**OFFSHORE EXPLORATION LICENCE T3/MEL**
**BASS STRAIT**

# REPORT ON EXPLORATION
# AUGUST 2008 to AUGUST 2009

**For**
**Mineral Holdings Australia Pty Ltd**
**11 Kent Court**
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**ABSTRACT**

EL T3/MEL was granted to Mineral Holdings Australia Pty Ltd from 10th August 2007 for a period of 5 years over an area of 486 graticules in Bass Strait 40 Km north of Waterhouse Point. The Licence covers exploration for all Category 1,3,5(a) and category 5(b) minerals.

The Licence was applied to cover the northward off -shore extension of the present day Ringarooma River. Previous sub sea drilling by a number of companies has traced the sub sea position of the Ringarooma River to a depth of about 30 metres out to the southern boundary of T3/MEL and as the floor of Bass Strait was exposed to as much as 150 metres during the previous ice ages the ancient river bed would extend out through T3/MEL.

The exploration target is tin and semi precious stones (sapphires) as well as possible credits of heavy mineral sands containing rutile, ilmenite and zircon, gold, and rare earths. Adjacent onshore deposits were being bought into production by Van Diemen Mines but the Company has since gone into Administration and the property is now up for sale. Reserves are quoted as 76 million cubic metres containing 25,500 tonnes tin as well as 100gm/m³ rutile, 100gm/m³ zircon, 15mg/m³gold and from 1 to 2 gms sapphire per m³. The off – shore resource out to 30 metres depth (adjacent to the T3/MEL boundary is quoted at 23 million cubic metres at 150gm tin per cubic metre.

Mineral Holdings believes a bulk sampling program using a suitable dredger or pump survey vessel is the most suitable method to locate the ancient Ringarooma River. A suitable dredger will become available once the dredging of Port Phillip Bay is completed and MHA has applied for the area to take advantage of this opportunity.

## 1.0 INTRODUCTION

EL T3/MEL was granted to Mineral Holdings Australia Pty Ltd from 10th August 2007 for a period of 5 years over an area of 486 graticules in Bass Strait o40 Km north of Waterhouse Point. The Licence covers exploration for all Category 1,3,5(a) and category 5(b) minerals.

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Previous work by MHA has suggested the presence of a number of offshore strandlines and as a suitable dredger will become available once the dredging of Port Phillip Bay is completed MHA has now reapplied for T3/MEL to take advantage of this opportunity.

