

**MINERAL HOLDINGS AUSTRALIA PTY LTD**

**RETENTION LICENCE 2/2006  
CANN CREEK, NW TASMANIA**

**ANNUAL REPORT ON EXPLORATION  
TO MAY 2010**

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## **RL 2/2006 CANN CREEK, NW TASMANIA, ANNUAL REPORT 2008**

### **ABSTRACT**

This report gives a review of the marketing and evaluation work carried out by Mineral Holdings Australia Pty. Ltd. over the past 12 months on RL 2/2006.

The licence covers 2 sq km adjacent to Cann Creek between Meunna township and the Arthur River in NW Tasmania

The licence lies within the Proterozoic Arthur Metamorphic Complex and covers part of a parallel carbonate horizon to the Arthur River – Keith River magnesite horizon. The targets of exploration include high grade magnesite, dolomite, talc and silica resources.

Previous exploration by Mineral Holdings Australia Pty. Ltd. and its joint venture partners on the preceding title EL 10/2003 has outlined a small but very high grade magnesite resource, a potential talc resource, and a small but poorly defined resource of silica flour. Some infill drilling would be required to raise all these resources to anything like the Indicated Level of the JORC Code.

During the past 12 months a number of attempts have been made to interest a number of Companies in the potential of the Magnesite, Talc and Silica flour resources of the area.

## **RL 2/2006 CANN CREEK, NW TASMANIA, ANNUAL REPORT 2008**

### **1.0 INTRODUCTION**

RL 2/2006 was applied for by Mineral Holdings Australia Pty Ltd on 10<sup>th</sup> March 2006 and was granted on 23<sup>rd</sup> May 2007 over an area of 2 square kilometers for a period of 5 years to 23<sup>rd</sup> May 2012. This is the Annual Report for the first 14 months of the licence. There was no report for 2007 as no work was carried out during May and June of that year, the first two months of the Licence.

RL 2/2006 is a flow on title from EL 10/2003 and EL 43/1970 both of which were held by Mineral Holdings Australia Pty.Ltd. The title is for industrial minerals and construction materials (Category 3 and 5(a) Minerals) which reflects the Company's focus on carbonates, particularly magnesite and dolomite, silicas and talc for a wide range of applications in the chemical, refractory, mineral processing and environmental industries.

The Cann Creek Retention Licence is located along the Pruana Road about 5 Km south of the township of Meunna. It is about 40 km south-west of Wynyard and 35km south-east of a deep water harbour at Port Latta. Access is via the Bass Highway, Myalla road, Meunna road and finally Pruana road.

Over the past several years, MHA has had discussions with a number of industrial companies, within Australia and overseas, as potential customers or developers of the deposit. There has been some interest in the potential for producing fused magnesia from the site and renewed interest in the area as a source of fine silica sand for the glass and specialized silica products. There has also been some interest in the talc potential of the licence area.

### **2.0 GEOLOGY**

The geology of the district consists of Late Proterozoic sedimentary and igneous rocks, deformed and metamorphosed in the Cambrian to blueschist and amphibolite grades and then retrogressed to greenschist facies.

The tenement covers the boundary or zone between two carbonate –bearing zones of the Arthur River Metamorphic Complex (historically called The Arthur Lineament) from the high grade magnesite outcrops in Cann Creek south west to the Champion Road silica flour deposits of MHA.

This NE-SW aligned zone is parallel to and probably stratigraphically above the Arthur River – Lyons River trend which lies 6 Km to the south and which contains the large magnesite deposits discovered and promoted by MHA and currently held under RLs 17 and 18/1987 by Tasmania Magnesite NL.

The local geology of the licence area from Geological Survey mapping consists of a lower sedimentary formation (Pac) of chlorite schist and minor phyllite, dolomite and magnesite. Amphibolites are found in the sequence probably as dykes rather than sills or extrusives. Stratigraphically higher and to the west occurs another sedimentary formation (Pap) of phyllite and minor schist, quartzite and dolomite and rare siliclastic conglomerate. (plan 2).

Tertiary basalt cover comes in to the north and remnant caps of basalt, silica flour and quartz gravel, sand and clay are found in places.

