

# **MINERAL HOLDINGS AUSTRALIA PTY LTD**

**RETENTION LICENCE 10/1997  
TOGARI (BRITTONS SWAMP)**

**REPORT ON EXPLORATION  
MARCH 2012 to MARCH 2013**

**Compiled by  
T W Dickson  
5 Crouch Court  
Doncaster VIC 3108**

**For  
Mineral Holdings Australia Pty Ltd  
11 Kent Court  
Toorak VIC 3142**

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## **ABSTRACT**

RL 10/1996 was granted to Mineral Holdings Australia Pty Ltd on 8 May 1998, over an area of 5 square kilometres, in north-west Tasmania. The Licence is a flow-on title from EL 33/1990 and covers exploration for Category 3 construction materials and Category 5 industrial minerals and semi-precious stones. Previous work by MHA has established a large resource of high-grade dolomite, suitable for blast furnace use.

In early 2010, MHA was asked by BlueScope Steel to supply a 5,000 tonne sample of dolomite from Togari to run a full-scale furnace trial at the Port Kembla steel works. In order to do this, MHA had to apply for a small 2ha mining licence (1906P/M). Even though the site was on fully cleared farming land, and with the full permission of the landowner, the Environmental Protection Authority, in their wisdom, decided the operation needed a full Level 2 Environmental Effects Report. With numerous requests for additional information from the EPA, and even though there were no objections from the Circular Head Council or from the public, the EER took almost 2 years to be approved. Needless to say, the opportunity was lost with the financial downturn and it may be several years before BlueScope Steel is willing to resume the test program.

Attempts to market dolomite from the Togari area have continued. Alcoa have shown interest and have requested a 10 kg sample of calcined dolomite for further evaluation.

## **1.0 INTRODUCTION**

RL 10/1997 was granted to Mineral Holdings Australia Pty Ltd on 8 May 1998, over an area of 5 square kilometres in north-west Tasmania. The Licence is a flow-on title from EL 33/1990 and covers exploration for Category 3 construction materials and Category 5 industrial minerals and semi-precious stones.

The property is located in recently cleared farming land, adjacent to the Montagu River drainage channel, south of the Bass Highway and about 25 km south-west of Smithton. Access is via the township of Brittons Swamp on the Bass Highway, 25 km west of Smithton, thence 2 km south along Salmon River Road and then farm tracks to the Licence area.

## **2.0 PREVIOUS EXPLORATION**

There has been a long history of exploration by MHA, and a series of joint venture partners, for a wide range of carbonate products in north-west Tasmania. By 1997, MHA had outlined a substantial inventory of high-quality dolomite at Togari and has proceeded with a number of attempts to market material from the area.

The Pre-cambrian dolomite at Togari was mostly explored during the years 1995 to 1998. During that time exploration consisted of:

- 41 shallow backhoe pits dug to provide depth of soil overburden and to provide samples of the dolomite (marked T 1 to 41 on Plan 2).
- 5 hammer drill holes were developed along existing tracks (marked TP 1 to 5 on Plan 2).

Samples of Togari dolomite were sent to Baker Dolomite, in USA, who conducted tests on refractory bricks made from the dolomite. The results were apparently successful but a copy of the test results is missing from the files. Follow-up samples were then sent to National Refractories and the Research and Development Centre for Refractory Materials. Both only carried out routine analysis of the samples but noted the high purity of the sample which they compared favourably with their own deposits. Unimin also carried out what appears to be a single assay of Togari dolomite.

A 250 tonne bulk sample was sent to Nittetsu Shoji in Japan for steel making furnace trials. The results were again very successful and were referred on to Nippon Steel. The fine ore ratio after firing was only 6.8%.

Comalco and APPM carried out whiteness tests for paper manufacture without any success.

### 3.0 GEOLOGY

The Togari area lies on the steeply dipping east limb of a major anticline and, with a stratigraphic thickness well in excess of 1,000 metres, a very large resource of dolomite is certainly available. However, the dolomite is generally low-lying in an extensive plain, covered by a thin black soil layer, and is only exposed in drainage trenches. Where it can be seen, the dolomite is white to pale grey in colour, and is a hard, massive, very fine grained marble. No banding is visible but it is believed the dolomite dips at 20 to 30 degrees to the east in this area.

An average assay of the material is given in the table below along with comparison assays of Ardrossan and ACI Mt. Gambier dolomites. The grade compares more than favourably with the average grade of those existing suppliers.