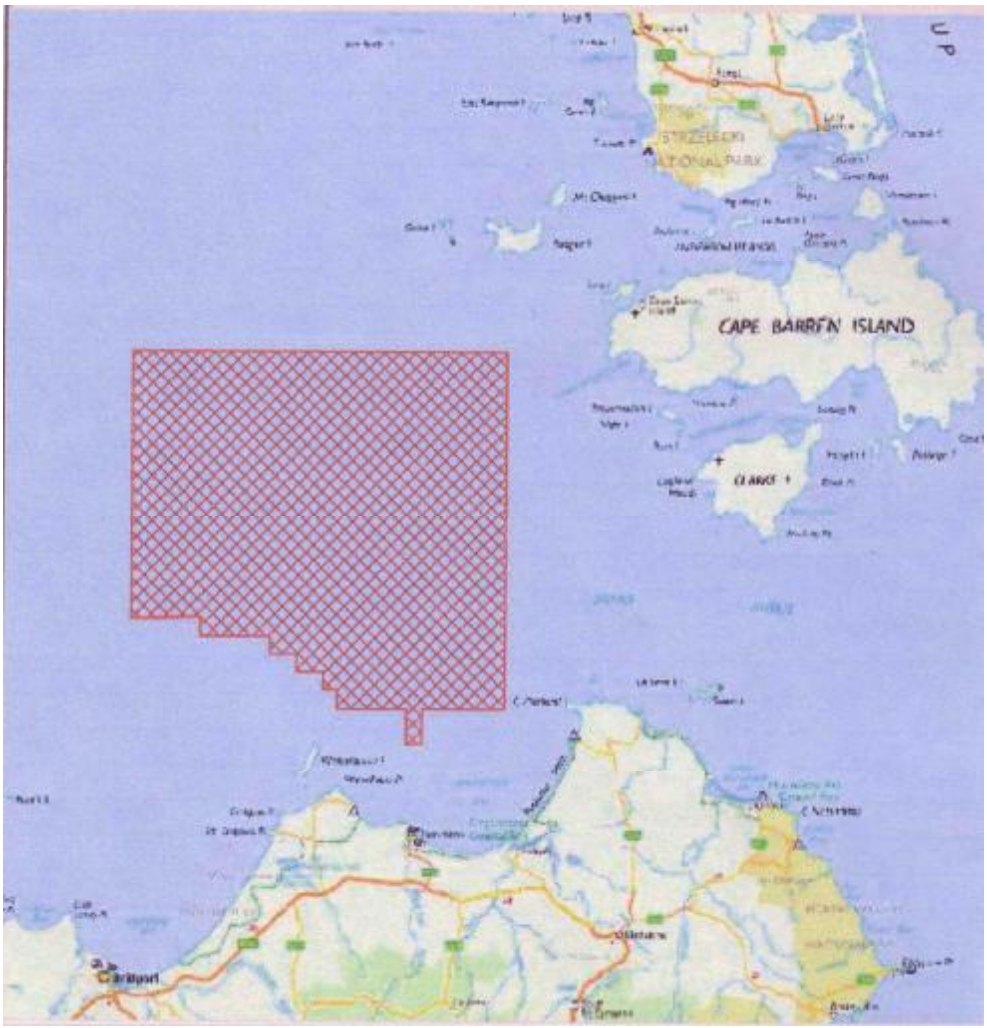


Fig 1 Location diagram T3/MEL

## 2.0 PREVIOUS EXPLORATION

Over the period 1965-1969 Ocean Mining AG carried out bathymetric and seismic surveys in the Ringarooma Bay area. They identified a major sediment filled channel extending from the shore line out to the 30 metre depth line within the Bay. A total of 138 holes were drilled in Ringarooma Bay in water depths ranging from 30 to 120 feet.

Sediment thickness in the Bay rarely exceeded 40 feet , so maximum drill penetration was of this order and averaged about 20 feet. A resource of 23 million cubic metres at 150 gm/ $m^3$ was inferred. The work also suggested increasing grade and sediment thickness towards the north west into the area of T3/MEL.

In 1973 the Bureau of Mineral Resources carried out a magnetometer and sparker profiling survey within Ringarooma Bay. Results show a sediment filled channel in the north west part of the bay, trending into T3/MEL. This channel appears to correspond to sediment filled channels identified by Ocean Mining AG.

Between 1982 to 1983 Hellyer Mining and Exploration Pty Ltd and Blaxland Seadredge Pty Ltd carried out 180 line Km of hydrographic, magnetic and seismic profiling in Ringarooma Bay. They indicated maximum sediment thickness (18-20m) are located in the north west of the survey area, trending into T3/MEL. Importantly, seismic character changes in these areas indicating up to 10 m coarser-grained material infilling an erosional channel. This north west area also corresponds with higher tin grades shown in Ocean Mining drilling.

## 3.0 GEOLOGY and PROSPECTIVITY

Northeastern Tasmania is highly prospective for alluvial tin mineralization. The mineralization originates from Devonian granites, with most deposits formed through transport and concentration along the present and ancient flow of the Ringarooma River. The Ringarooma river is a north flowing river which has drained much of northeastern Tasmania over at least the last 50 million years. Tin mineralization is not solely constrained to the environs of the Ringarooma River, but extends northward through many of the Furneaux Group of islands as alluvial (onshore and offshore) and hard rock deposits.

Within Ringarooma Bay, mineralization is known from past exploration to continue seaward of the present coastline. Mineralization is greatest in an inferred paleochannel of the Ringarooma River. This channel formed during periods of lower sea level, and was last active only 10,000 to 20,000 years ago. Yet, over the past 50 million years, sea level has been low enough to expose a land bridge between Tasmania and the Australian mainland, with the Ringarooma River once flowing north and west into a lake in what is now the centre of Bass Strait.

Although past exploration has focused south of T3/MEL those explorers agreed there was significant potential northward into the MEL. Inshore of T3/MEL, mineralization is dominated by variable sediment thickness and patchy grades. In comparison, channels located at the southern boundary of T3/MEL are deeper and more well defined. There is a greater volume of sediment in the channels, and much of it is inferred from seismic data to be coarse grained (consistent with sediments yielding higher grades elsewhere in the region). Drilling also indicates increasing grade toward the northwest and into T3/MEL.

