

**RETENTION LICENCE 9/1997
REDPA**

**REPORT ON EXPLORATION
MAY 2010 to MARCH 2012**

**For
Mineral Holdings Australia Pty Ltd
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ABSTRACT

RL 2/1996 was granted to Mineral Holdings Australia Pty Ltd on 8th May 1998 over an area of 3 sq km, 2Km south of Redpa and 6Km 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 bukk samples for furnace testing.

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 a low magnesian carbonate with less than 10% MgO and MHA have carried out a limited program to locate any of this material in the Pre-Cambrian bedrock.

1.0 INTRODUCTION

RL 9/1997 was granted to Mineral Holdings Australia Pty Ltd on 8th May 1998 over an area of 3 sq km in North West Tasmania. The Licence is a flow on title from EL 31/1990 and covers exploration for Category 3 construction materials and 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 pasture land 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 4WD track joining Kings to the Bass highway near the eastern boundary of the Licence

2.0 PREVIOUS EXPLORATION

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

Exploration in 1991 and 1992 included rockchip sampling, hammer drilling and diamond drilling of the Tertiary limestone and the underlying Smithton dolomite. Boreholes No's 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 No's DD1 and BH 1, 23, 24 and 26 were drilled into dolomite and BH 23 and 25 in magnesian limestone.

In 1994-5 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 1995-6 10 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 northeastern part of the licence.

In 1996-7 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 6 percussion drill holes were developed in the dolomite and dolomitic limestone basement rocks.

The drilling record to date is 1991-2, 257 m percussion. (26 holes)
70 m. diamond (7 holes)
1995-6, 110 m. percussion (10 holes)
1996-7, 91 m. percussion (6 holes)

3.0 GEOLOGY

The Tertiary limestone was originally a wide spread 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% SiO₂, 0.17% TiO₂, 0.28% Al₂O₃, 0.61% Fe₂O₃, 0.03% MnO₂, less than 0.01% alkalis, 0.096% P₂O₅, 0.595% S₂O₃, and 45.11% LOI.

Some 5 million tones 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 marbalsed 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% SiO₂, with all other oxides very low and loss On Ignition 43.5 to 46.5%.

4.0 CURRENT AND FUTURE PROGRAM

After an enquiry by Alcoa for carbonate with up to 10% MgO for trials in its Alumina plants MHA undertook a program of rock chip and back hoe sampling to outline any of this material in the basement at Redpa. Previous sampling did suggest a zone of low MgO carbonate immediately overlying the Crimson Creek Formation, north of the Tertiary Limestone outcrops.

The program was largely unsuccessful as most of the recent soil cover is greater than the 4 metre limit of the back hoe. Only 6 surface chip samples were collected and although 9 back hoe pits were dug only two could be bottomed, However 4 of the chip samples returned values of MgO below the 10% cut off suggesting that a bedrock drilling campaign may be able to outline sufficient low MgO material to be of interest to Alcoa.

Sample plans and assay data are attached.

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 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 CO₂ off gas. There would appear to be large commercial advantages once a CO₂ penalty or tax is introduced.

Discussions and information exchanges have been made with Adelaide Brighton Cement, Carmeuse Ltd., Leader Mining International Inc., One Steel Ltd., Rio Tinto, Alcoa, , Mineral technologies Europe N.V. , Nittetsu of Japan, and Sibelco. Discussions with these companies and others will continue.

5.0 ENVIRONMENT

All pits and drill sites have been backfilled immediately following logging and sampling. The area is private open pasture land and there are no outstanding environmental issues.

