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GIPPSLAND MINERALS N.L.  
GEOLOGICAL REPORT ON 10 ACRE  
TOWN LEASE, ZEGHAN, TASMANIA

BY P. J. O'SHEA.

M.L. 54 M/68  
B.F. GROVES & OTHERS

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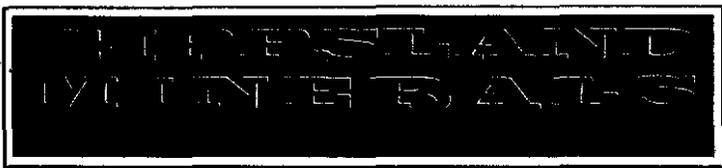
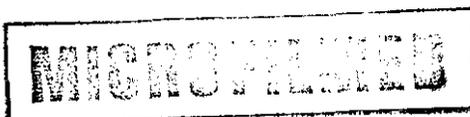
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Reg. Office:

131 QUEEN STREET, MELBOURNE,  
VICTORIA, AUSTRALIA, 3000

Telephone: 67 5074

MEMORANDUM

FROM: P. O'SHEA

TO: MR. C. P. BARNES - CHIEF GEOLOGIST

SUBJECT: GEOLOGICAL REPORT ON  
10 ACRE TOWN LEASE, ZEEHAN, TASMANIA.

DATE: 10/2/1971.

The 10 acre town lease under option to Gippsland Minerals N.L. is situated in the township of Zeehan to the immediate south of Counsel Street and east of Shaw Street.

The lease area has been geologically mapped and sampling has been carried out in a new E-W trending trench (see plan).

The lease area is flat in the west, being at an elevation of 600 feet above sea level, rising in the east to an approximate maximum height of 670 feet above sea level. The area is drained by the Argent Creek which runs N.E. - S.W. in the western half of the lease. A main shaft is located approximately in the centre of the area.

GEOLOGY

Exposure of rock is very limited in the lease area, the main exposures being in partially infilled trenches in the N.E. section of the area. On the 1 inch to 1 mile Geological Survey of Tasmania map, a N.E. - S.W. trending boundary fault between Cambrian Crimson Creek formation sediments to the west and Silurian Crotty Quartzites to the east is shown as passing through the S.E. corner of the lease area.

This boundary has apparently been picked up 120 feet in from the portal of Adit No. 1 (see plan), however, the adit is now blocked 70 feet in from the portal. From the outcrops examined, it would appear that the whole of the lease area, with the exception of the S.E. corner, is in Cambrian Crimson Creek formation sediments.

### CAMBRIAN CRIMSON CREEK FORMATION

The lithological succession in the area is one of grey to dark grey-black siltstones and shales with minor grey to dull purple, fine to medium grained quartzites.

Cleavage is evident in the shales and siltstones, and to a lesser extent in the quartzites. The sediments are moderately to highly weathered at outcrop.

### STRUCTURE

A regional E-W strike direction for the sediments throughout the area was recorded, however, locally in the vicinity of pyritic lodes a N.E.-S.W. strike direction is common. The beds dip in general to the N and N.W. at between  $65^{\circ}$  and  $80^{\circ}$ , however dips to the S at between  $65^{\circ}$  and  $82^{\circ}$  were recorded. The high dip values show that strong folding has occurred, probably during the Tabberabberan orogeny.

### FAULTING

To the south of the surface outcrop of No. 1 lode East (?) a number of shallow trenches (now filled in) failed to locate any southerly strike extension to the lode. An ENE-WSW fault has been postulated to account for the sudden disappearance of the lode. It is very probably that this hypothetical fault is only a surface feature and dies out at depth since No. 1 Lode East has been worked south along strike from the 124 feet level of the main shaft.

A N.E. - S.W. trending puggy fault zone was intersected in the new trench (see plan) and may have caused the displacement of a pyritic lode (see plan).

The inferred boundary fault between the Crimson Creek formation and the Crotty Quartzites can only remain hypothetical as it has not been tested in the field.

### SILURIAN CROTTY QUARTZITES

White fine to medium grained quartzites assigned to the Silurian Crotty Quartzites were seen in a disused quarry about 150 feet to the east of the lease boundary in the S.E. part of the area. No exposures of this white quartzite were found in the lease area.

MINERALIZATION

At least three lodes were worked in the lease area from a main shaft to the east of the Argent Creek (see plan). The lodes were worked for silver lead, the majority of work being carried out on the Main (No. 2 West) Lode in the N.W. part of the lease area (Blissett, 1962).

To the east of the main shaft, No. 1 Lode East was worked along strike for 415 feet at the 124 feet level, while No. 2 Lode East appears to have been worked along strike for only 60 feet at this level. These lodes may also have been worked at the 60 feet level, however, no records have been found to verify this. The position of the 60 feet and 124 feet levels as plotted on the geological plan is only approximate.