Increasing prospectivity towards the northwest and into T3/MEL is thought to be related to a drowned coastline located at a depth of about 35 metres. Such features are considered highly prospective and are a focus for mineralization.

Within T3/MEL, past exploration has resulted in two immediately identifiable targets:

**TARGET 1**
Deep sediment filled channel located in the south of T3/MEL. This area is known from exploration by Ocean Mining and subsequently by Hellyer Mining to contain thicker and coarser concentrations of sediment, corresponding with some of the higher grades of tin rutile and zircon from drilling. Water depths of +30 metres correspond with higher grades throughout Ringarooma Bay and appear to correlate with ancient shoreline development. The area has been recommended for sampling in the past, and has been considered as highly prospective by all previous explorers.

**TARGET 2**
Banks of unconsolidated sediment located in the southeast of T3/MEL (north of T2/MEL and about 4 Km west –northwest of Cape Portland) have been interpreted by Hellyer Mining as being derived by remobilization of mineralized sediment from within Ringarooma Bay.

There is little information seaward into T3/MEL. Widely spaced seafloor samoling by government indicates bottom sediment characteristics similar to that for mineralized areas in Ringarooma Bay. However, work by the government geologist Jennings, in the 1950's, identified a second drowned shoreline at a depth of about 50 metres. Like the present shoreline and that inferred to lie at 35 metres, this deeper feature may also prove a prospective target.

It is fairly difficult to locate the two shorelines in the widely spaced bathymetric contours available (Fig.2). The 35 m contour runs about 6Km inside the eastern boundary and an irregular deeply incised zone runs between the 47m and 50m contours within 10 km of the western boundary.

A much clearer pattern exists in the magnetic intensity image (Fig.3). The outline of the Ringarooma lead located by drilling is shown by blue hatching and the most probable path of the old river valley is indicated by the dotted line following the green and blue zone of low magnetic intensity in a northerly path through the centre of the MEL. A possible earlier path cuts westward across the supposed 50 metre shoreline. Perhaps the presence of this shore line diverted the course of the river to the more northerly path. The location of the supposed 35 and 50m shorelines are a little clearer in the magnetic image.

A suction dredge capable of working at depths greater than 30 metres is the most logical method to locate the old stream path and the potential enrichment zones adjacent to the 35 and 50 metre shorelines. A suitable rig was not available during the past 11 months and no on site fieldwork was attempte. Mr. Thomas of MHA has had a number of discussions with Boskalis Offshore Dredging BV. They have indicated they would be

keen to take a percentage interest in the area and would be in a position sample the area as soon as the channel deepening of Port Phillip Bay is completed. Selection of suitable bulk sample sites is now underway.