6.0 REFERENCES

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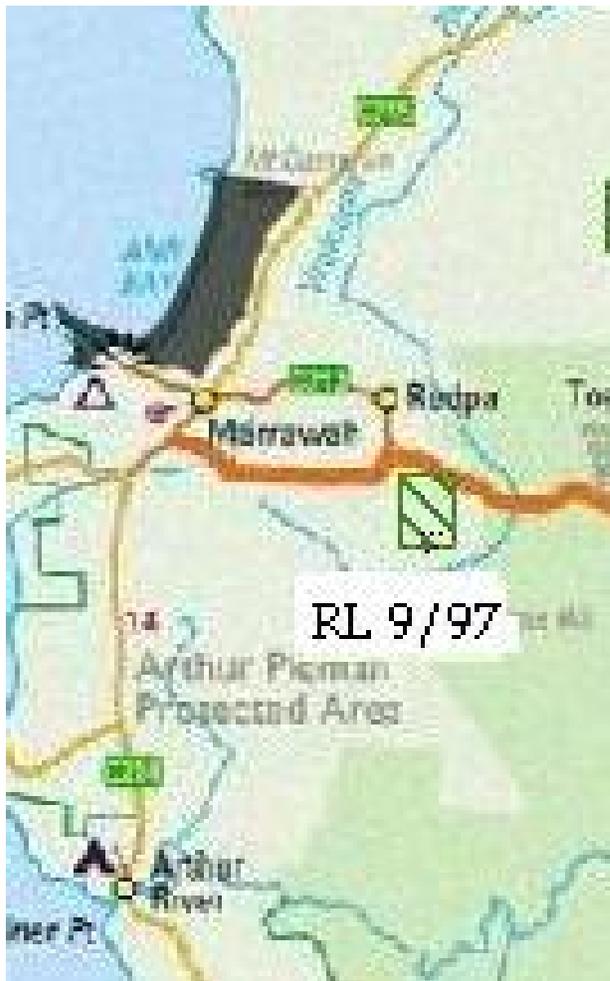
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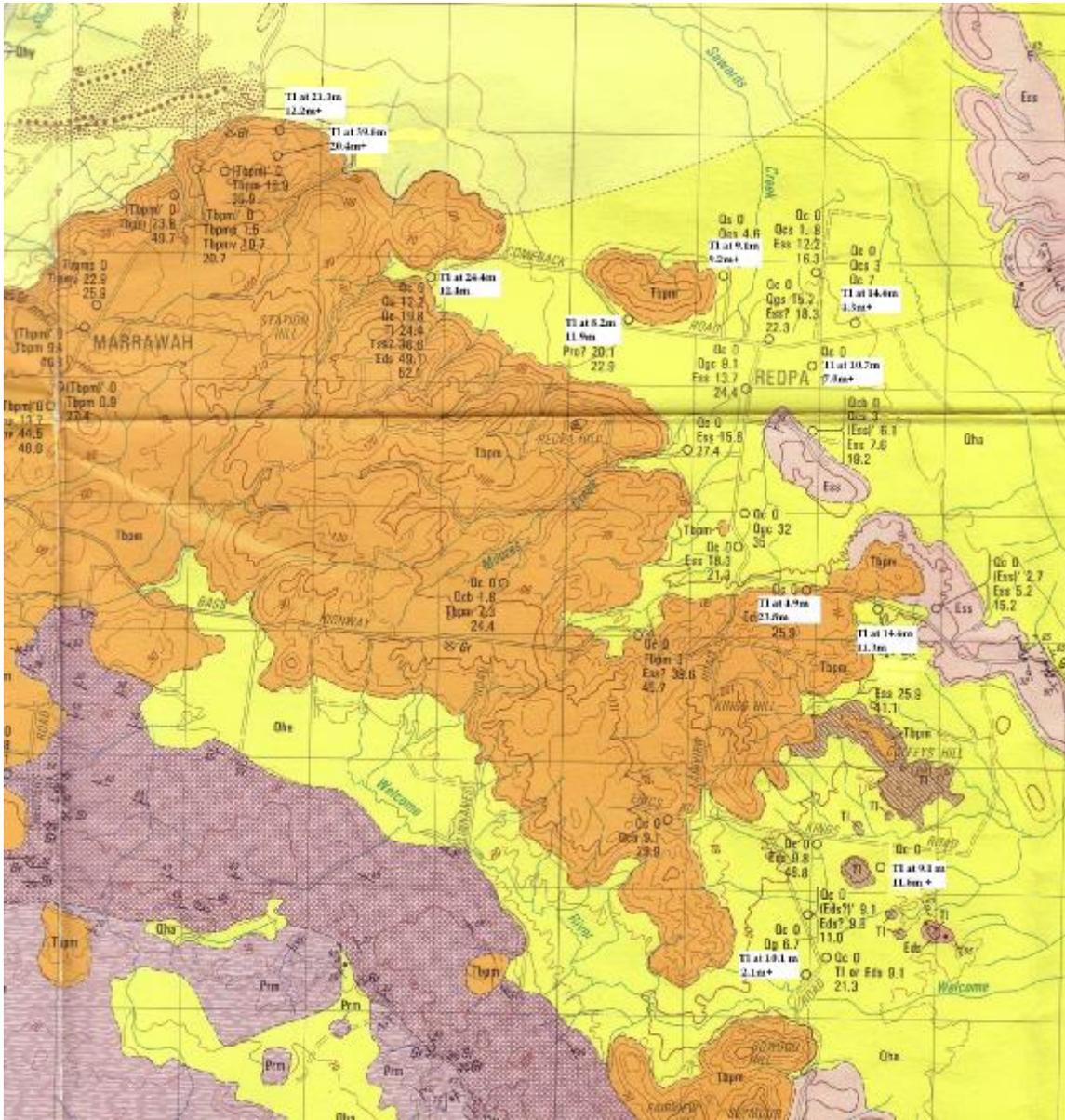
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7.0 KEYWORDS

