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MINERAL HOLDINGS

E.L. 29/80

ANNUAL REPORT

for the year ending

29.6.1988

by

MINERAL HOLDINGS AUSTRALIA PTY., LTD.

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Vic Threader  
Consulting Geologist

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30  
24  
1  
14  
78  
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167

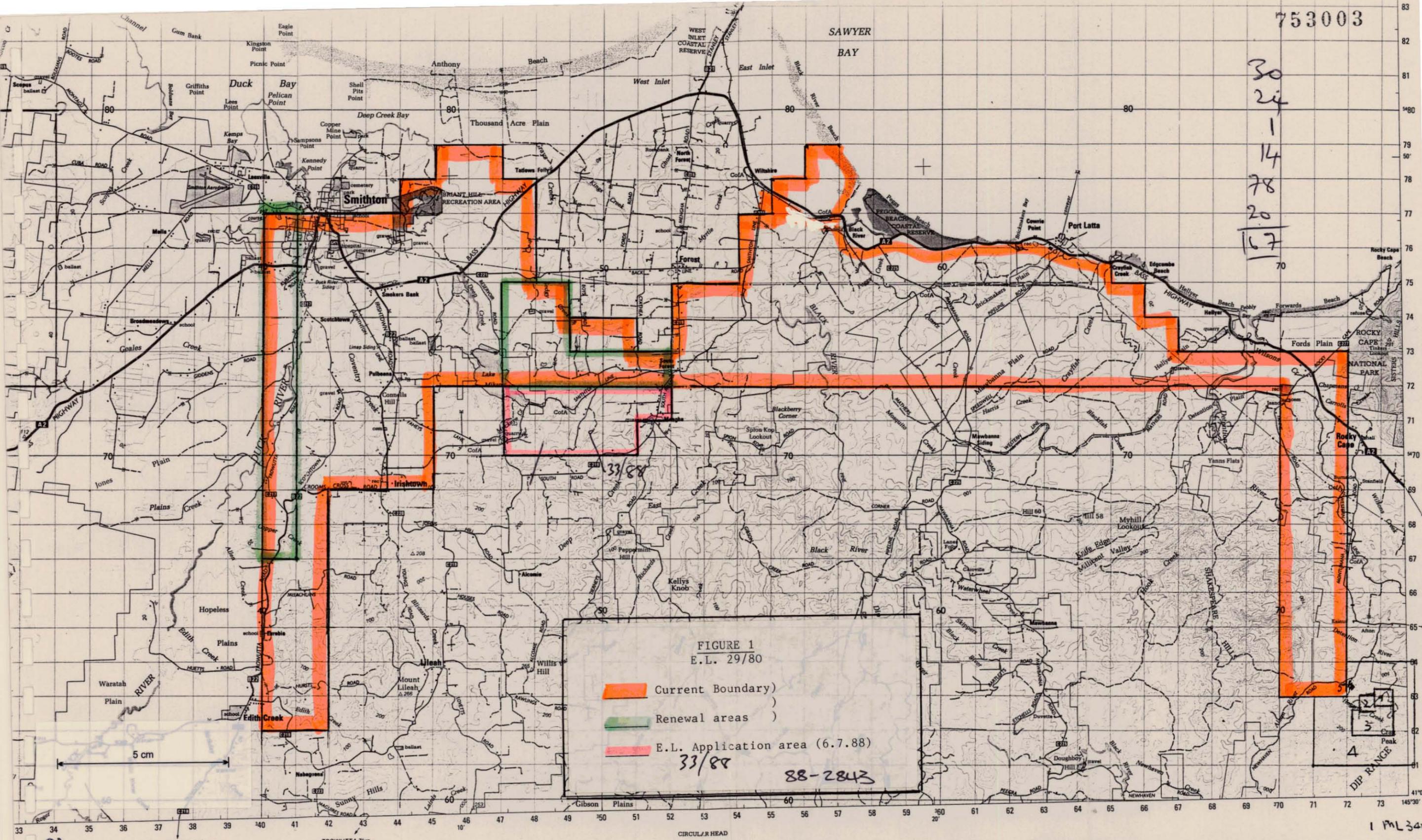


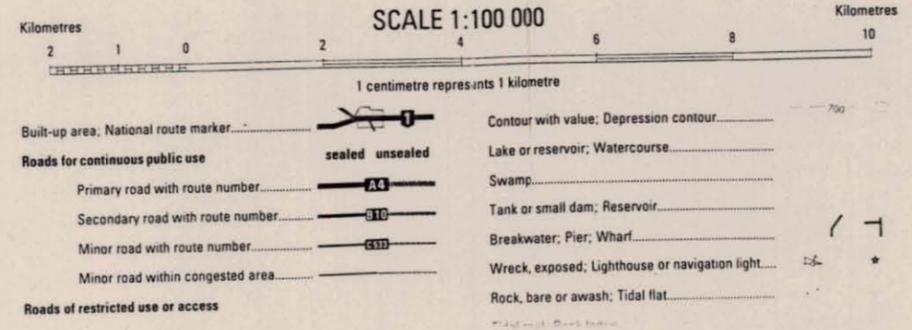
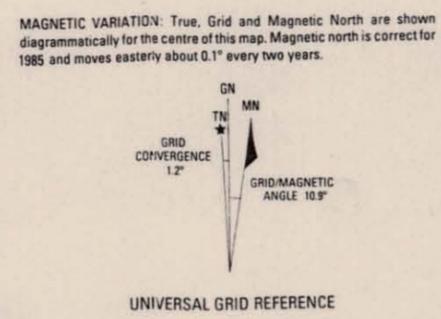
FIGURE 1  
E.L. 29/80

- Current Boundary
  - Renewal areas
  - E.L. Application area (6.7.88)
- 33/88  
88-2843

002 publication

PROJECTION: Mapping Division, Lands Department, Hobart, 1985.  
 ACCURACY: Horizontal: 90% of topographic detail is within 50 metres of true position. Vertical: 90% of elevations are within 10 metres. These accuracies may not be achieved in areas of dense vegetation.  
 RELIABILITY: Topographic detail compiled from aerial photography flown 84 with field verification 1985.  
 NOMENCLATURE: Topographic names have been approved by the Nomenclature Board of Tasmania.  
 PUBLIC RIGHT OF WAY: Roads and tracks on this map do not necessarily indicate a public right of way.

PROJECTION: Universal Transverse Mercator (UTM).  
 HORIZONTAL DATUM: Australian Geodetic Datum 1966  
 VERTICAL DATUM: Australian Height Datum (Tasmania) excepting offshore islands whose datum is mean sea level.  
 GRID: 1000 metre intervals of the Universal Transverse Mercator Grid



LAND TENURE INDEX INFORMATION is current to May'85. Due to limitations in scale, some areas of land tenure within built-up areas or areas of less than two hectares are not depicted. Colours are designed to indicate the prime managing authority. The indication of a particular land status does not imply right of entry or use. Boundaries of Crown land extend to low water mark (lwm). For full particulars, users are requested to consult the Registrar General's Division, Law Department; or the Survey Division, Lands Department.

Private Freehold Land	
Forestry Commission: State Forest; with Forest Reserve	
Timber Reserve	
Lands Department: Land Recreation Area	
Administrative Reserve, purpose	

EXPLANATION OF LAND TENURE DIVISIONS

FORESTRY COMMISSION  
 STATE FOREST: Areas for forest production and protection, and for recreation. Many areas are open to the public, with some restrictions on hunting, fires and camping that should be checked with the local District Forester.  
 FOREST RESERVES: Scenic and recreation areas featuring a wide range of facilities. Specific facilities can be checked with the local District Forester, as well as camping and fire restrictions.  
 TIMBER RESERVE: Areas of production forestry, managed by the Forestry Commission with similar restrictions as those in State Forest.