### **3.0 PREVIOUS EXPLORATION AND EVALUATION**

There has been a long history of exploration by MHA and a series of joint venture partners for magnesite, talc and silica sand products at Cann Creek. Details of that work were provided by David Duncan in the 2005 Annual Report on EL 10/2003 and in the report for the application for the Retention Licence (Duncan 2006)

CRA Exploration explored the area for high grade magnesite between 1984 and 1985. The area was mapped at 1:2,000 scale and indicated a limited series of small but high grade outcroppings. Two diamond drill holes DD 84CC1 and DD85CC2 were then developed with two thin bands of lower grade magnesite in CC2 below the outcrops in Cann Creek and a thick dolomite section 400metres to the south.

To further investigate the outcrops in Cann Creek MHA developed an access track and quarry cut 10 m north of the creek bed exposing some 18m of massive magnesite flanked by dolomitic talc schist to a distance of 15m to the west and 30m to the east.

A parallel costean, 100m long and running NW-SE some 40m north encountered only 0.2m of badly weathered carbonate in schist. About 150m north of the creek and 20m uphill, the entire sequence is overlain by Tertiary basalt.

On the basis of this limited data Dickson (in TCR 87-2716) suggested a possible, and very optimistic, resource of 285,000 tonnes magnesite at the site. The high grade material was restricted to the surface and would be considerably less than that total resource figure.

In 1988 Hilmac Pty Ltd developed 20 percussion holes (aggregate 468m) in an effort to define the shape and tonnage of the magnesite body. The program was largely unsuccessful with holes intersecting cavities and several ending while still in magnesite. However Hilmac noted-

- 10% of the carbonate sequence is high grade magnesite but no tonnage given,
- Down dip extent and shape of the magnesite still to be defined,
- Their target of 100,000 tonnes of high grade magnesite is not obvious from the drilling.

A deposit of silica flour overlies the dolomite and Precambrian schist bedrock to the south of the magnesite area. It is most probably developed from the underlying carbonates by solution collapse and subsequent silicification and replacement although some rounded quartz pebbles would also suggest some deposition in stream channels.

Previous drilling and pitting by excavator (Threader, 1989 and 1991) has established an estimated resource of 75,000 cu m in one area. The mean thickness is 3.3 m but sections can reach up to 11m in thickness. Analyses show the Cann Creek silica flour contains slightly higher levels of contaminants than that at Champion Road.

There are still potential resources to the north and south west

#### **4.0 CURRENT EXPLORATION AND MARKETING**

Marketing letters have been sent out to a number of companies inviting them to inspect, or declare expressions of interest in Cann Creek with a view to developing extractive and processing industries in NW Tasmania. The companies include OI Asia Pacific (ACI Operations P/L), Mitsubishi Australia Ltd., RIO Tinto, Sumitomo Australia Ltd, and Index Minerals.

Mineral Strategies Pty Ltd are still continuing with their plans for a MgO calciner in north west Tasmania.

#### **4.1 TALC.**

Rio Tinto geologist Mark Arundell visited the site in November 2006 to evaluate the talc potential. He collected three samples from drill core in hole DD84CC1 and three from outcrops in the northern coast and the Bird No 5 access track. The results are provided in Appendix 1

Basically the talcose material is impure with the best sample containing only 38% talc. Main contaminants are chlorite, quartz and dolomite.

A review of the Hilmac drilling suggested that no assay with the composition of talc was intersected in the drilling. All assays contain far too much iron and alumina and in most cases too much carbonate is also present. The assay interval was however 3 metres and if talc was present it would have to be in very thin bands.

#### **4.1 MAGNESITE**

Surface mapping and drilling by CRA and Hilmac P/L indicate there are three lenses of magnesite in the main outcrop area. A fourth lens occurs further east at the road crossing over Cann creek. The lenses are very high grade at the surface (all well over 40% MgO) but they are seen to deteriorate quickly at depth in the drilling. Near the surface each lens has a small margin of low grade siliceous magnesian dolomite before

passing out into the dominant rock type of dolomitic phyllite. At a depth of 100 metres in hole CC2 the shelvage of dolomite is much greater and the amount of phyllite is greatly reduced. Four hundred metres further south in hole CC2 the section is entirely a massive dolomite.

The largest and most important of the lenses crops out as a large tor north of the Cann Creek and as a 0.2 metre band in the northern coastean. It occurs in CC19, CC21, CC14 and CC9 and most probably as the upper (131.8 to 136.2m) section in hole CC1. It is not present in the CC3,4,5 drill section and a steep southerly pitch is indicated. Grades well in excess of 40% MgO with extremely low iron alumina and calcium are present in outcrop and in holes CC19 and CC21 but the grade drops off to the north passing from 44% MgO in CC1 to 41% in hole CC21 and to 36% MgO in hole CC9. With depth the grade drops from 44% in outcrop to only 35% MgO at 90 m depth in hole CC2.

