MINERAL HOLDINGS AUSTRALIA PTY LTD

RETENTION LICENCE 9/1997
REDPA

REPORT ON EXPLORATION
MARCH 2012 to MARCH 2013

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ABSTRACT

RL 2/1996 was granted to Mineral Holdings Australia Pty Ltd on 8 May 1998, over an area of 3 square kilometres, 2 km south of Redpa and 6 km south east of Marrawah in north-west Tasmania. The Licence is a flow-on title from EL 31/1990 and covers exploration for Category 3 construction materials and Category 5 industrial minerals and semi-precious stones. The Licence has been extensively explored for Tertiary Limestone, Pre-cambrian magnesian limestone and Pre-cambrian dolomite.

Evaluation work has included:

- 23 hand samples
- 26 hammer drill holes for 257 metres (mostly in limestone)
- 7 shallow diamond drill holes (mostly testing dolomite)
- 10 shallow hammer holes (to test the magnesian limestone)
- Several 250 tonne bulk samples for furnace testing.
- 9 backhoe pits to sample magnesian limestone in basement.

Some 5 million tonnes of high-quality limestone are available within and around RL 9/1997 and the Licence is currently being marketed under Mineral Holding's Pilbara of Carbonates project in North-West Tasmania.

Alcoa have expressed interest in limestone and a low-magnesian carbonate with less than 10% MgO and MHA have been asked to provide 10 kg samples of calcined carbonates from Redpa for testing in Western Australia.

1.0 INTRODUCTION

RL 9/1997 was granted to Mineral Holdings Australia Pty Ltd on 8 May 1998, over an area of 3 square kilometres in north west Tasmania. The Licence is a flow-on title from EL 31/1990 and covers exploration for Category 3 construction materials and Category 5 industrial minerals and semi-precious stones.

The Licence covers a series of remnant hills of Tertiary limestone which extends under thin basalt cover to the north and west towards the coast at Marrawah. Although Tertiary in age, the limestone is hard and compact and eminently suitable for use in vertical lime kilns.

The Licence is located in gently rolling pastureland, adjacent to the Bass Highway, about 30 km due west of Smithton. Access is by all-weather roads, Fairview and Kings Road, from the Bass Highway and by a 4WD track joining Kings Road to the Bass Highway, near the eastern boundary of the Licence

2.0 PREVIOUS EXPLORATION

Threader (1997) outlines previous exploration at Redpa in an information sheet accompanying the application for Retention Licence 9/1997.

Exploration in 1991 and 1992 included rock chip sampling, hammer drilling and diamond drilling of the Tertiary limestone and the underlying Smithton dolomite. Borehole numbers 2 to 22 and DDH 2 to 7 were drilled in Tertiary limestone, while the remaining boreholes were drilled to test the continuity of the limestone between outcrops. Of those boreholes, DD1 and BH 1, 23, 24 & 26 were drilled into dolomite and BH 23 & 25 in magnesian limestone.

In 1994/95 two half-tonne samples of dolomite were taken from outcrops in King's and Edward's properties. Half the material was shipped overseas for evaluation testing in the production of magnesium metal by a plasma process. The process was apparently unsuccessful and the tests were never carried out.

In 1995/96, ten shallow percussion holes were developed to test the dolomite bedrock in King's property. The evidence from mapping and drilling indicates that the dolomite is of the order of 100m thick and occurs in the trough of a south-easterly plunging fold. It is, as far as is known, restricted to the north-eastern part of the Licence.

In 1996/97, 40kg rock chip samples of dolomite and limestone were sent overseas for assessment as a slagging agent in steel making. Nippon Steel reported very favourably on the tests. David Mitchell also conducted furnace tests on the Tertiary limestone reporting that in tests at 1150 and 1350°C the material remained hard with no tendency to crumble or powder and that it would maintain integrity in a shaft kiln.

A further six percussion drill holes were developed in the dolomite and dolomitic limestone basement rocks.

The drilling record to date is	1991/92,	257m percussion	(26 holes)
		70m diamond	(7 holes)
	1995/96,	110m percussion	(10 holes)
	1996/97,	91m percussion	(6 holes)

In 2011, MHA developed nine backhoe pits to sample magnesia-enriched limestone along the upper contact of the Pre-Cambrian dolomite.

3.0 GEOLOGY

The Tertiary limestone was originally a widespread sheet over the relatively flat Pre-Cambrian basement of dolomite and magnesian limestone. It now occurs as a series of low remnant hills around the edge of an extensive sheet of Tertiary basalt and extends under shallow basalt cover to the coast at Merrawah.