LANDS DEPARTMENT  
 LAND RECREATION AREAS: Areas managed to provide for community recreation, with some controlled commercial use of resources, whilst protecting the natural environment.  
 ADMINISTRATIVE RESERVES: Unnamed reserves such as quarry, school, water, set aside for use by government authorities.  
 NON-ALLOCATED CROWN LAND: Much of which is leased for mining or agricultural uses.

NATIONAL PARKS AND WILDLIFE SERVICE (NP & WS)  
 STATE RESERVES ETC: Essentially for the conservation of the natural environment, with some provision made for recreation. Areas of historic significance in terms of

1 ML 34m  
 2 33m  
 3 86m  
 4 EL 25  
 5 1w 1s

Introduction

The licence area is made up of E.L.43/84 (39 km<sup>2</sup>) and E.L. 29/80 (121 km<sup>2</sup>) which were amalgamated on the 30th March 1988. An additional 10 km<sup>2</sup> was added to conform to the 1 km. map grid.

The commodities of interest are the industrial minerals: quartzite as a feedstock for silicon smelting and ferrosilicon manufacture and dolomite for flux in steel making, refractories and magnesium metal production.

The Geological Setting

The Smithton Trough contains infill consisting of (i) a Cambrian sedimentary sequence, (ii) a mixed basalt/clastic sequence and (iii) a belt of dolomite and quartzite. Both rock types are of commercial value and are currently being extracted.

The dolomite and associated rocks were originally thought to be one unit and grouped as the Smithton Dolomite. As a result of an aeromagnetic survey interpretation by Large (1983) it was suggested that the Smithton Dolomite overlies the lava sequence and a Stromatalite bearing dolomite underlies it with the Forest Quartzite and basal conglomerate forming the bottom member of the Smithton Trough sediments.

Fig.2 shows the location of the principal outcrop areas of the quartzite 1, 2, 3 and 4 and a section through them (Fig.3) indicates their structural relationships.

Economic Geology

Dolomite. The Smithton Dolomite (upper member) is less siliceous than the Stromatalitic dolomite (lower member), as indicated in the following table.

	SiO <sub>2</sub> %	<u>No. of analyses</u>
<u>Smithton Dolomite</u>		
Watsons Bend (B.H.P.1945)	2	13
Blackwood Bridge (D.O.M. 1934)	0.18	4
Duck River (C.R.A. 1983)	5.37	4
Edith Creek (D.O.M. 1934)	4.5	4

004

Stromatolitic Dolomite

Irishtown Longworth & McKenzie 1981	9	4
C.R.A. (1983)	6.36	4
Black River (P.B. Nye 1981)	4.8	2

The dolomite from the Smithton Dolomite Quarry at Watsons Bend is the least siliceous of all the samples tested and was considered by B.H.P. to be suitable for the production of refractories. The Stromatolitic dolomite is very cherty in appearance and is generally more suitable for use as a road aggregate as indicated by the line of gravel pits on the east side of area 1 as shown on fig.2.

Exploration during the current year of tenure (1987-88)Outline

The programme as outlined in the Annual Report for 1986-87 was to investigate (1) the Smithton dolomite west of Duck River and (2) the isolated occurrences of quartzite and dolomite in the South Forest and Mengha areas.

1. It was not possible to initiate this item due to a pre-emptive application by Kingstream Resources for the same ground and that company's lack of interest in a joint programme.
2. Attention was focused on some previously mapped quartzite and dolomite occurrences (1 : 50 000 Geological Atlas map no.21 - Smithton). These were:

1. West and northwest of L.Mikany to Faheys Lane
2. Mengha area
3. Ferny Bridge Road

Sampling Programme (fig.2)1. West of Lake Mikany

A poorly exposed 4 km belt of Forest Quartzite and conglomerate which apparently thins markedly in the south and is represented by basal conglomerate.