The surface outcrop of what is probably No. 1 Lode East has been picked up in trenches over a strike length of 240 feet. As has been previously stated, the southern surface extension has not been located.

According to Mr. D. Dunkley, the lode was stoped down on for at least 14 feet along much of this strike length, and stoping may have been carried out to a considerably greater depth. Along strike to the north no stoping was carried out, and the lode may be faulted out.

In the new trench recently put in by Mr. D. Dunkley, the lode was seen to be 10 inches wide, to consist of soft pyritic material and to have a vertical dip.

The new trench was excavated in an E-W direction for a length of 101 feet (see Plan) in order to intersect any N-S trending mineralization. Apart from the 10 inch wide lode mentioned above, three other zones of mineralization were encountered. Two of these zones may however, be the same lode which has been displaced laterally. Working westwards from the 10 inch wide pyritic lode, the thicknesses of the three zones are as follows:

- (i) 3 feet
- (ii) 4 feet
- (iii) 2 feet

The strike of all four zones is N-S.

Eleven chip samples were taken over 4 feet widths along the trench in and adjacent to the zones of mineralization. In addition two grab samples were taken of lode material in the trench. All samples are being assayed for lead, zinc, copper, silver, tin and antimony.

Adit No. 1 appears to have been driven in order to intersect any mineralization which may occur at the boundary between the Crimson Creek formation and the Silurian Crotty Quartzites. Blissett (1962) reports that a wide zone of black pug was cut but does not state at what distance from the portal this occurred. The adit has been blocked by a fall 70 feet in from the portal and no black pug occurs in the accessible section. It may be that this pug occurs at the junction of the Crimson Creek Formation and the Crotty Quartzites beyond the fall.

#### CONCLUSIONS

At least three lodes are known to occur at depth in the lease area, one of which may be traced at surface outcrop. The general strike trend of mineralization in the area is N-S to N.E. - S.W. with near vertical dips to the lodes.

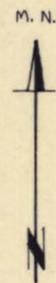
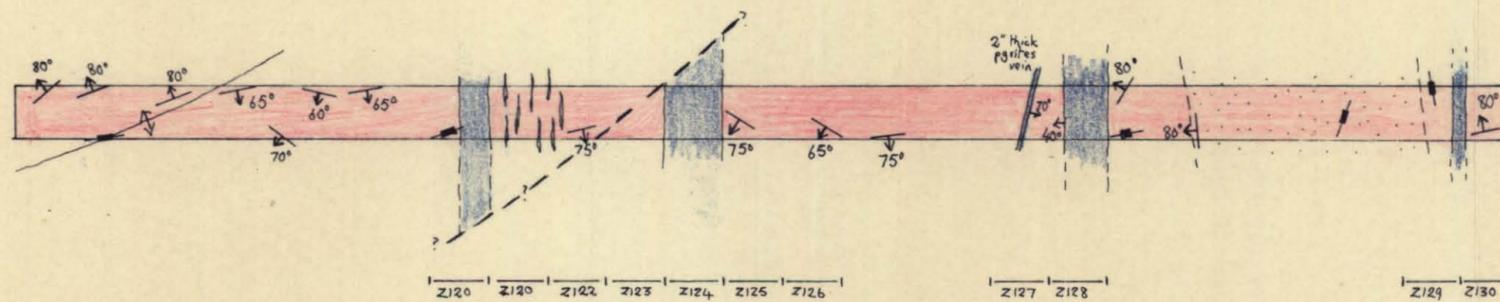
#### RECOMMENDATIONS

It is recommended that the trench recently dug (and filled in) be extended 50 feet to the east to test for mineralization. Also one (possibly two) 50 feet long N-S trench is recommended at the southern limit of the surface outcrop of No. 1 Lode East (?) in order to demonstrate the presence of the inferred E-W trending fault.

It is recommended that at a future date, a Diamond Drill hole should be put down at an inclination of  $57^{\circ}$  on No. 1 Lode East in order to intersect the lode at a vertical depth of 200 feet below the surface from the position shown on the accompanying map.

P. J. O'SHEA  
GEOLOGIST.

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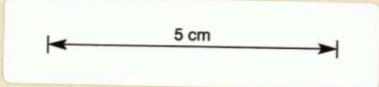
LEGEND

- 60° dip and strike of bedding
- vertical beds
- anticlinal axis.
- fault.
- chip sample.