The limestone is white to pinkish in colour and is generally dense and compact in texture. There are occasional cavities and the limestone can be sugary immediately adjacent to the cavity. Thickness, from drilling, ranges from 1 to 18 metres and averages around 10 metres.

The limestone averages 54.02% CaO, 0.9% MgO, 0.66% SiO_2, 0.17% TiO_2, 0.28% Al_2O_3, 0.61% Fe_2O_3, 0.03%MnO_2, less than 0.01% alkalis, 0.096% P_2O_5, 0.595% SO_3, and 45.11% LOI.

Some 5 million tonnes of high-quality limestone is available in and around Redpa and more would be available under the thin basalt cover.

The magnesian limestone and dolomite occur as subcrop through the Redpa Retention Licence. The rock is hard and marbleised but is very fine grained, dense and massive in appearance. It is usually light grey in colour but some of the magnesian limestones tend to be of lighter colour and this difference is believed to increase with depth. From the limited amount of shallow drilling, it appears the magnesian limestone predominates at Redpa, but the true distribution is not yet clear.

The structure in the basement rocks appears to be a broad, shallow syncline and at least 1000m of section is present. Any resource of dolomite or magnesian limestone is therefore quite large.

The dolomite ranges from 31 to 32% CaO, 18.8 to 19.5% MgO. Silica is generally below 0.2%, although occasional spikes to 10% do occur.

The magnesian limestone contains 36 to 50% CaO, 5 to 16% MgO, 0.2 to 1.4% SiO_2, with all other oxides very low and Loss On Ignition of 43.5 to 46.5%.

4.0 CURRENT AND FUTURE PROGRAM

Alcoa have requested that MHA supply two 10kg samples of calcined carbonates, one of Tertiary limestone and the other of magnesian limestone (5 to 10% MgO), from the basement carbonate rocks. Commercial calcining of samples of this size is not readily available in Australia and MHA has had to send 25kg 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. A major part of this 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_2 off-gas. There would appear to be large commercial advantages once a CO_2 penalty or tax is introduced.

