

**REPORT OF CONSULTING GEOLOGISTS**

**E.L. 11/71**

**MINING SYSTEMS PTY. LTD.**

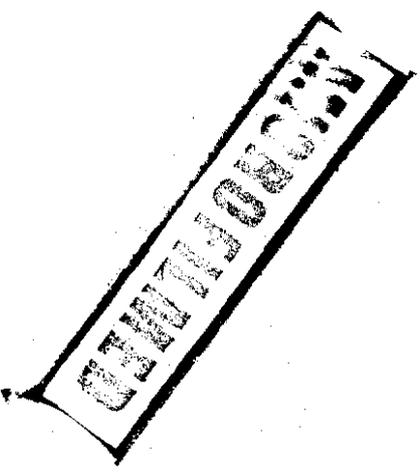
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REPORT OF CONSULTING GEOLOGISTS, EL 11/71

MINING SYSTEMS PTY. LIMITED  
18 Cliff Street, Milsons Point. N.S.W. 2061

May, 1971

The Directors,  
Search Limited,  
1st Floor,  
26 O'Connell Street,  
SYDNEY. N.S.W.

DofM	S & A	CC	CC & M	DS
RECEIVED				Registrar
11 AUG 1971				E & IL
ANSWERED				
DEPT. OF MINES				
REF. NO.				

Dear Sirs,

Introduction

This report has been prepared by Frederick R. Morris, B.Sc., consulting geologist of this company for inclusion in the Prospectus dated for the issue of fully paid shares in Search Limited. It relates to the geology and mineral potential of the land held under Exploration Licence No. 11/71, granted 21st January, 1971 and covering an area in North-Western Tasmania of 155 square miles.

Title

The title of this Exploration Licence is held in trust by Mining Systems (Tasmania) Pty. Limited, a subsidiary of Mining Systems Pty. Limited on behalf of Mineral Investments Limited. Pursuant to the transfer of the Licence to Search Limited, Mining Systems Pty. Limited has at the request of Mineral Investments Limited executed a Declaration of Trust in favour of Search Limited and will continue to hold the Licence in trust for the Company.

Location and Access

The land covered by the Exploration Licence is situated generally South-West of Burnie and North of the Arthur River. The Burnie-Waratah Highway traverses the South-East corner and except in the region of the Arthur River the area is reasonably accessible by vehicular tracks and forestry roads.

## Geology

The geology within the Exploration Licence area can be simplified to consist of a basement of Precambrian rocks overlain by a blanket of Permian sediments which in turn are both overlain by Jurassic as well as Tertiary flows.

The detailed stratigraphy is as follows :-

### Precambrian

#### Keith Metamorphics

These are the oldest rocks cropping out in the E.L. area and can be divided into three broad categories :

- i) Schists, quartzites and slates;
- ii) Phyllites, generally marginal to the schists;
- iii) Amphibolites occurring as small intrusives in the schists and phyllites.

These rocks occur principally in the North and West of the E.L. area in the vicinity of the Arthur River. The rocks are folded and faulted and exhibit steeply dipping schistosity.

### Burnie Quartzites and Slates

These represent the "younger" Precambrian and crop out in the extreme South-West corner of the E.L. area. Elsewhere they are overlain by Permian sediments and basalt flows.

### Permian

These sediments, approximately 700 feet thick, crop out in the central and Eastern part of the E.L. area and rest unconformably on the Precambrian series. They comprise tillite, siltstone and sandstone with minor carbonaceous shale and coal seams towards the top of these beds.

### Jurassic

Extensive outcrops of dolerite occur in the central, Eastern and Southern part of the E.L. area overlying unconformably the Permian sediments.

Tertiary

Large areas of remnant basalt cappings occur in the central and Eastern parts of the E.L. area. These flowsthen towards the West and their greatest development is in the North-East.

Quaternary

In the low-lying regions, large deposits of gravel, sand and clay have accumulated.