Massive quartzite is exposed in the property of B. Ballinger and was chip sampled from outcrop point B, sample width : 10 m., and at point C, where quartzite boulders were exposed on the crest of a ridge. It is

not possible to obtain a representative sample of this occurrence until it has been fully exposed by costean.

A sample of cherty dolomite (sample A) was taken from a stockpile representing R.O.M. material. This material is highly regarded for road making purposes as it sets well and is durable, but is unlikely to meet specifications for metallurgical or refractory purposes.

Sample A was taken as representing the band of dolomite which overlies the quartzite and is quarried at several points along its western boundary.

*2 samples found*

### 2. Mengha Area

A 3 km. arcuate belt of poorly outcropping quartzite occurs near South Forest and extends westerly, then southerly, and continues for about 1 km. southwesterly after crossing Deep Creek. The extent of quartzite is evidenced mainly by float material on agricultural land but was sampled from outcrop at D over 100m slope distance and at E on the banks of Deep Creek over a 10m near vertical cliff face.

Several small gravel pits have been established along the western margin of the quartzite belt and rounded pebbles and cobbles are abundantly strewn over the surface between them.

Although this quartzite belt traverses dairying country, there are several locations where quarrying would have minimal impact as at sample points D and E and preliminary proposals to land owners to costean for sampling have been favourably received.

*ONLY ONE SAMPLE D  
E ON OPEN GRAVEL*

### 3. Ferny Bridge Road

A thin belt of Forest Quartzite is shown on the Smithton geological sheet over a strike length of 2 km. and a width of 100m. The true width of this occurrence is not known but it is the most westerly of the known exposures of the unit and consists mainly of gravel i.e. disaggregated basal conglomerate. It is of no economic significance as a quartzite resource.

### Summary and Conclusion

The Forest quartzite at localities 1 and 2 is not as prominently exposed as it is at Beacom Hills and there appears to be a thinning of the unit in an easterly direction.

Chemical analyses are not yet available for the samples taken but appearances are favourable and it is considered that a significant resource is present at both the Lake Mikany and Mengha deposits.

The Stromatolitic Dolomite which overlies the Quartzite is not

considered to be of economic importance as an industrial mineral. The Smithton Dolomite should be further investigated south of the Smithton Dolomite Quarry where material of similar quality may exist.

#### Proposed Future Exploration

It is intended to apply for a reduction of the licence area to two areas: (1) 9 km<sup>2</sup> to cover the Mengha and Lake Mikany quartzite occurrences and (2) 10 km<sup>2</sup> to cover portion of the Smithton Dolomite.

The intended programme will consist of costeaning, percussion drilling and sampling of the quartzites and further drilling and sampling of the dolomite in these two areas.

In addition to the above, a hydrological study will be conducted in the dolomite to assess the validity of suggestions by G.R.A. (1983) that underground water would cause flooding of mine workings. This is not borne out by the Smithton Dolomite Quarry experience but should be assessed. This work would be carried out on a contract basis by the Engineering Geology section of the Department of Mines and preliminary discussions have been held (with B. Weldon) on the implementation of such a programme.

R E F E R E N C E S

- Baillie P.W. and Crawford A.J. (1984) Smithton Trough Excursion in "Mineral Exploration and Tectonic Processes in Tasmania" - Burnie. Abstract Volume and Excursion Guide. Ed. Baillie P.B. and Collins P.L.F. Geol. Soc. Aust.
- Lennox P.G. et al (1982) Geological Atlas 1 : 50 000 series Sheet 7916S. Smithton Quadrangle. Geol. Surv. Tas.
- Large R.R. (1982) Annual Report - E.L.25/80 Montagu 1981 Field season Unpubl. report Geopeko TCR 82-1793
- Nye P.B., Finucane K.J., Blake F. (1934) "The Smithton District" Geol. Surv. Tas.
- Exploration Reports - see Summary of Exploration (this report)