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



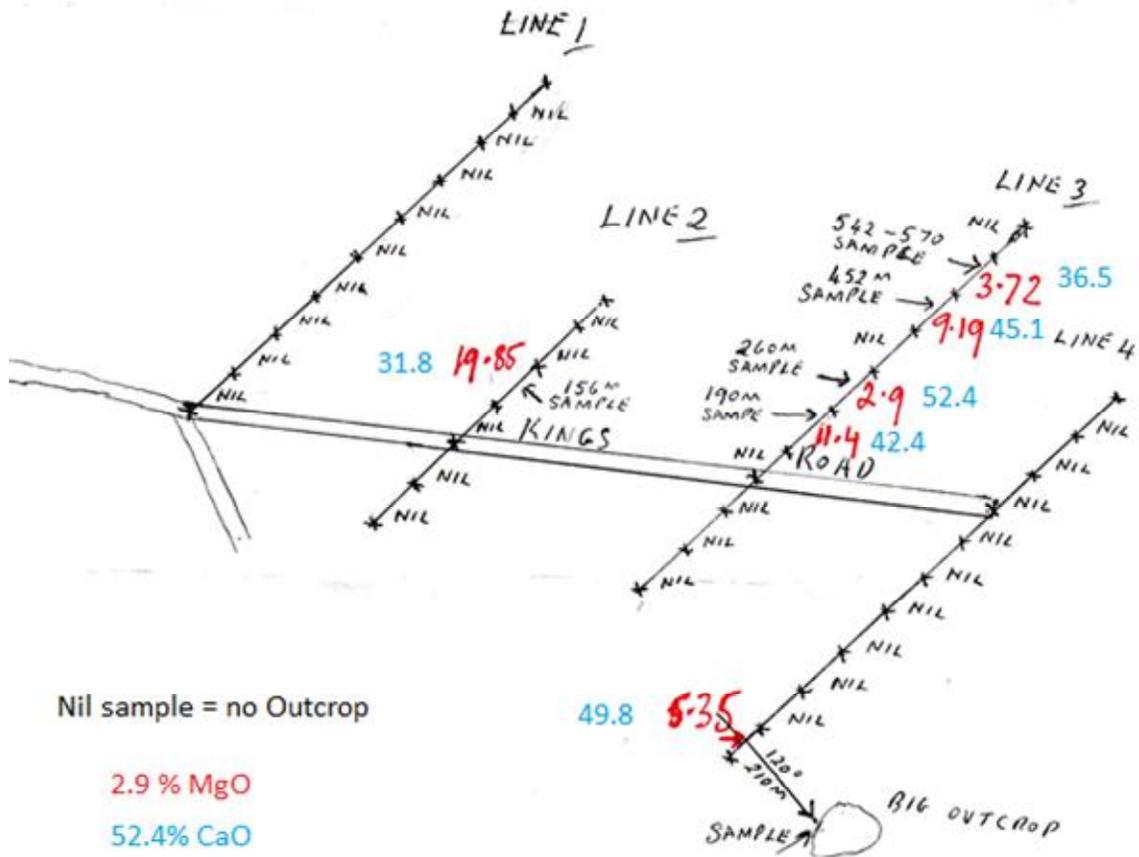
PLAN 1 . Location diagram RL9/97 Redpa.



