

EXPLORATION LICENCE 17/2009

LAKE BARRINGTON

**SCANNED DOCUMENT**

RELINQUISHMENT REPORT

MINERAL RESOURCES		
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October 2011.

## **Relinquishment report for EL17/2009**

### **Abstract :**

Work on this Exploration Licence, which consists of four separate areas covering the majority of outcropping Barrington Chert in North Western Tasmania was aimed at delineation of a high grade lump silica resource sufficiently large enough to sustain a commercially viable silicon metal smelter operation in Tasmania.

Previous use of chert from Maynes' quarry near Maydena by 'Pioneer Silicon Industries' to successfully produce silicon metal encouraged further evaluation of chert occurrences in the state to this end.

### **Introduction :**

The four parts of the Exploration Licence are situated as shown on the attached map. Field reconnaissance of the four areas was undertaken to identify any areas of potential while any subsequent work was understood to be wholly dependent on outcomes of this work.

Outcomes of this work are largely represented in two previous reports titled "Tenement EL17/2009 Interim report quarter ended 31 March 2011" as well as a separate report titled "Mount Lorymer Samples." (Copies of both are attached).

### **Exploration completed :**

Further work has entailed reconnaissance of the remaining areas adjacent to Lake Barrington and a review of the Stan Wing lookout area.

Chert outcrops in the lake Barrington areas were found to be uniformly heavily iron stained and therefor considered to be as previously described for the areas already reported on and not prospective for high grade silica. Surface specimens were taken for comparison to previously sampled areas but no further analyses were carried out. A review and return visit to the Stan Wing lookout area resulted in a decision not to proceed to sub surface sampling.

### **Conclusions :**

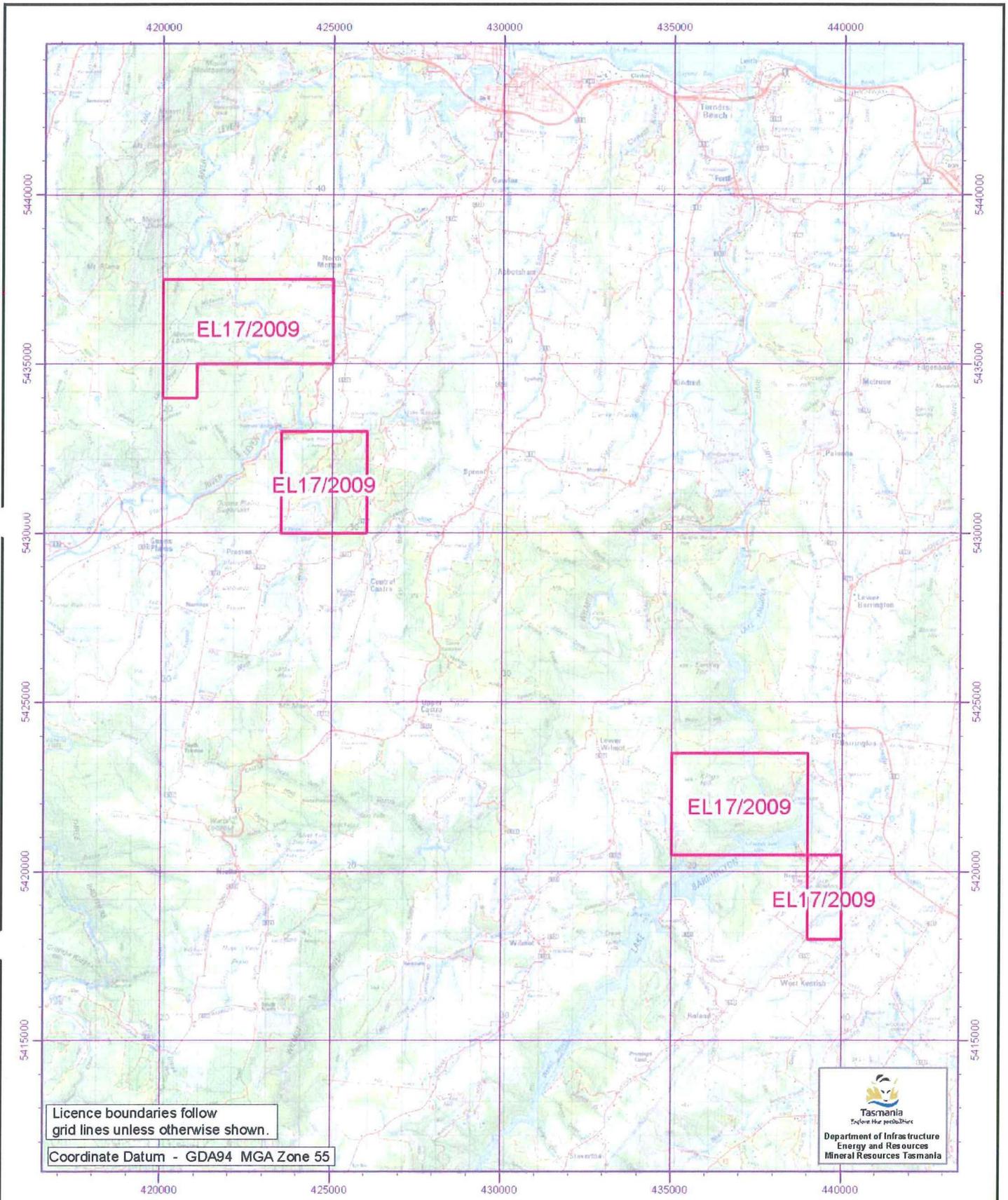
It is concluded that the Barrington chert contained within the Exploration Licence areas is not prospective for the target ore body due primarily to excess iron content and to marginal results for the other impurities of concern.