With a width of about 4 metres, a strike extent of 40 metres and a depth of 90 metres the tonnage of +35% MgO magnesite is only in the order of 40,000 tonnes. The amount of high grade +40% MgO magnesite would probably be less than half that or about 15,000 tonnes.

The western lens crops out in Cann Creek and is intersected in hole CC6. Projecting that dip to hole CC2 the lens corresponds to the lower magnesite intersection occurring at 158.6 to 165.0. Again there is a drop off in grade with depth from 46% MgO at surface to 40.5% at 10 metres and 35% MgO at 110 metres in CC2. Northwards the lens is not intersected although the upper section of hole CC3 the lower section of hole CC12 contain sections of shaley siliceous dolomite which probably represents a shelvage to the magnesite. The southern extent of the lens is unknown and the tonnage of high grade magnesite is likely to be somewhat less than for the main lens, and possibly in the order of 10,000 tonnes.

The eastern lens crops out in Cann creek where the grade is 43 to 45% MgO. It is intersected at about 25 metres below surface in hole CC8 where the grade is only 33% MgO. The lens has a true width of 2.5 metres is not represented in hole CC2 where it is projected to occur at about 70 metres vertical depth. The lens is not intersected in CC4 or 5 to the north and its southern extent is also unknown. The tonnage of high grade + 40% MgO magnesite however would appear to be very limited and perhaps 5,000 tonnes.

The total high grade magnesite is therefore likely to be in the order of 30,000 tonnes but a detailed diamond drilling program would be necessary to prove this or possibly upgrade the resource to anything like 100,000 tonnes.

## **5.0 FUTURE PROGRAM**

MHA will continue its efforts to market products from the Cann Creek licence. Although relatively small the Cann Creek magnesite is the highest grade material available in Tasmania and is very suitable for the production of fused magnesia products. The present resource is sufficient for many years production but efforts will be made to better define the resource.

Efforts will also be made to better define the potential for silica sand and talc production from the site.