A P P E N D I X

Summary of Previous Exploration

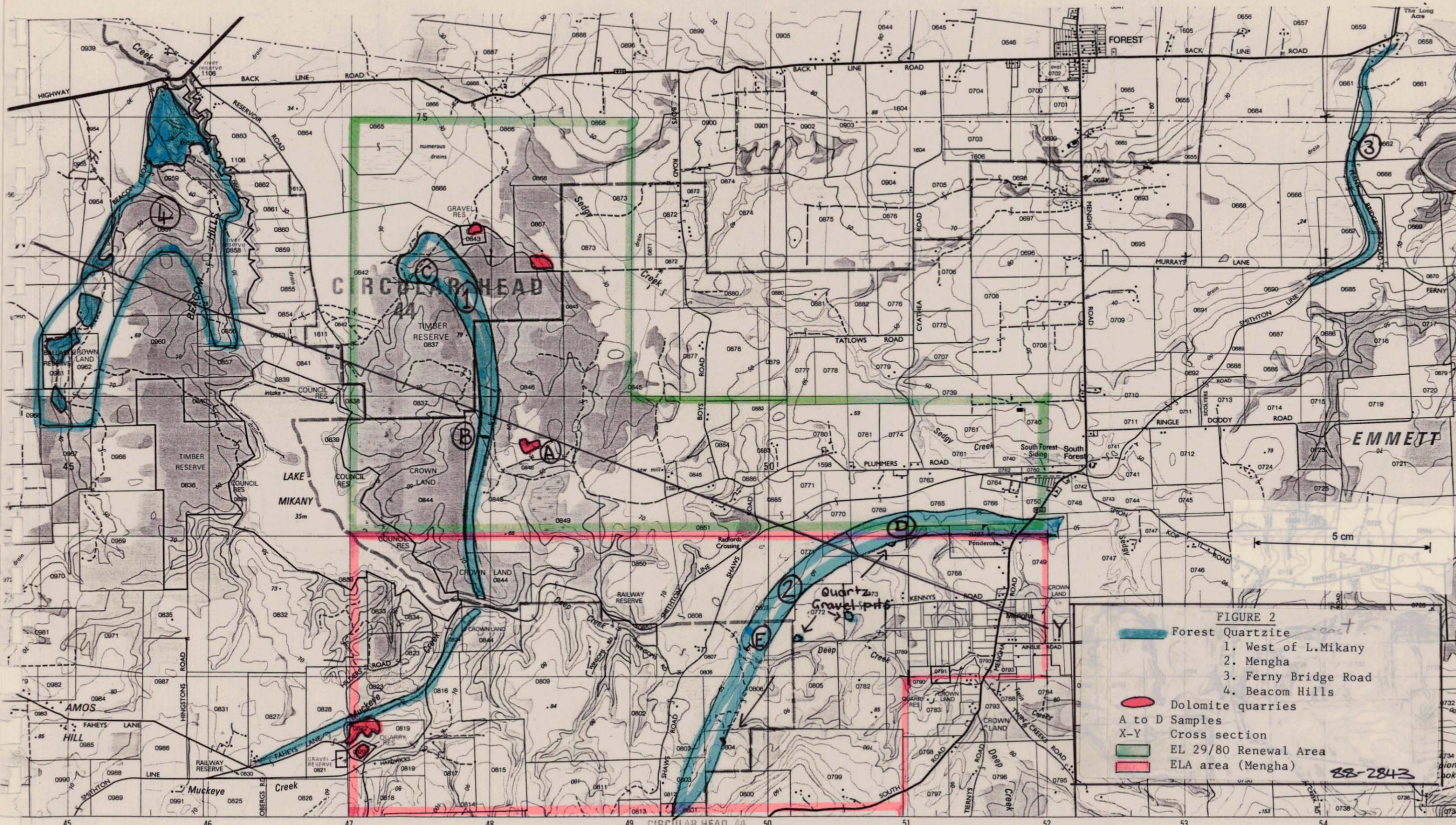
by the Licencee

Summary of Exploration in E.L. 29/80 by Licencee

TCR No.	Title	Author	Date	Content
81-1641	Drilling Programme Dolomite Prospect	Longworth & McKenzie	Sept 1981	Sample and borehole location map (B.H.P.1 drilled by B.H.P. (1945) in previous exploration - see 87-2708) Percussion drill holes: PH 1-5 and surface samples in Duck River Nos.1 and 2 plus chemical analyses from PH.1
82-1669	Information on	P.B. Nye	Dec 1981	Ochre at Smithton Clay at Mawbanna Quartzite at Deep Creek (Beacom Hills); Hellyer: Black River: Grays Creek Dolomite at Black River: South River Lignite at Detention River
83-1977	Quartzite quarry within EL 29/80 Smithton	M.D. Ware (& Amdel)	4.10.82	8 Airtrak holes were drilled (DH 1-8) Chemical analyses from DH.1 & DH.4 Chemical and petrographic analyses of chip samples
83-2011	EL 10/79 Smithton Exploration Report for the period of 30th June 1983	C.R.A.	1983	9 Percussion holes, 5 of which intersected Smithton dolomite within 30m of surface. Average grade 30% CaO 20% MgO. The major contaminant was SiO <sub>2</sub> which ranged from 0.8 to 19.2%