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

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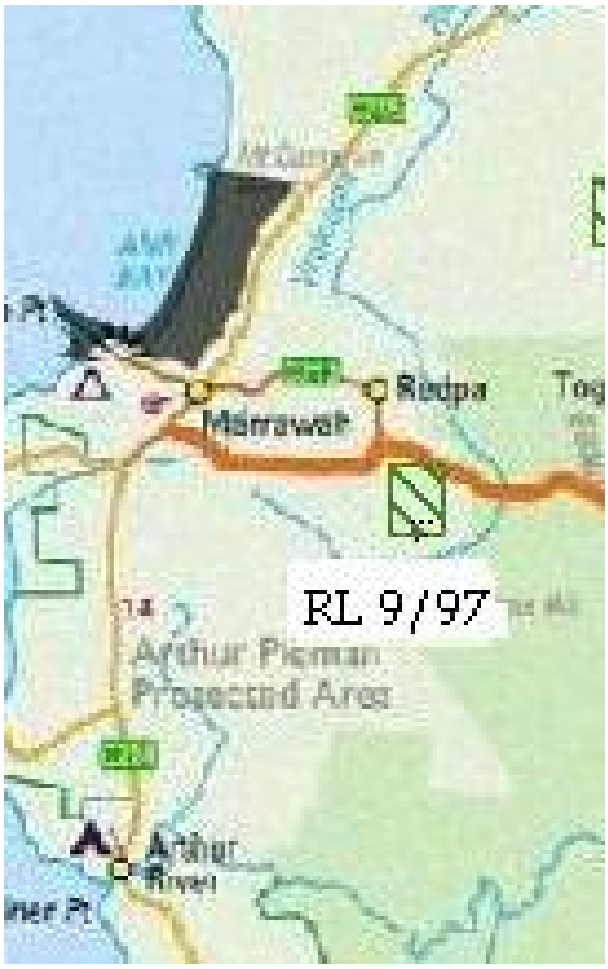
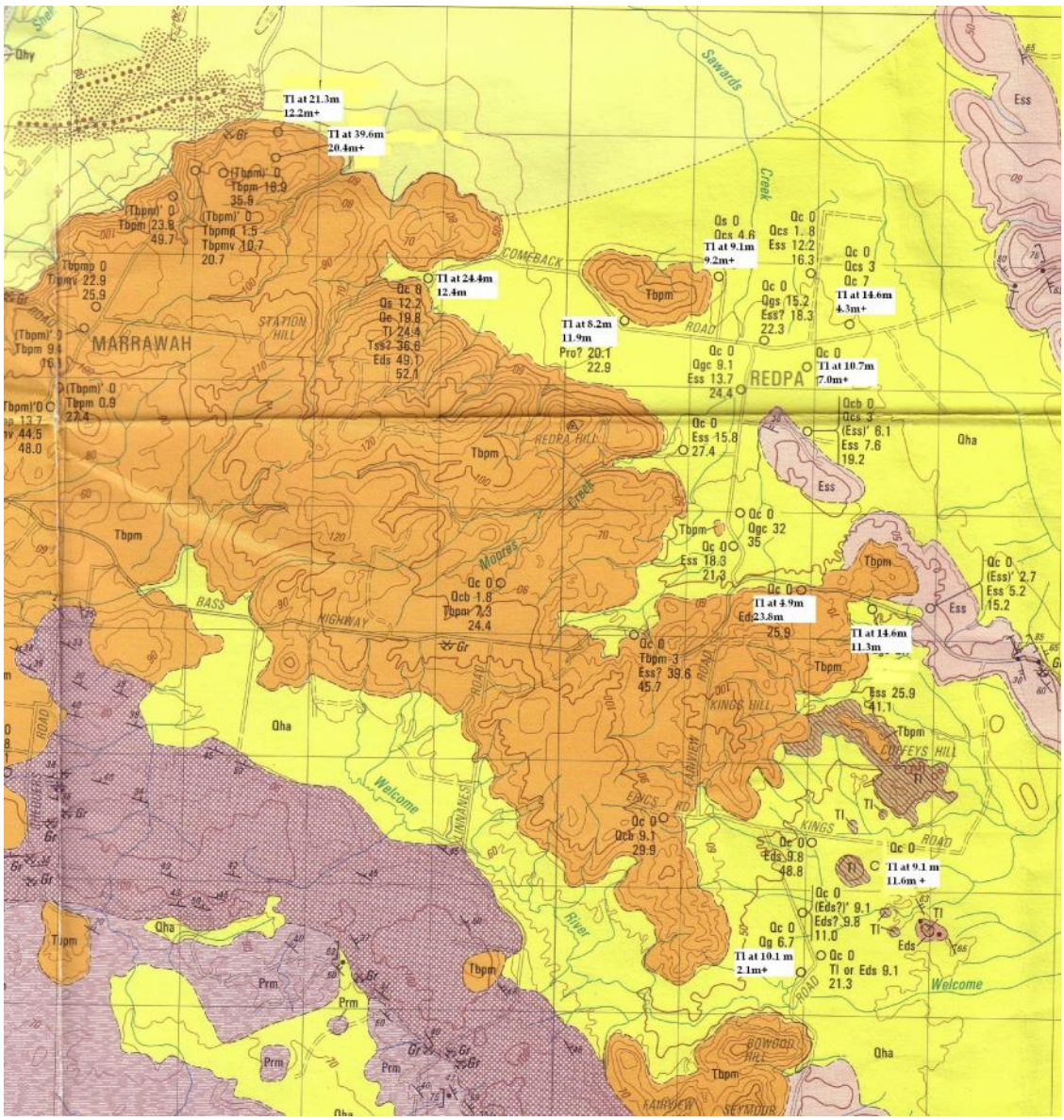
7.0 KEYWORDS

Redpa, Merrawah, Limestone, Dolomite, Magnesian Limestone, Tertiary, Pre-Cambrian