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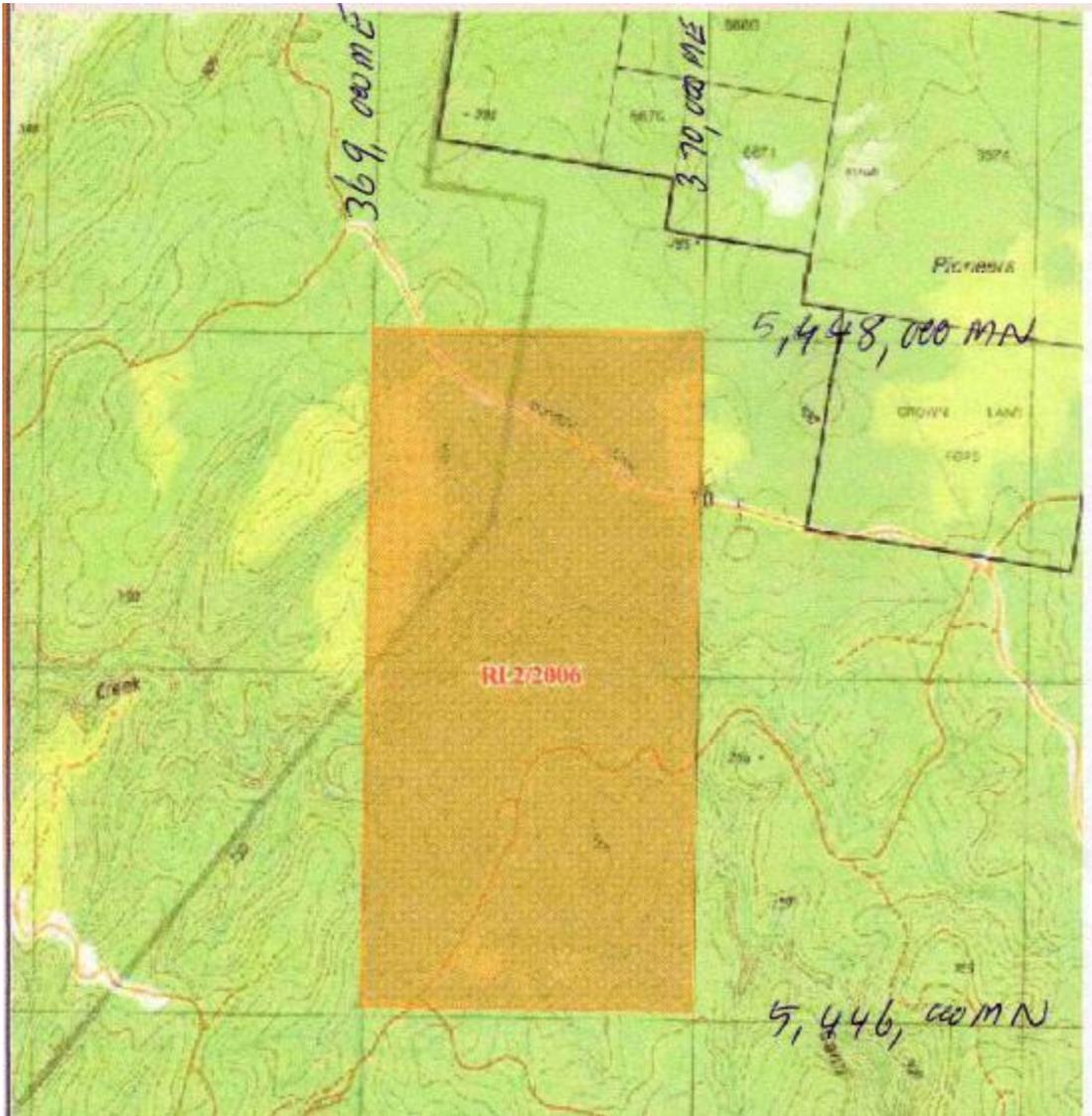
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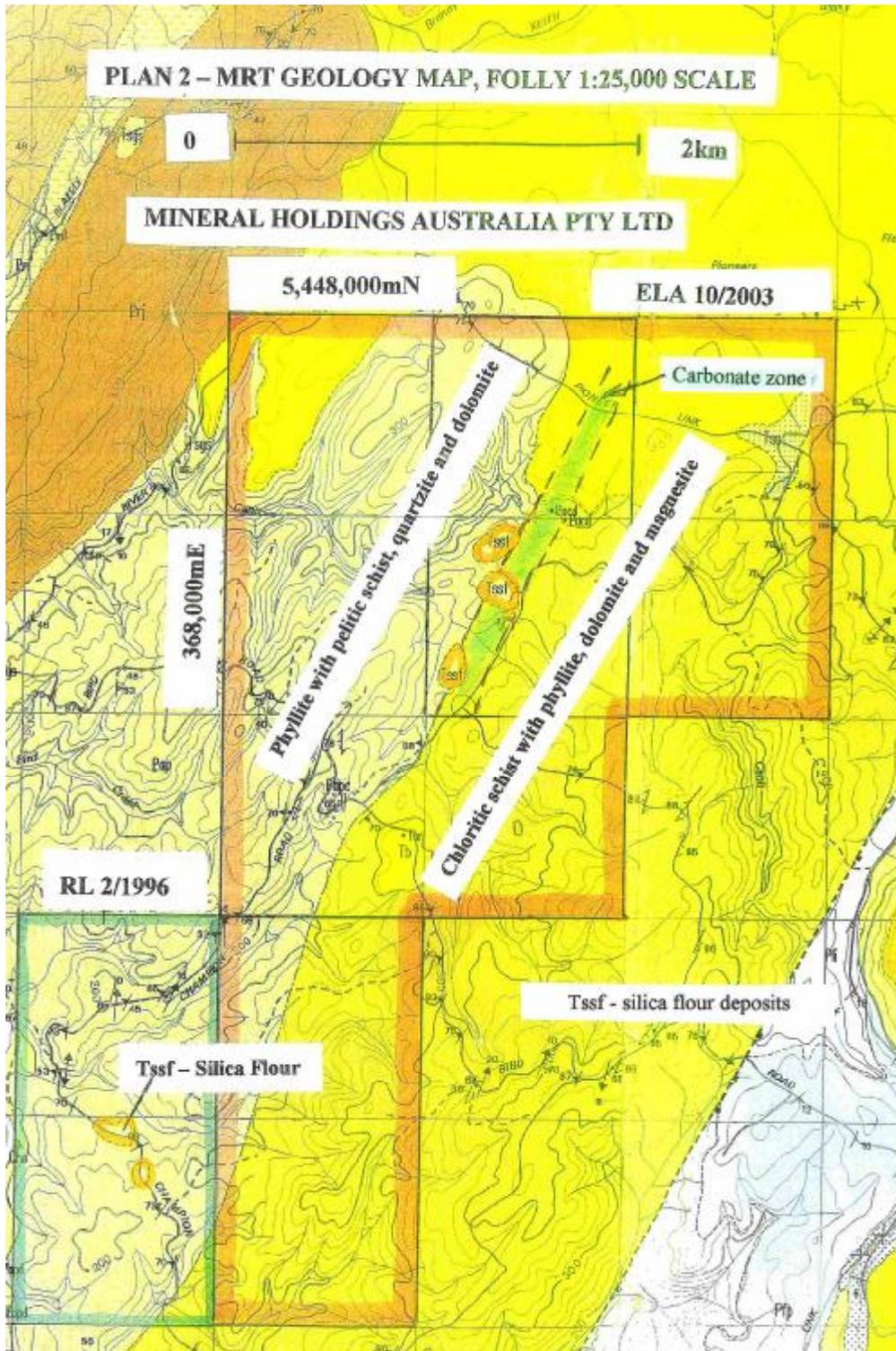
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## **7.0 KEYWORDS**