Past and Recent Mining and Exploration Activity in the Vicinity of E.L. 11/71 Area.

In the general vicinity of this Exploration Licence area, there has been considerable past and recent exploration and mining activity. On the attached plan, the relative positions of the other mining tenements of the various mining groups active in the area are shown in relation to that of Search's.

Currently, prospecting operations of the area north of E.L. 11/71 are being conducted by Comalco. In its area, deposits of high grade bauxite have been recorded in the vicinity of Myalla. In the S.P.L. 56 area, south of Search's area, prospecting operations are currently being conducted in the vicinity of the old Victory Mine. In this mine, rich pockets of copper, silver and gold mineralisation were recorded to occur. Iron ore has also been found in this S.P.L. area near the Keith River.

The exploration company, Tasminex N.L., holds the areas east and west of E.L. 11/71. In their western E.L. area alluvial gold deposits and quartz veins carrying copper and silver mineralisation have been recorded. Copper and iron ore deposits occur in their eastern area.

Currently, major mining activity is centred in the area south of E.L. 11/71, where large scale iron ore mining operations are being conducted by the Savage River Mines company and tin mining by Cleveland Tin N.L.

Comstaff Pty. Ltd., an exploration company owned by Anglo American Corporation (Australia) Limited and Broken Hill South Limited has been conducting geological surveys in its E.L. area, particularly in the vicinity of the old Mount Bischoff tin mine.

Results of Current Exploration in E.L. 11/71 Area.

Surveys conducted to date within the area have revealed the presence of two gold occurrences, one being a mineralised quartz vein located south of the Dip River and the other in an altered basic intrusion near the junction of the Arthur and the Hellyer Rivers. The position of these prospects are shown on the attached plan. In the first locality, a quartz vein which had been prospected by a few small shafts was sampled and tested. The vein varying in thickness from one to two feet in width had a strike of N. 30° E. Soft, gossanous material, adjacent to the vein was also sampled.

Assays of the two samples collected from this prospect are now given.

<u>Sample I</u> (Quartz Vein)		<u>Sample II</u> (Limonitic, Gossanous Material)
Gold	0.19 ozs/ton	0.13 ozs/ton
Copper	15 p.p.m.	110 p.p.m.
Lead	20 p.p.m.	140 p.p.m.
Zinc	30 p.p.m.	50 p.p.m.
Nickel	10 p.p.m.	15 p.p.m.
Cobalt	10 p.p.m.	25 p.p.m.
Manganese	1600 p.p.m.	400 p.p.m.
Silver	0.03 oz/ton	0.03 oz/ton

(Note : p.p.m. = parts per million).

The following analysis relates to a sample of altered intrusive showing sulphide mineralisation at the Arthur River locality.

Gold	0.20 ozs/ton
Copper	20 p.p.m.
Nickel	50 p.p.m.
Lead	10 p.p.m.
Zinc	80 p.p.m.
Cobalt	30 p.p.m.

Immediately upon obtaining suitable drilling equipment systematic sampling for bauxite content of the soil profiles derived from the Tertiary and Jurassic flows will be commenced.

### Proposed Exploration

Most attention will be directed to the areas where the Precambrian rocks crop out as the possible location for any potential economic mineralisation. Outcrops of these rocks extend over an area of twenty five square miles within the Exploration Licence.

A comprehensive exploration programme including field mapping and geochemical and geophysical surveys is proposed for the areas containing these older rocks. Thick vegetation and well developed soil profiles cover most of the area and these may be concealing possible gossans which will only be discovered by using suitable exploration techniques. Zones of basic intrusive rocks such as amphibolites which, in adjacent areas have been associated with sulphide mineralisation, will be sought and delineated. Hydrothermal veins, carrying gold, silver and copper mineralisation extending from sub-surface granitic bodies, have been located in this and nearby areas.