Element/Oxide	Dolomite		
	Togari	BHP Ardrossan	ACI Mt. Gambier
SiO <sub>2</sub>	0.44	2.00	1.0
TiO <sub>2</sub>	0.01	0.01	-
Al <sub>2</sub> O <sub>3</sub>	0.54	0.39	0.5
Fe <sub>2</sub> O <sub>3</sub>	0.24	0.80	0.21
MnO	0.005	0.14	-
MgO	19.62	21.00	18.8
CaO	32.86	29.00	33.7
Na <sub>2</sub> O	0.08	-	-
K <sub>2</sub> O	-	0.048	-
P <sub>2</sub> O <sub>5</sub>	-	0.05	-
SO <sub>3</sub>	-	0.15	-
LOI (%)	46.1	46.40	-

TABLE 1: DOLOMITE ASSAY COMPARISON

### 4.0 CURRENT AND FUTURE PROGRAM

MHA has made considerable efforts to interest major Australian and overseas groups in its carbonate holdings in north-west Tasmania and RL 10/1997 is an integral part of the 'Pilbara of Carbonates' program. A major part of program is to interest those companies in the benefits of mining high-purity materials that are cryptocrystalline in nature and therefore suitable for use in vertical kilns where it is possible to trap the CO<sub>2</sub> off-gas. There would appear to be large commercial advantages once a CO<sub>2</sub> penalty or tax is introduced.

In early 2010, MHA was asked by BlueScope Steel to supply a 5,000 tonne sample of dolomite from Togari to run a full-scale furnace trial at the Port Kembla steel works. In order to do this MHA had to apply, at very considerable expense, for a small 2ha mining licence (1906P/M). Even though the site was on fully cleared farming land, and with the full permission of the landowner and no objections from the Circular Head Council, the

Environmental Protection Authority in their wisdom decided the operation needed a full Level 2 Environmental Effects Report. With numerous requests for additional information from the EPA, and even though there were no objections from the EER, it took almost 2 years to be approved. Needless to say, the opportunity was lost with the financial downturn and it may be several years before BlueScope Steel is willing to resume the test program. Discussions are still continuing with BlueScope Steel.

Alcoa have shown considerable interest in the supply of dolomite from Togari and have requested MHA supply a 10 kg sample of calcined dolomite from the site. Commercial calcining of samples of this size is not available in Australia and MHA has had to send 25 kg samples of raw material to Maerz/Polysius in Germany. Apart from freight charges, the cost is approximately A\$8,200 per sample. The work is currently underway.

Apart from interest from Alcoa, MHA have made considerable efforts to interest major Australian and overseas groups in its carbonate holdings in north-west Tasmania and RL 9/1997 is an integral part of the 'Pilbara of Carbonates' program. Discussions and information exchanges have been made with Traxys Industrial Mineral Suppliers, Stratum Resources, NSL Group and DDM Capital. Sibelco visited and sampled MHA's properties in north-west Tasmania, over a six-day period, late in 2012. A final report of their activities is still awaited. Discussions with these companies and others will continue.

## **5.0 ENVIRONMENT**

There are no outstanding environmental issues.

## **6.0 REFERENCES**

Dickson, T. W. 2012. Retention Licence 10/1997 Togari. Report on Exploration March 2010 to March 2012. Mineral Holdings Australia Pty Ltd.

Threader, V.M. 1995. Annual Report EL 31/90 Redpa, 32/90 Montague Plains and 33/90 Brittons Swamp. Mineral Holdings Australia Pty Ltd. TCR 95-3735.