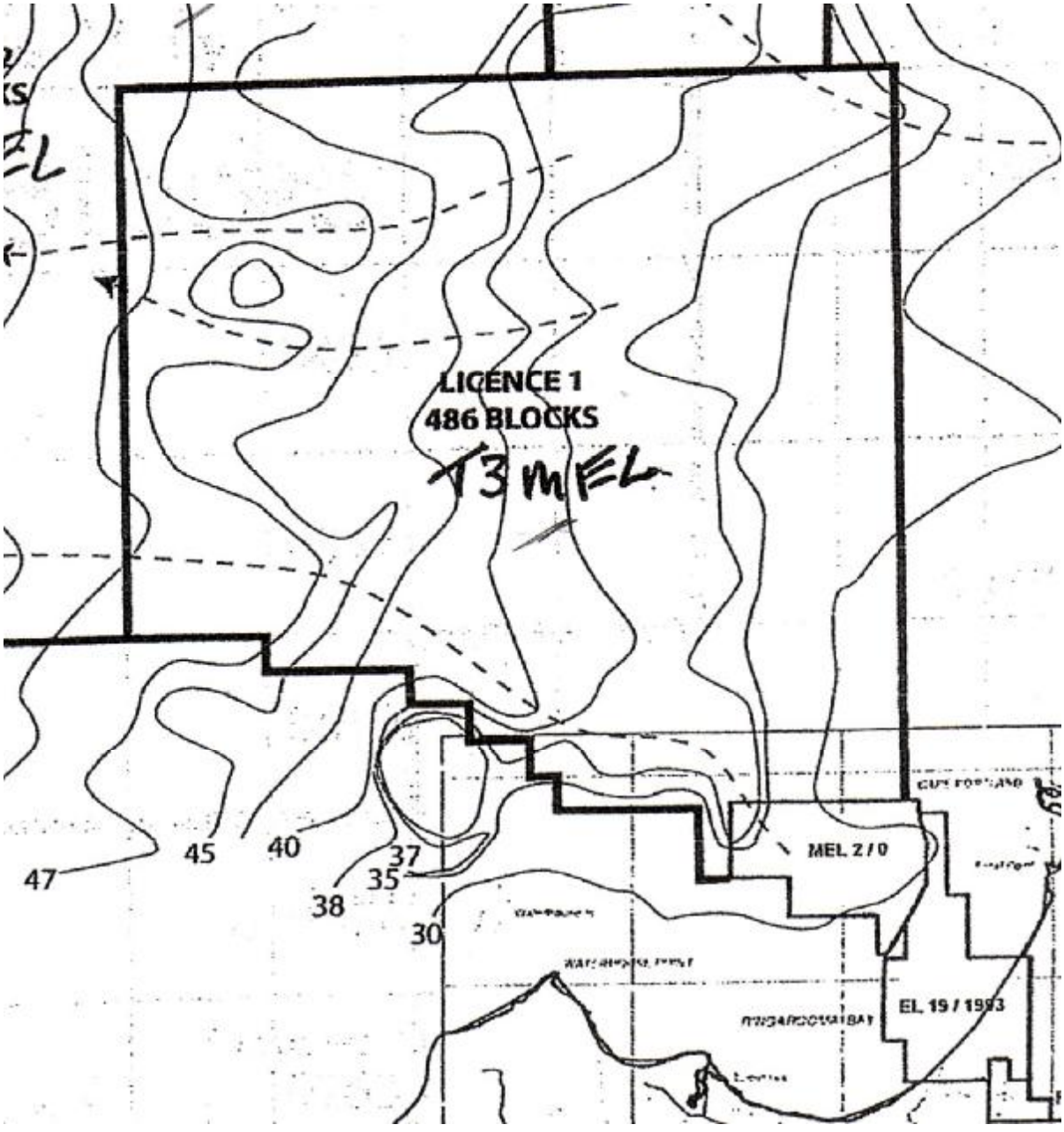


Fig. 2 Bathymetric contours T3/MEL. The 35m shoreline is most probably located between the 35 and 37 m contours and the 50 m shoreline between the 50 and 47 m contours.