Further detailed mapping and sampling will be performed in the localities where the gold mineralisation has already been discovered. It is planned initially to prospect the gold occurrences discovered south of the Dip River by a series of small shafts and costeans. If this prospect appears promising, diamond drilling will be undertaken to test the quartz vein at depth. It is then proposed to sample and map the basic intrusive rock carrying gold mineralisation located east of the Arthur River in the Southern part of the Exploration Licence area. Diamond drilling is also recommended if sufficient encouraging results are obtained.

Following on from the proposed regional geochemical and geophysical survey, if any promising anomalous zones are located, further detailed mapping will be performed in the vicinity of these anomalies and drilling will be carried out if warranted.

In the areas covered by the extensive Jurassic and Tertiary flows, the overlying soil profiles will be tested by auger-drilling for possible bauxite horizons which have formed as the result of the intensive leaching of the clays derived from these igneous rocks. Initially, a scout drilling programme would be conducted on a regional basis and if deposits of good quality bauxite are located a grid drilling programme would then be commenced to delineate reserves.

Conclusion

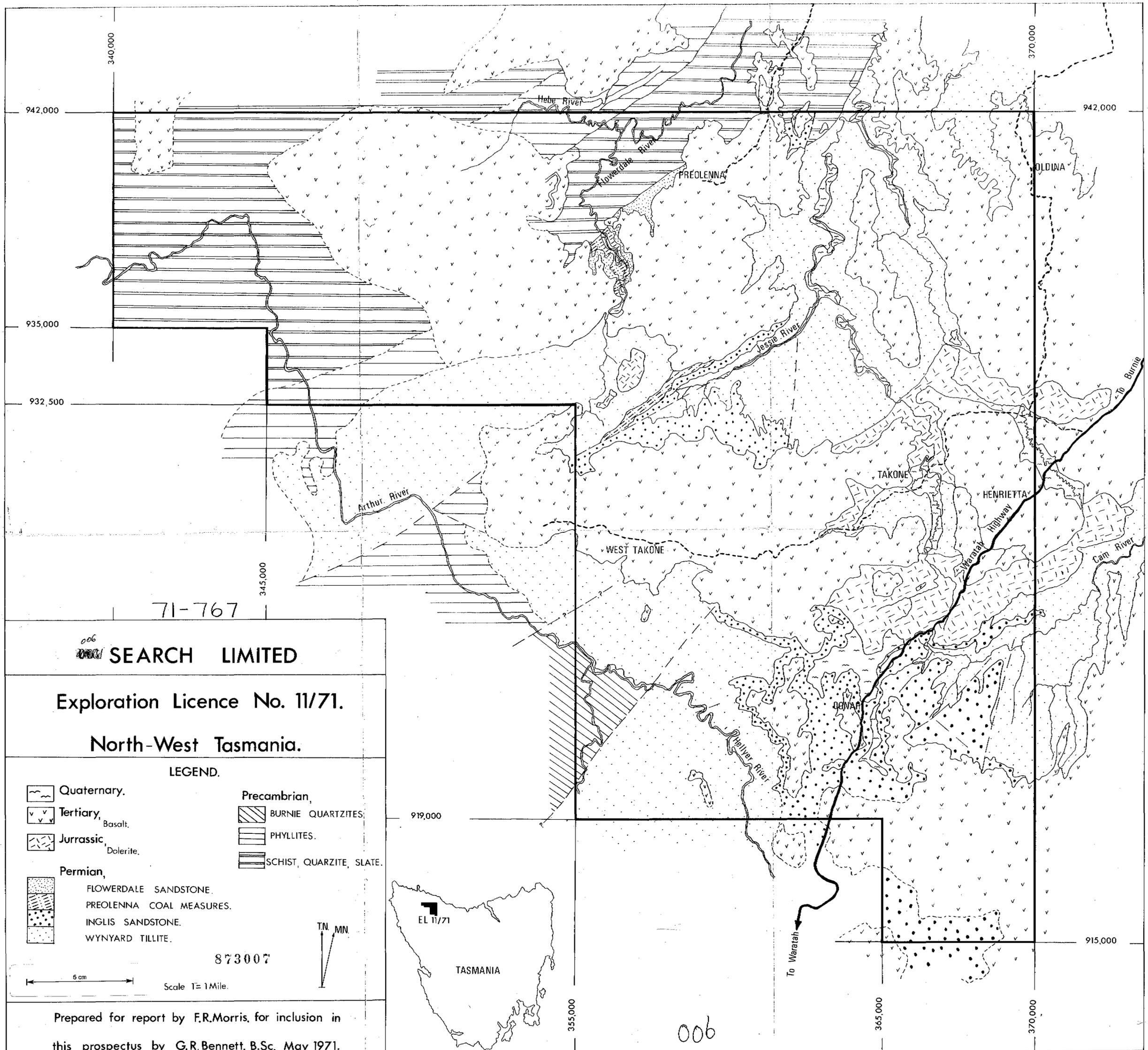
For the last eighty years the Northern and Western parts of Tasmania have been the centre of considerable mining activity. In this part of Tasmania, principally in the vicinity of Waratah, which is south of Search's area, many lead-silver mines have been worked. However, in terms of importance, the famous Mt. Bischoff Tin Mine has in the past ranked far ahead of all the other mines in the district, both in size and in value of ore produced. Interest has been renewed in the area with the development of two more major mining ventures, namely the Cleveland Tin N.L.'s mine at Luina and the iron-ore mining operations on the Savage River.