PLAN 2, Geological plan Redpa area showing drill holes with Tertiary limestone. Dark brown is Tertiary limestone light brown is basalt

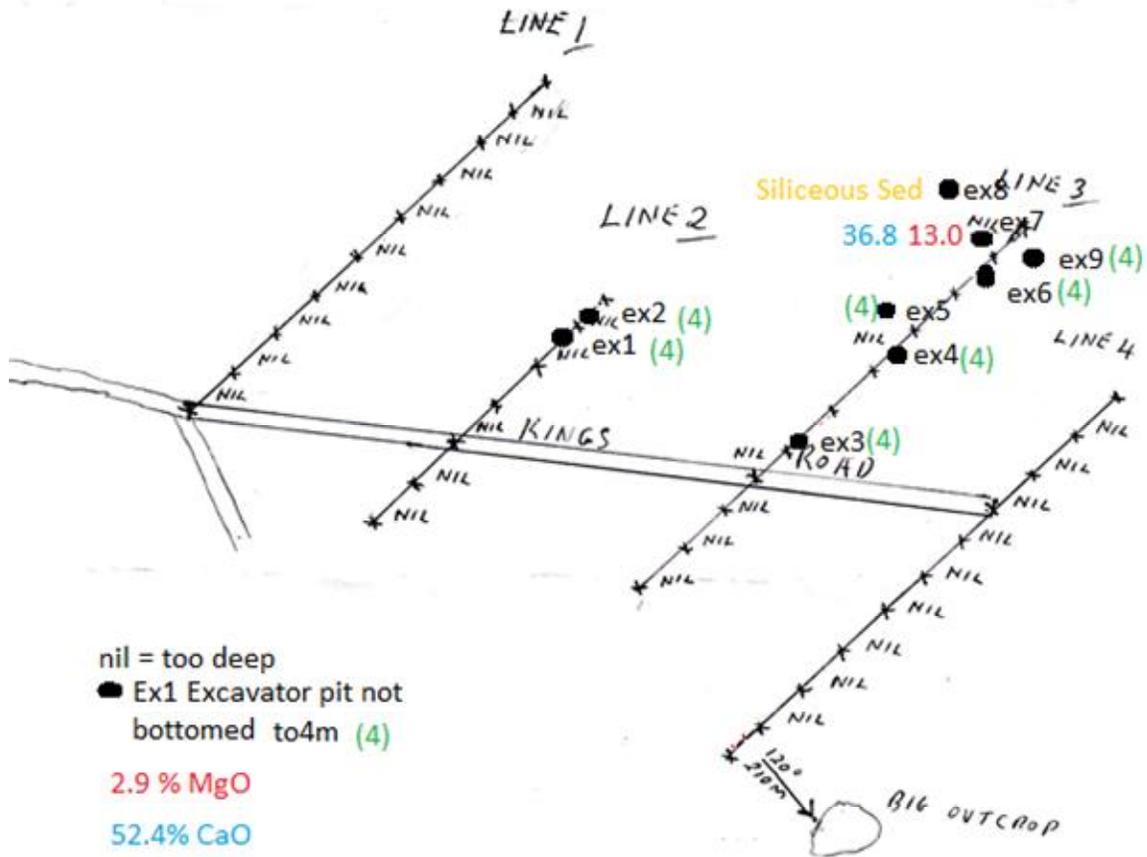
REDPA RL 9/1997

Rock chip samples Low MgO Carbonate



REDPA RL 9/1997

Back Hoe samples Low MgO Carbonate



REDPA RL 9/1997 2011 to 2012 SAMPLE LOCATIONS

ROCK CHIP Sample Number	Easting	Northing	% CaO	% MgO	% Fe	% SiO₂
Line 2 - 156m North of Kings Rd	312,260	5,463,520	31.8	19.85	0.01	0.05
Line 3 - 190m North of Kings Rd	312,920	5,463,500	42.4	11.4	0.03	0.88
Line 3 - 260m North of Kings Rd	312,980	5,463,580	52.4	2.9	0.09	0.28
Line 3 - 452m North of Kings Rd	313,100	5,463,590	45.1	9.19	0.03	0.19
Line 3 - 542 to 570m North of Kings Rd	313,190 to 313,230	5,463,760 to 5,463,800	35.5	3.72	0.01	1.42
Line 4 - 650 m South of Kings Rd	312,780	5,462,900	45.8	5.35	0.01	0.05
EXCAVATOR PIT SAMPLES						
Excavator Pit 1	312,360	5,463,620	NA	NA	NA	NA
Excavator Pit 2	312,420	5,463,680	NA	NA	NA	NA
Excavator Pit 3	312,850	5,463,470	NA	NA	NA	NA