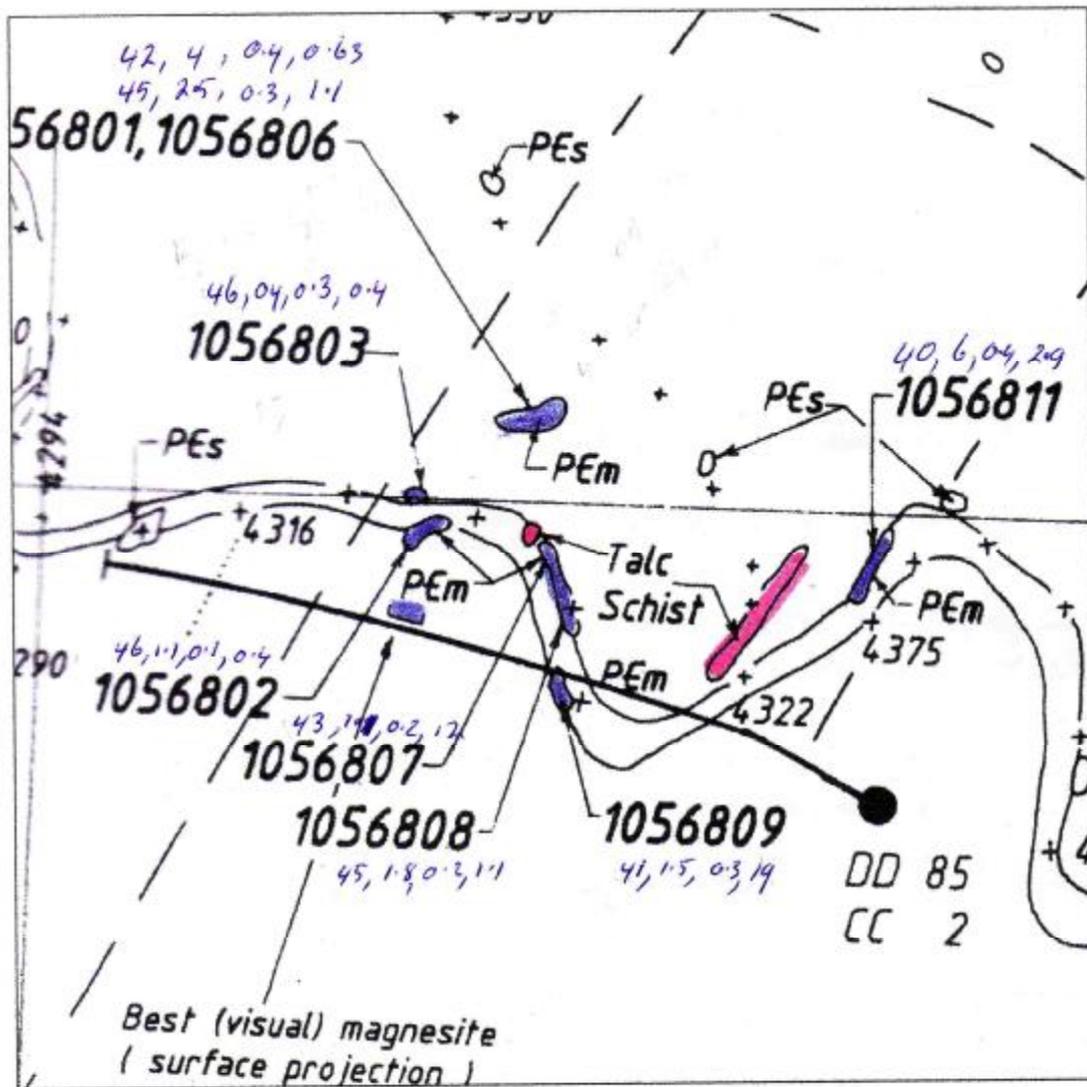
Cann Creek, Arthur River Metamorphic Complex, Magnesite, Dolomite, Talc, Silica resources.