Due to difficulties in access and harsh climatic conditions, this and adjacent areas have only been superficially prospected. Using the vastly improved exploration methods unavailable to the early prospectors, Search is recommended to explore its North-Western Tasmanian area for zones of possible economic mineralisation.

F. R. MORRIS. B.Sc.  
CONSULTING GEOLOGIST.  
MINING SYSTEMS PTY. LIMITED.  
CONSULTING MINING ENGINEERS AND GEOLOGISTS.

Maps in Envelope

1. EL 11/71 N.W. Tas
2. EL 11/71 Relative Location



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**SEARCH LIMITED**

**Exploration Licence No. 11/71.**

**North-West Tasmania.**

**LEGEND.**

- |  |                          |  |                          |
|--|--------------------------|--|--------------------------|
|  | Quaternary.              |  | Precambrian,             |
|  | Tertiary,                |  | BURNIE QUARTZITES.       |
|  | Basalt.                  |  | PHYLLITES.               |
|  | Jurassic,                |  | SCHIST, QUARZITE, SLATE. |
|  | Dolerite.                |  |                          |
|  | Permian,                 |  |                          |
|  | FLOWERDALE SANDSTONE.    |  |                          |
|  | PREOLENNA COAL MEASURES. |  |                          |
|  | INGLIS SANDSTONE.        |  |                          |
|  | WYNYARD TILLITE.         |  |                          |