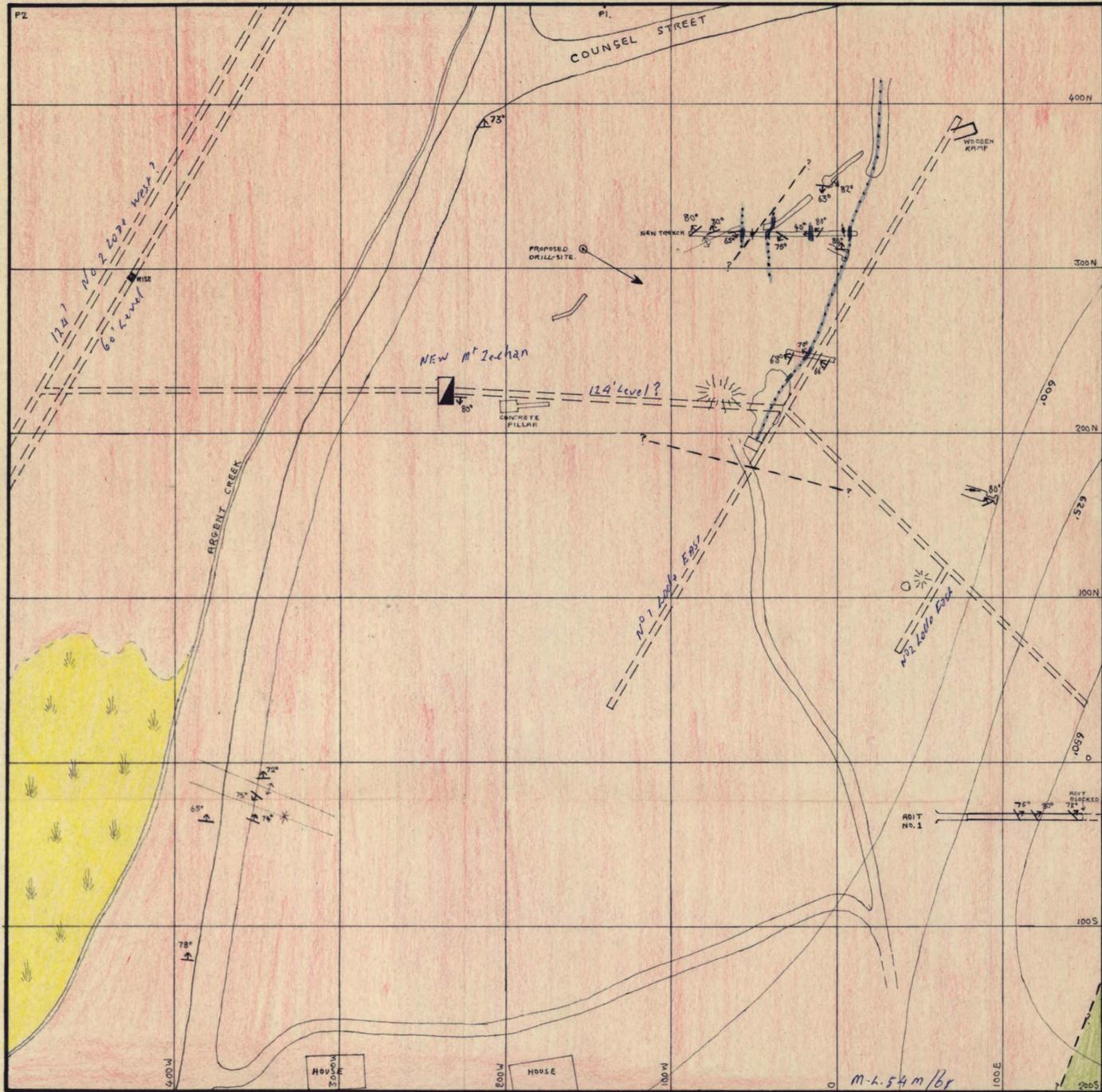
- grey to black slates and siltstones.
- dull purple quartzites.
- black slates with disseminated 1/8"-1/4" pyrite stringers.
- pyritic lode.

**GIPPSLAND MINERALS  
N.L.  
10 ACRE TOWN LEASE,  
ZEEHAN, TASMANIA  
NEW TRENCH**

DRAWN	P.J. OSHEA.
TRACED	
CHECKED	



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- LEGEND**
- QUATERNARY  Recent swamp deposits
  - SILURIAN  Crotty Quartzites
  - CAMBRIAN  Crimson Creek Formation
  - trench
  - underground workings (position approximate only)
  - shaft
  - 75° dip and strike of bedding
  - strike of fault
  - pyritic lode
  - probable extension of pyritic lode
  - 600' contour lines
  - underground workings
  - mullack heap
  - vertical beds
  - anticlinal axis
  - synclinal axis

SCALE: 50 Feet to 1 inch

**GIPPSLAND MINERALS N.L.**  
**10 ACRE TOWN LEASE**  
**ZEEHAN, TASMANIA**

DRAWN	P. J. O'SHGA
CHECKED	
CHECKED	

5 cm

M.L. 54M/6r  
 B.F. CROOKS & OTHERS