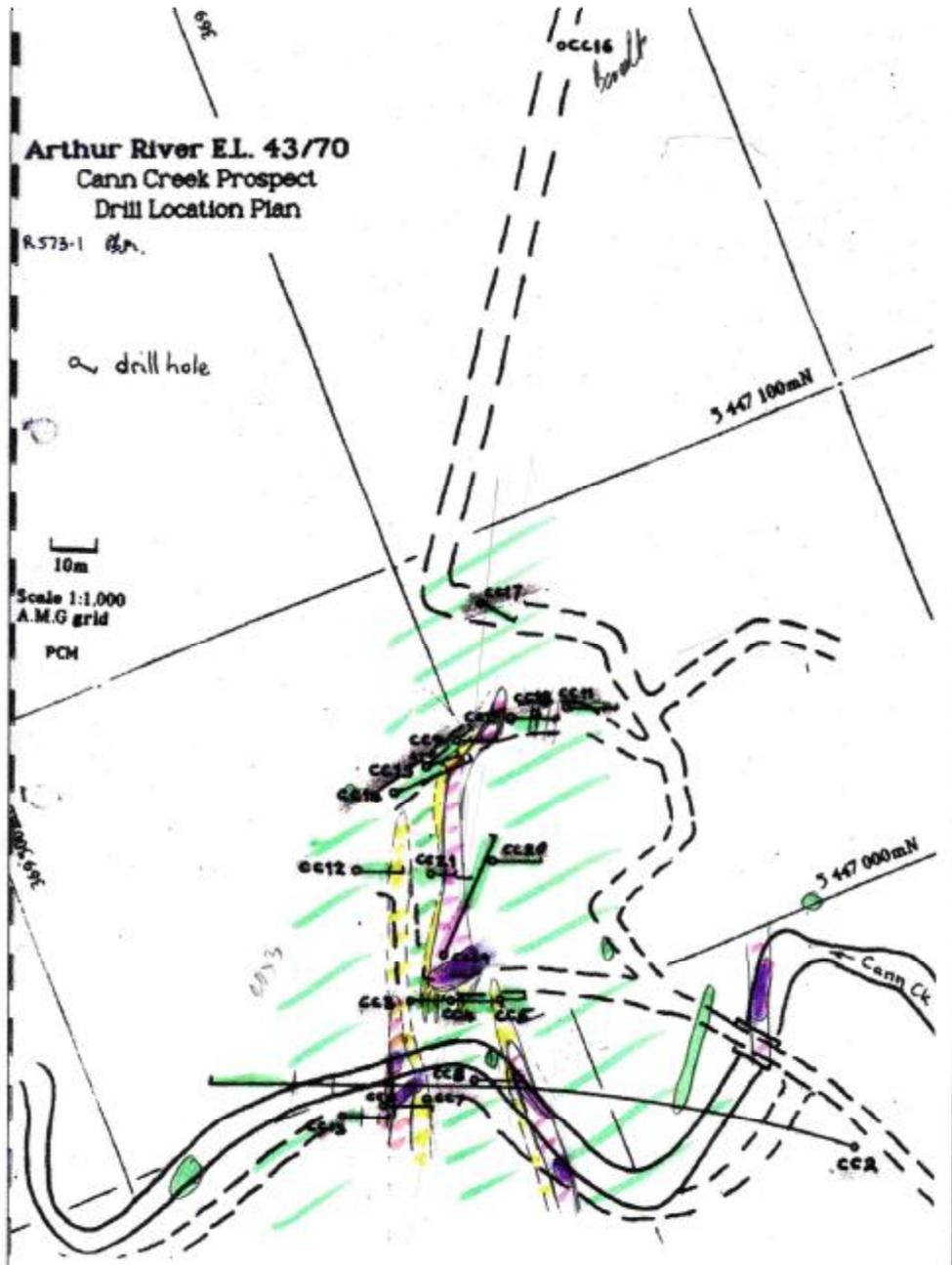
PLAN 1 Location diagram EL 2/2006



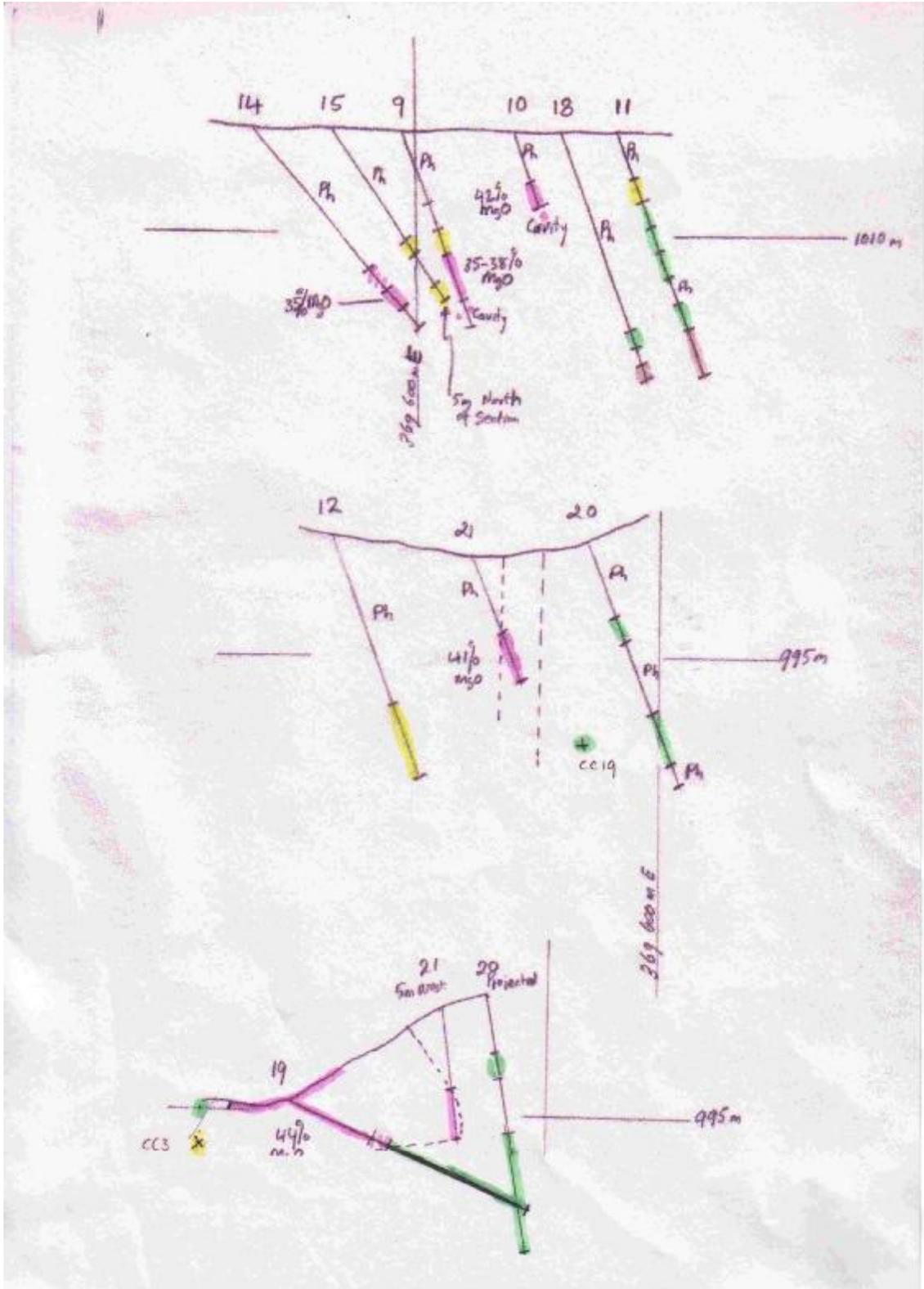
**PLAN 2 Geology and Exploration. EL 10/2003 is outlined, RL 2/2006 covers Carbonate zone in north centre of plan.**