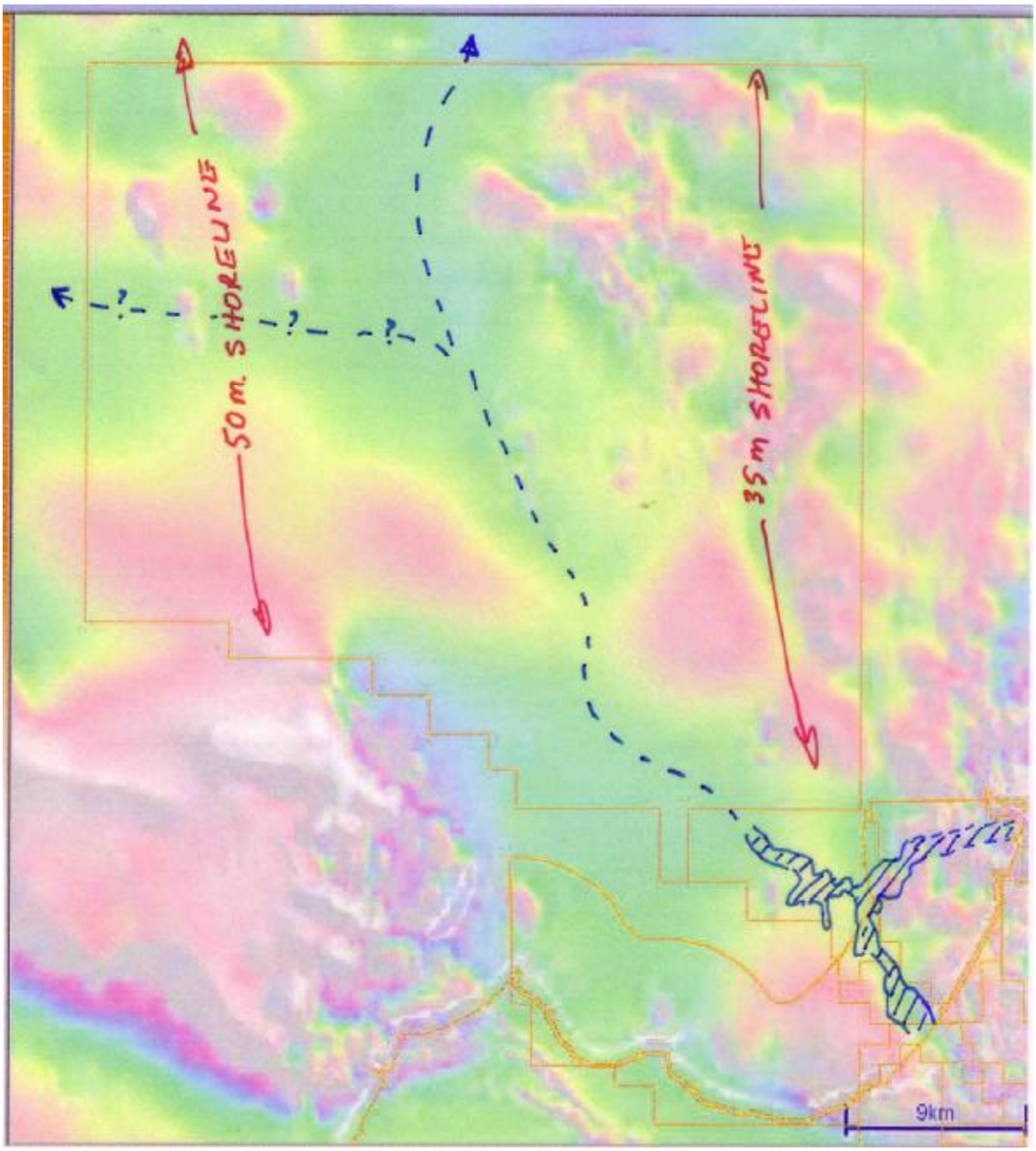


**Fig. 3** The outline of the Ringarooma lead located by drilling is shown by blue hatching and the most probable path of the old river valley is indicated by the dotted line following the green and blue zone of low magnetic intensity in a northerly path through the centre of the MEL. A possible earlier path cuts westward across the supposed 50 metre shoreline. Perhaps the presence of this shore line diverted the course of the river to the more northerly path. The location of the supposed 35 and 50m shorelines are a little clearer in the magnetic image.

## 4.0 CURRENT ACTIVITIES.

MHA had asked the Department for a Moritorium on expenditure until a suitable dredge became available in late 2009 or early 2010. The Department however only granted relief from the expenditure commitments for the four months to 30th March 2009. However without a suitable dredge it is impossible to carry out field work within the Licence area,

The Licence lies in water more than 30 metres depth, so that scuba divers are out of the question and previous underwater drilling in Ringarooma bay was unsuccessful in water depths greater than 25 metres. The position of the old Ringarooma at the southern edge of the licence has been located by seismic surveys and the northward continuation is clearly outlined by magnetic surveys. Again the only logical sampling technique is by suction dredge which will not be available until January 2010 at the earliest.

MHA has not been able to explore T3MEL simply because a suitable dredge has not been available. However MHA has not been idle and has gone to considerable trouble and expense to put together a potential joint venture to best mine all the off shore areas in Ringarooma bay. Discussions have been held and agreements reached with

- Boskalis Dredging Company, Vic
- Iluka Resources, WA
- Bemax Pty Ltd, NSW
- Bonaparte Diamond Mines, WA
- Metals X WA and
- Van Dieman Mines Pty Ltd, Tas. (and lately their Administrator).

## 5.0 EXPENDITURE

The exploration program is entirely dependent on the availability of a suitable dredge for bulk sampling. No on site work has therefore been carried out and expenditure for 2008 to June 2009. MHA obtained a moratorium on expenditure for four months from 1st December 2007 to 30th March 2009. Expenditure for the period 10th August to 30th March (the latest figures available) has been limited to $ 1,030.91

## 7.0 REFERENCES

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