85-2409	EL 29/80 Annual Report 1983/84	N.M. Thomas	June 1985	Borehole Location Map of series: BP 1 to 36 in DMR Ballast Reserve DH 1-8 previously reported TP 1-9 Chemical analyses from DH.1 & DH.4 previously reported and Al <sub>2</sub> O <sub>3</sub> content in holes TP.1 and TP.9 at 1m intervals Logs of holes TP.1-9 by M.D. Ware

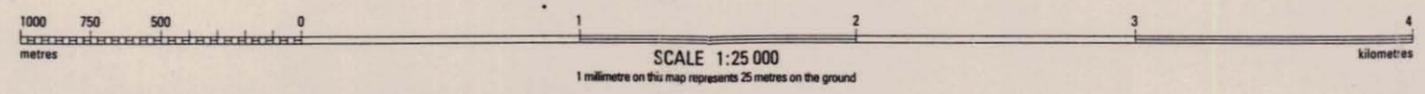
Summary of Exploration in E.L. 29/80 by Licencee Contd.

TCR No.	Title	Author	Date	Content
85-2431	Final Report on EL 10/79	M.H.A.	1984	(1) Chip sampling and drillhole location map (2) Assay results for Au and Pt
86-2560	Preliminary inspection of EL 43/84	D. McKenna and Partners (for Pan- Australian Mining	1986	A study of previously recorded anomalous gold values from 2 dolomite samples. The anomaly was not detected but stream sediment sampling was recommended to confirm this
87-2708	Annual Report EL 43/84	V.M. Threader	Sept 1987	Summary of previous exploration including diamond drilling by B.H.P. (1944) - prior to present tenure but not previously reported in full Geochemical and ground magnetic survey by C. Whitehead during current year Consultants' report (Hudson Lees Assoc.) on status of Mineral Deposits of M.H.A. Miscellaneous test data relating to quality of Smithton Dolomite.