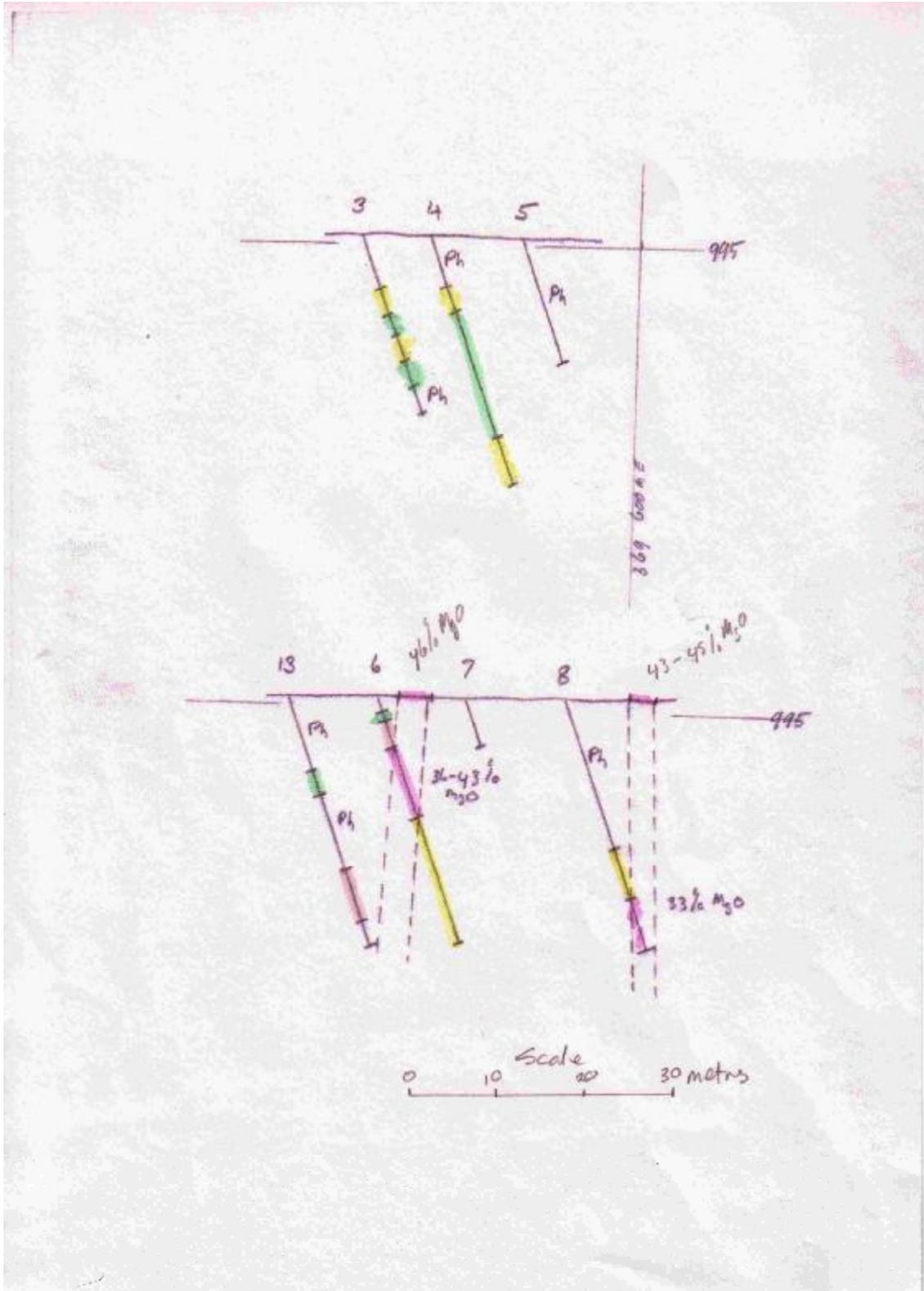
**PLAN 3. Can Creek Magnesite outcrop geology in relation to DD 85CC2. Magnesite in blue Talc schist in pink. Assay number is given and assay results as MgO, CaO, Al<sub>2</sub>O<sub>3</sub>+ Fe<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>.**



**PLAN 4 Cann Creek interpreted geology Red/ blue +80% carbonate dominantly MgO, red stripes +70% carbonate mostly MgO, yellow Shaley carbonate, orange phyllite with less than 60% carbonate, high Fe, Al, and Silica, Green +50% silica with high Fe and alumina.**



PLAN 5 Cann CK. Drill sections. Colour coded as for Plan 4.



PLAN 6 Cann CK. Drill sections. Colour coded as for Plan 4.