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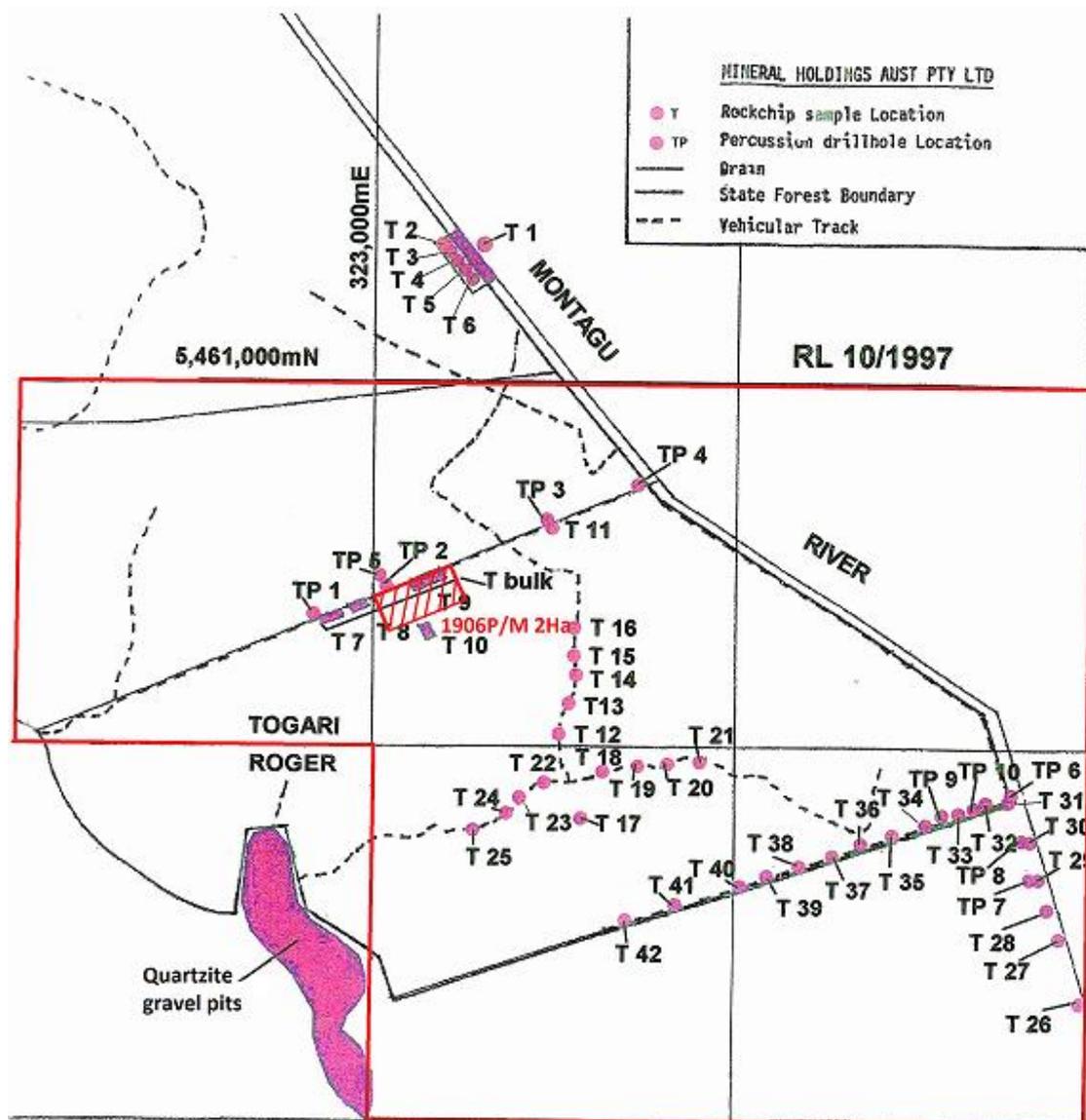
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## **7.0 KEYWORDS**

Togari, Dolomite, Pre-Cambrian

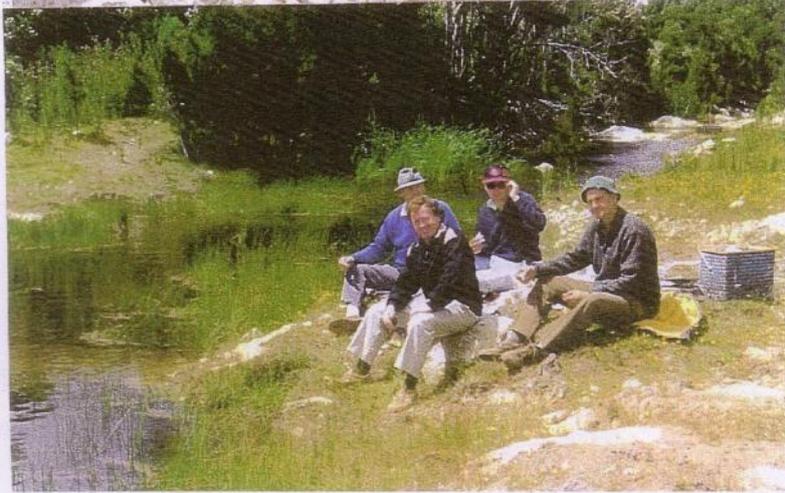


**PLAN 1:** Location Diagram - RL 10/1997 Togari  
South of the Bass Highway and 1 km south-west of Brittons Swamp.



- T 1-42 Dolomite rockchip sample, 1991, 1995  
T bulk sample (500kg), 1995
- TP 1-10 Percussion Holes, 1996/97

PLAN 2: MHA Dolomite Sampling & Drilling, Togari



TOGARİ DOLOMITİ .