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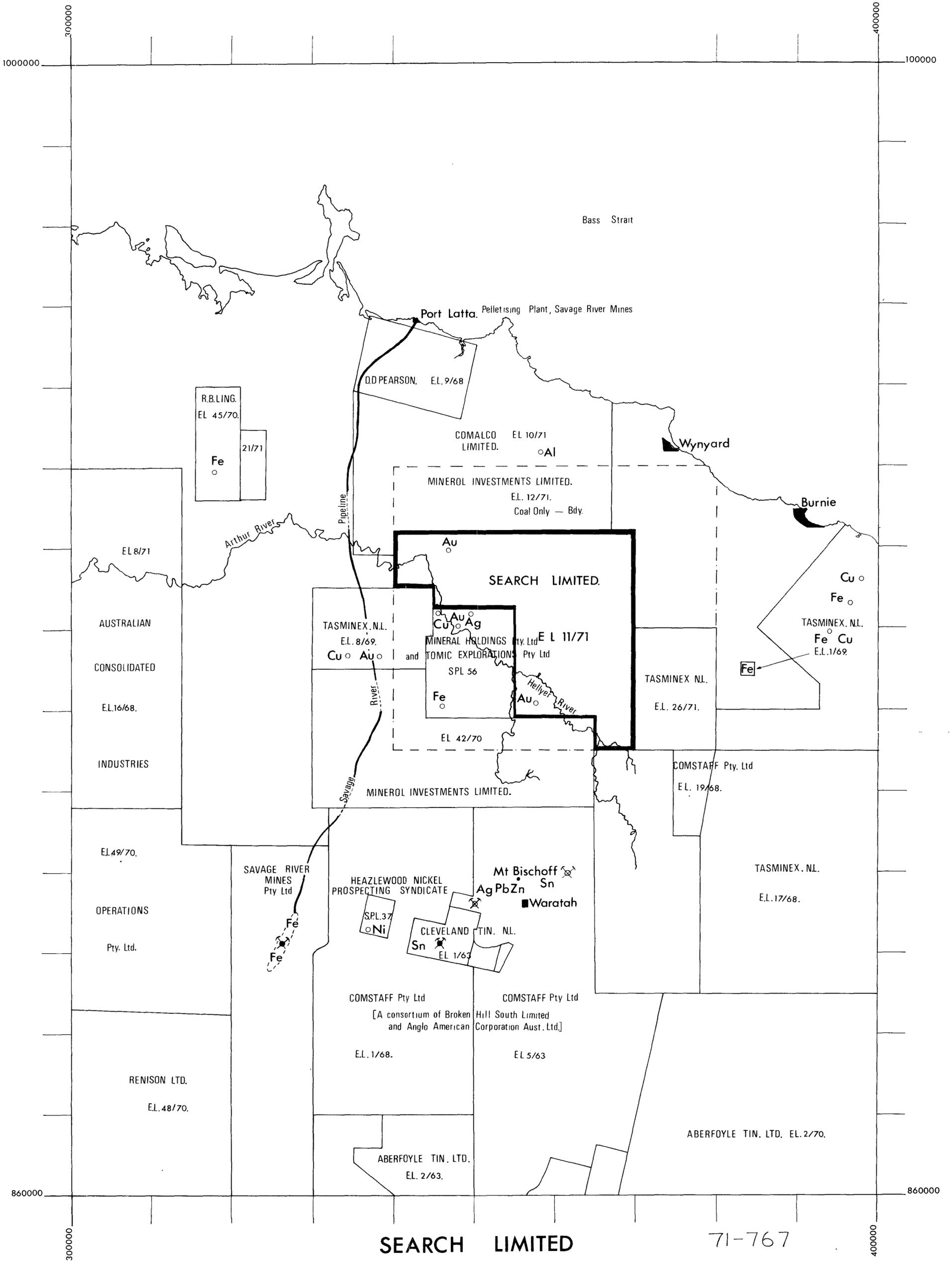
Scale 1"= 1 Mile.



Prepared for report by F.R.Morris, for inclusion in  
this prospectus by G.R.Bennett. B.Sc. May 1971.

map 1

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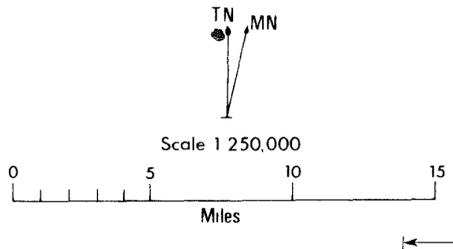


**SEARCH LIMITED**  
 Relative Location EL 11/71 and Surrounding Areas  
 North-West Tasmania.

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- Prospect or minor closed mine.
- ⊗ Operating Mines.
- ⊗ Closed Mines.