Excavator Pit 4	313,060	5,463,610	NA	NA	NA	NA
Excavator Pit 5	313,070	5,463,700	NA	NA	NA	NA
Excavator Pit 6	313,190	5,463,710	NA	NA	NA	NA
Excavator Pit 7	313,200	5,463,810	36.8	13	0.08	0.53
Excavator Pit 8	313,120	5,463,910	0.03	0.09	0.38	61.5
Excavator Pit 9	313,300	5,463,810	NA	NA	NA	NA

NOTE: Coordinates are old system off the Woolnorth 1:50,000 map sheet



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 Account: MINP

CERTIFICATE OF ANALYSIS BU11251980

Sample Description	Method Analyte Units LOR	WEF-21		ME-XRF15d		ME-XRF15d		ME-XRF15d		ME-XRF15d	
		Recvd Wt. kg	CaO %	Fe %	K %	MgO %	SiO2 %	N %	SiO2 %	N %	
PA LINE 2 100-200		0.58	31.8	0.00	0.00	19.85					0.88
PA LINE 3 100-200		1.16	>40.43	0.00	0.00	11.40					0.28
PA LINE 3 200-300		1.18	>40.43	0.00	0.00	2.90					0.60
PA LINE 3 400-500		1.16	>40.43	0.00	0.00	9.18					1.18
PA LINE 4 500-600		1.25	36.5	0.01	0.01	3.72					1.42
PA LINE 4 600-700		1.38	>40.43	0.01	0.01	5.35					0.05



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Project: Redpa Excavator Hole