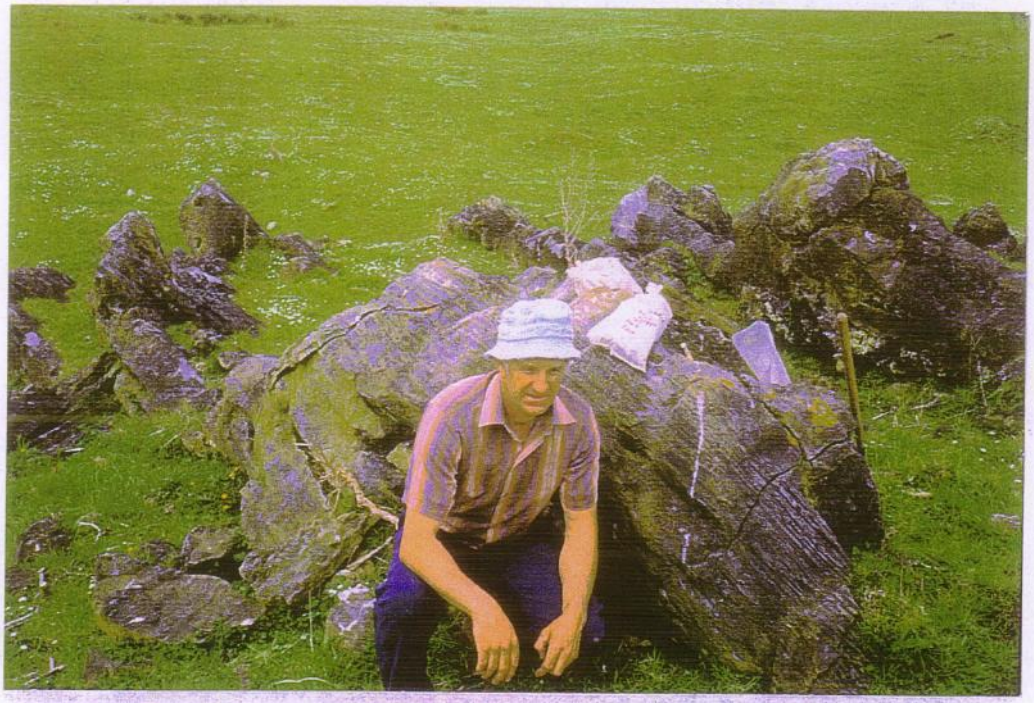
PLAN 1: Location Diagram - RL9/1997 Redpa



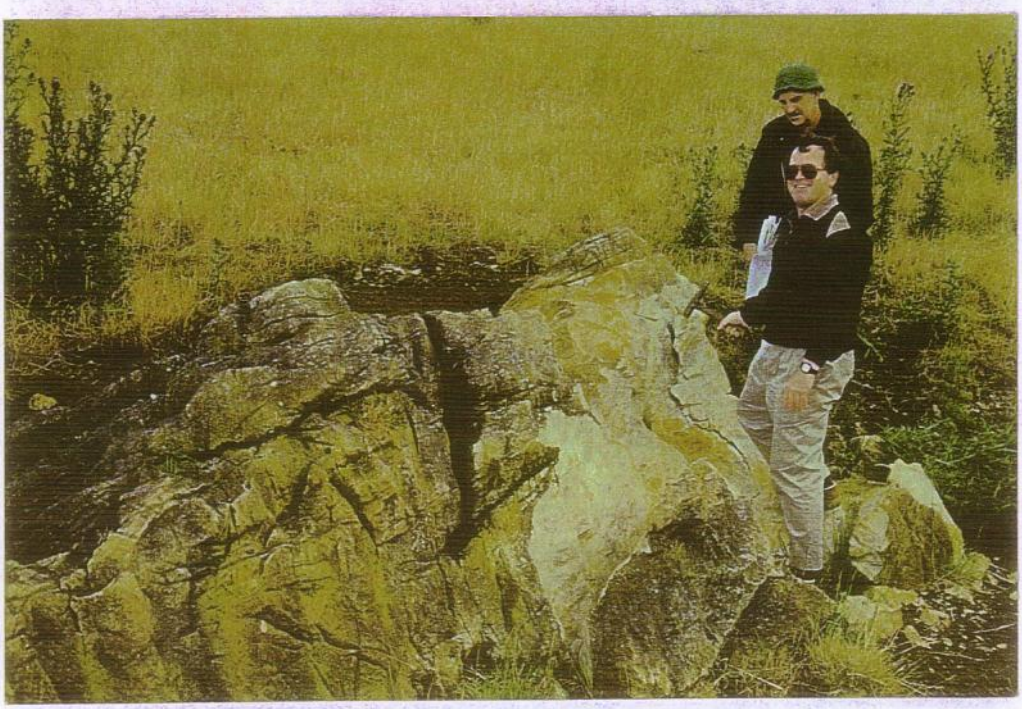
PLAN 2: **Geological Plan Redpa area showing drill holes with Tertiary limestone.**