**FIGURE 2**  
 Forest Quartzite  
 1. West of L. Mikany  
 2. Mengha  
 3. Ferny Bridge Road  
 4. Beacom Hills  
 Dolomite quarries  
 A to D Samples  
 X-Y Cross section  
 EL 29/80 Renewal Area  
 ELA area (Mengha)

753012



Residential area; Commercial buildings	
Roads maintained for continuous public use	
Roads of restricted use or access	
Walking track or horse trail (approximate position) with bridge	
Railway with station; Places entered in National Estate Register	
Power transmission line and pylon positions	
Building; Feature of historic or special interest; Ruin; Mine	
Post office; Police station; Fire station; School	

Caravan park; Camping ground; Public toilets	
Disposal area; Information centre; Cemetery	
Picnic area; Trig station beacon; Spot elevation	
Contour with value; Depression contour	
Quarry, pit or open cut mine	
Rock scree; Broken rocky surface	
Dense forest; Medium forest	
Low dense vegetation; Distinctive grass	
Orchard; Pine plantation	
Eucalypt plantation; Submerged trees	

Swamp	
Windbreak	
Wet area; Subject to flooding	
Waterfall; Rapids	
Indefinite shoreline or floodbank; Levee	
Tidal rocks or ledge; Offshore rock	
Navigation light or lighthouse; Exposed wreck	
Sand; Tidal reef	
Saline coastal flat; Tidal flats	
Jetty; Launching ramp	

BOUNDARIES shown on this map are NOT authoritative. For full particulars please consult the Registrar General's Division, Law Department; or the Survey Division, Lands Department. Areas within proclaimed towns or less than two hectares may not be depicted. Boundaries of Crown Land (including Reserves) extend to low water mark. To give a land parcel reference, prefix parcel number with municipal number. To use the number to gain title or survey information please consult the Mapping Division. Property and parcel boundaries are shown as at April 1984.

Municipality name and number ..... **ROSS 6**

Municipality boundary ..... **SOUTH**

Ward name ..... **2364**

Ward boundary ..... **2364**

Town boundary; Other administrative boundaries ..... **2364**

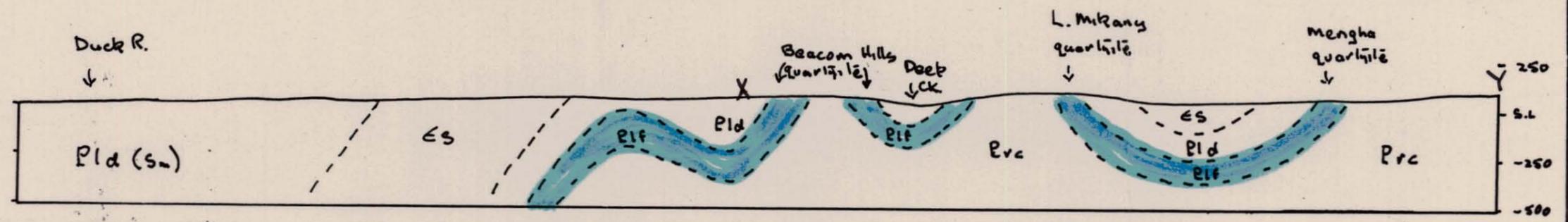
Reserve boundary; Vinculum or joining symbol ..... **2364**

Property boundary; Land parcel boundary and number ..... **2364**

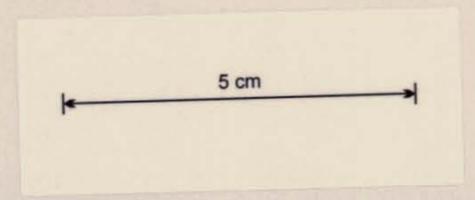
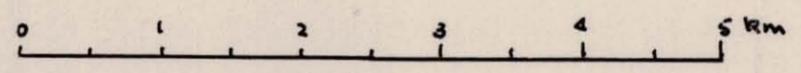
Boundary location uncertain or indefinite ..... **2364**

Simplified Bedrock Geology (after Baillie & Crawford - 1984)

Figure 3  
88-2843



- Pld (Sm) Smithton Dolomite
- Es Cambrian sequence
- Pld Stromatolite dolomite
- Pif** Forest Quartzite & conglomerate
- Pvc Cowrie siltstone
- X-Y Section Line (see Fig 2)



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