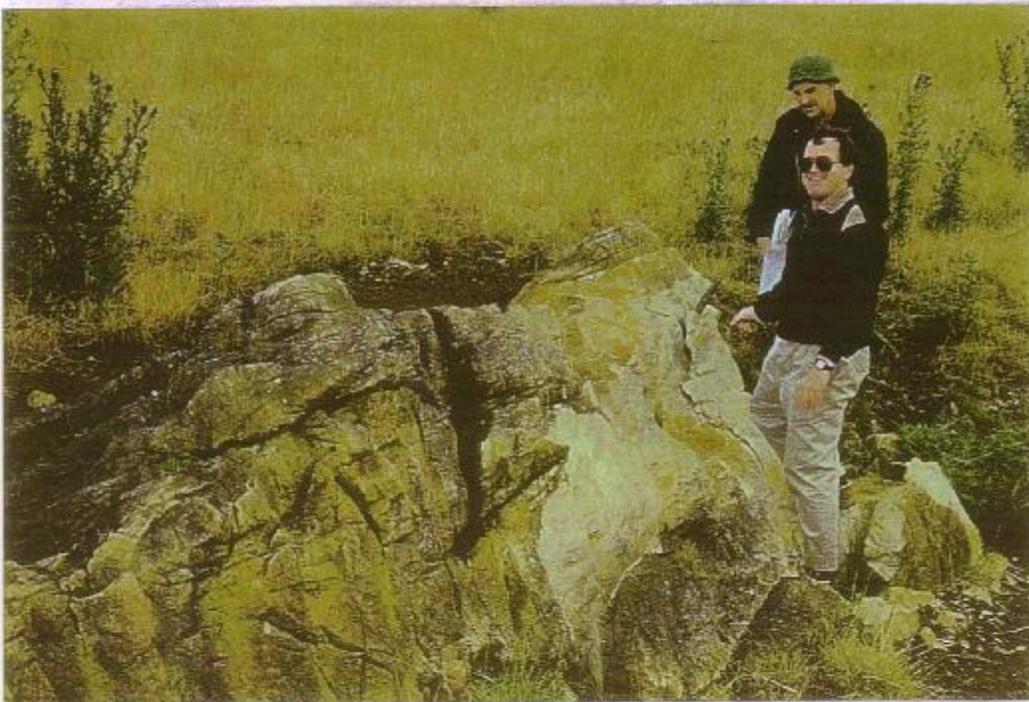
CERTIFICATE OF ANALYSIS BU12004859

Sample Description	Method Analyte Units LOR	WEF-21		ME-XRF15d		ME-XRF15d		ME-XRF15d		ME-XRF15d	
		Recvd Wt. kg	CaO %	Fe %	K %	MgO %	SiO2 %	N %	SiO2 %	N %	
3A Excavator hole 7		1.02	36.8	0.08	0.08	13.00					0.83
3A Excavator hole 8		1.48	0.03	0.38	0.38	0.00					61.5

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

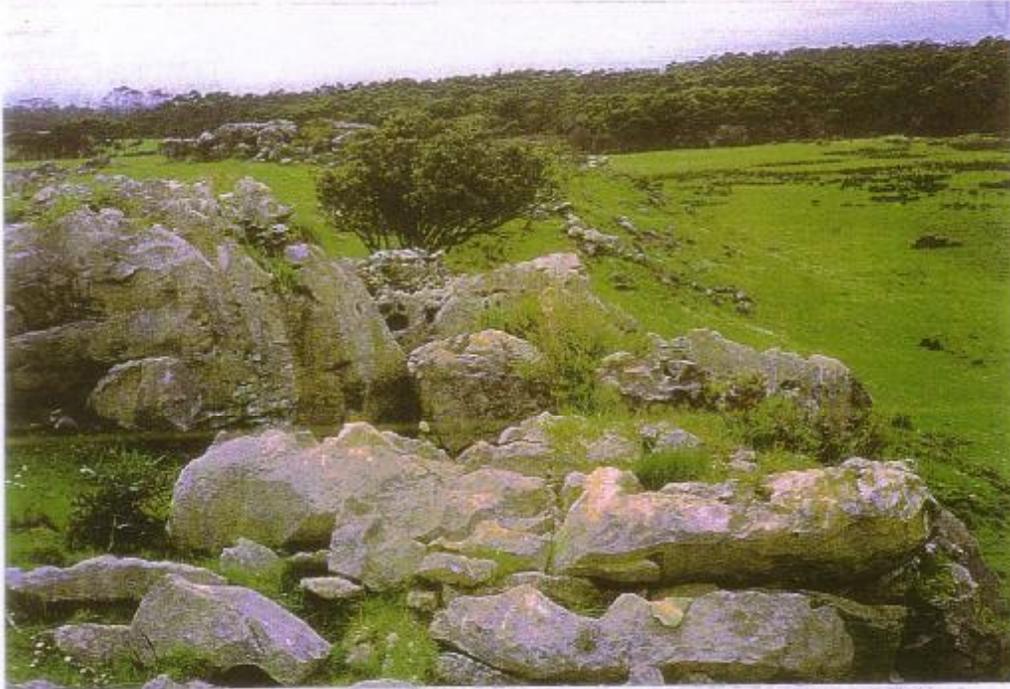


SURFACE OUTCROPS AT CARBONATE HILLS



SURFACE OUTCROP AT CARBONATE HILLS

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



SURFACE OUTCROPS AT CARBONATE HILLS



SURFACE OUTCROPS AT CARBONATE HILLS