Dark Brown - Tertiary Limestone
Light Brown - Basalt

RETENTION LICENCE – RL 9/1997
HIGH GRADE PRE-CAMBRIAN
DOLOMITIC LIMESTONE – REDPA

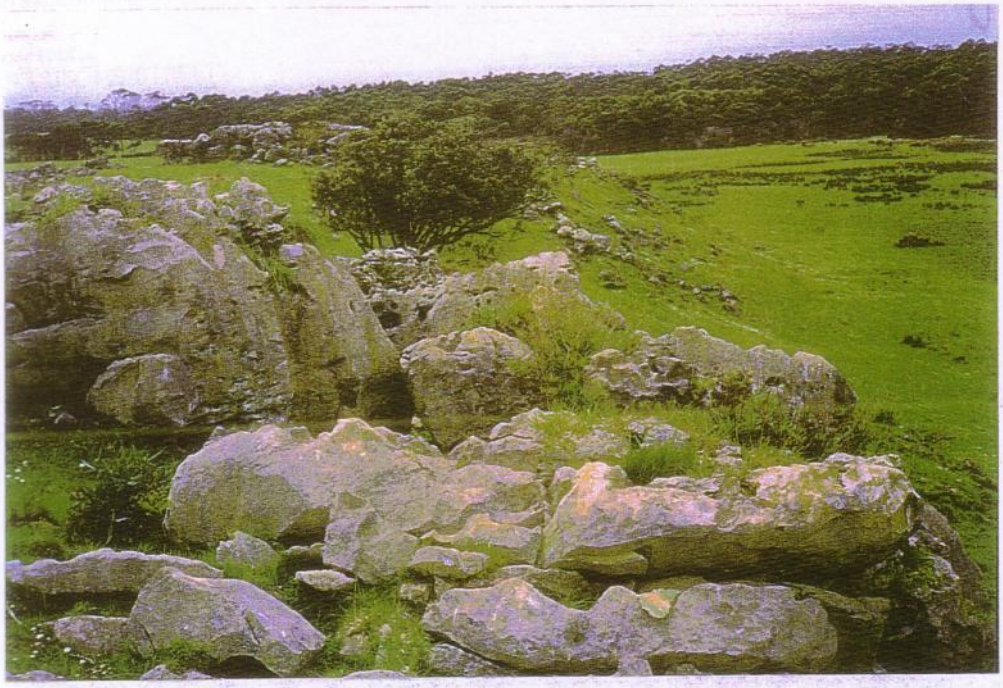


SURFACE OUTCROPS AT CARBONATE HILLS



SURFACE OUTCROP AT CARBONATE HILLS

RETENTION LICENCE – RL 9/1997
HIGH GRADE TERTIARY
LIMESTONE – REDPA



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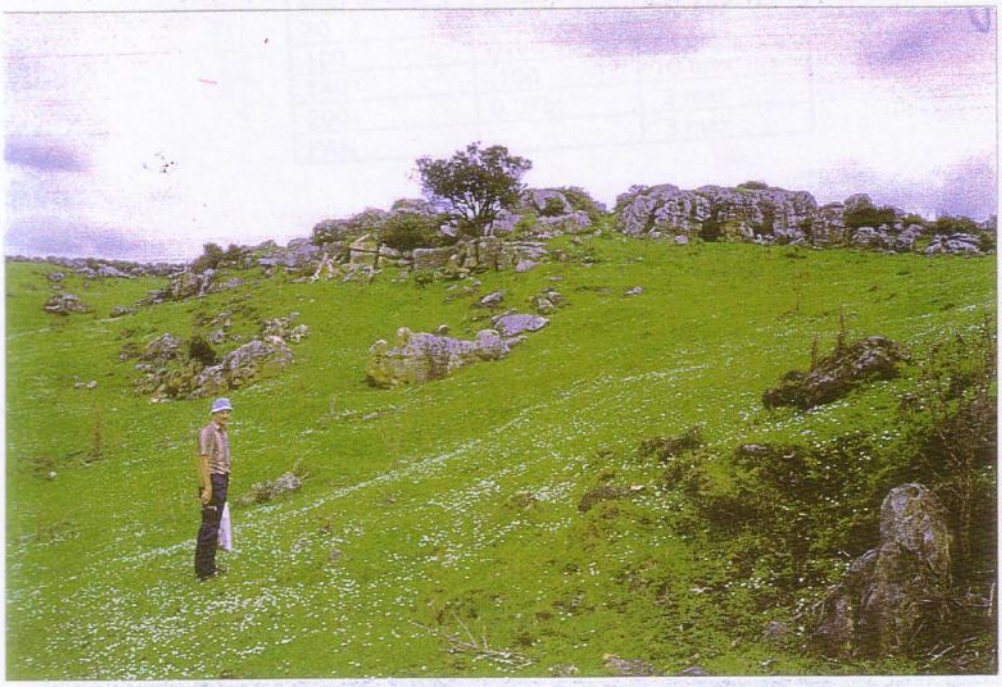

SURFACE OUTCROPS AT CARBONATE HILLS