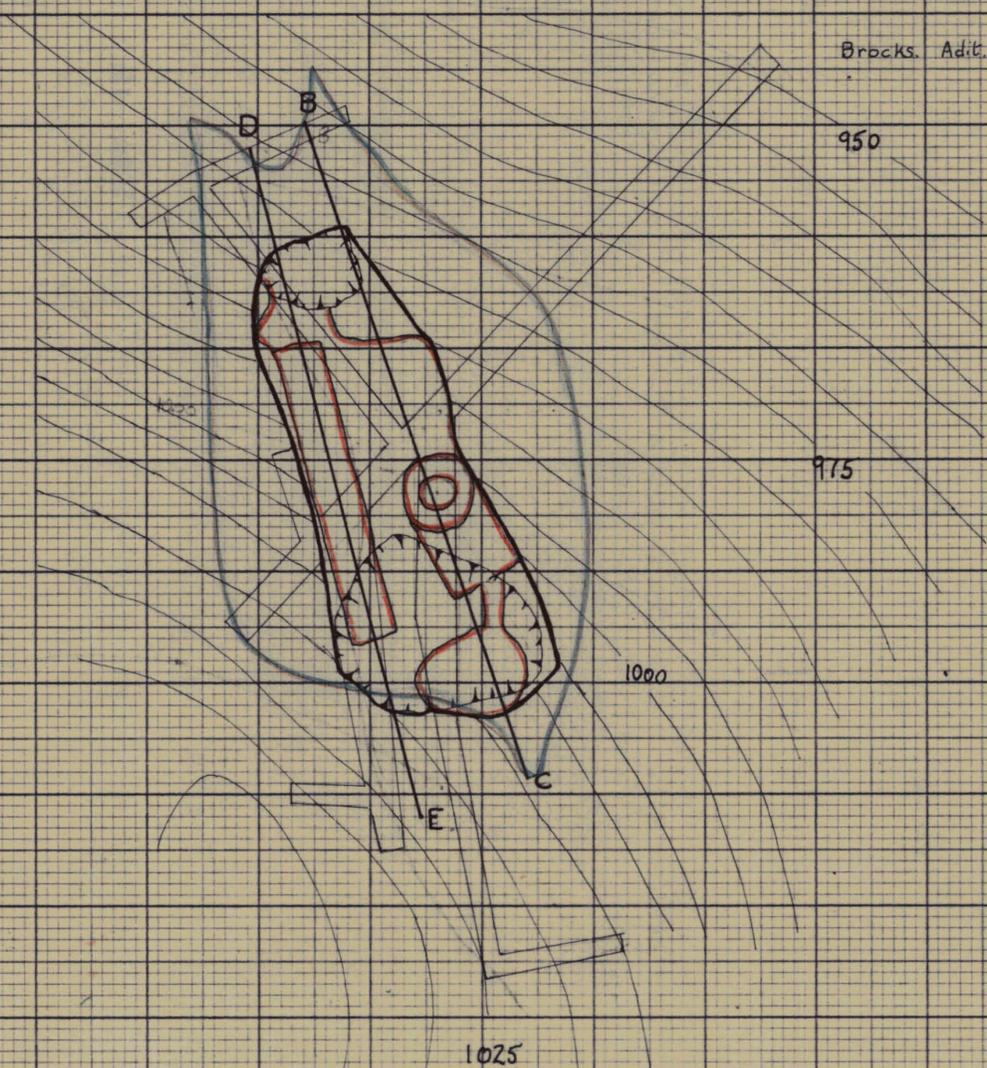


Cross-section along A-B

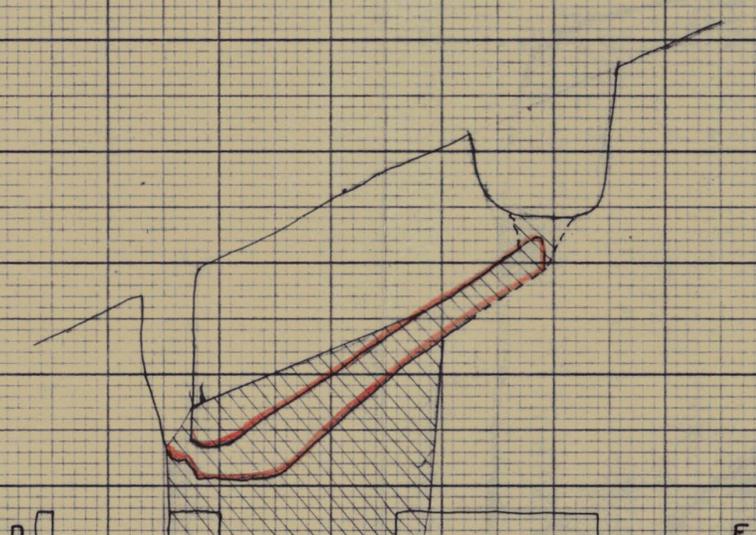
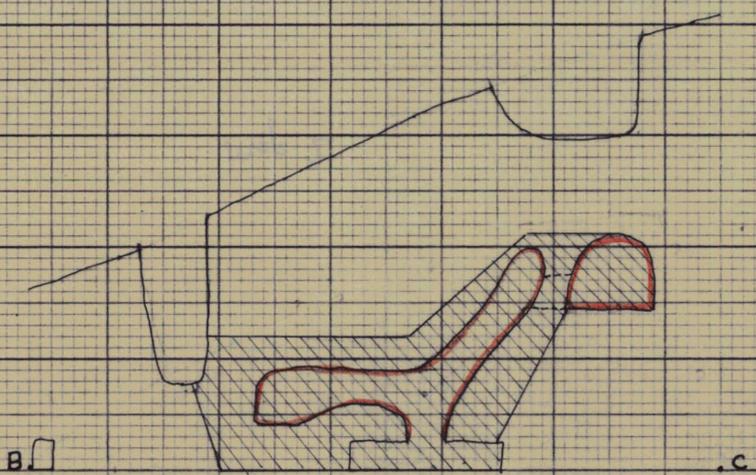
GIPPSLAND MINERALS N.L.  
**RAZORBACK**  
 Map 1  
 DUNDAS  
 TASMANIA  
 Drawn, Denis Brown, 7/4/71  
 Revised



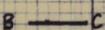
PLAN



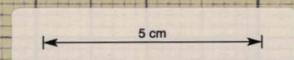
CROSS SECTIONS



Legend

-  stopped area (cross section)
-  stopped area (plan)
-  cross section.
-  major slope outlines
-  adit outlines
-  6% Sn isopach at Brocks adit level
-  -975- Contour, interval 5'

Scale 1" to 20'



GIPPSLAND MINERALS N.L.

RAZORBACK

Map 2. DUNDAS  
TASMANIA

Drawn Denis Brown 9/4/71  
Revised