It is further concluded that the iron content in the oxidised zone is likely to be post pyrite and that below the oxidised zone the chert is likely to be pyritic in nature.

### **Recommendations :**

It is recommended that no further work be undertaken and that the Exploration Licence be relinquished.

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Licence boundaries follow grid lines unless otherwise shown.

Coordinate Datum - GDA94 MGA Zone 55



**EL 17/2009 35SKM**  
**Vicinity of Lake Barrington - River Leven**



1:150000



## Tenement EL17/2009 Interim report quarter ended 31 March 2011

This tenement consists of 4 parts covering areas of Barrington Chert which centre on geographic features as follows:

- Mount Lorymer
- Stan Wing lookout and Barren knob
- Adjacent to and north west of Lake Barrington
- Adjacent to and south east of Lake Barrington



To date field reconnaissance has been conducted at Mount Lorymer, Stan Wing lookout and Barron Knob area and part of Lake Barrington (north west).

Surface sampling in these areas has provided good general knowledge of the target rock type which can be described as almost entirely fractured and iron stained Chert.

The only site found to date considered to be prospective for high grade silica is the Stan Wing lookout area. Three samples from this locality were analysed with the following results:

Sample	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	TiO <sub>2</sub>	CaO
	%	%	%	%	%	%	%
SW57	97.8	0.68	1.34	0.08	0.02	0.05	0.02
SW58	97.6	0.64	1.62	0.07	<0.01	0.03	0.01
SW59	78.3	3.84	8.72	0.63	0.28	0.47	0.03

Samples from other areas were not analysed routinely for silica, however a black sample of Chert taken from below the oxidised zone in an old borrow pit in the Barron Knob area returned both elevated iron and sulphur.

It is now believed that the Barrington Chert is generally pyritic at depth and therefore is unlikely to host a large high grade silica resource.

The remainder of outcrop in the Lake Barrington area is yet to be accessed and Forestry Tasmania has been contacted to arrange this access via forestry roads.

Further work will involve geological reconnaissance in the areas yet to be accessed as well as revisiting areas, including the Stan Wing lookout area, which are considered to have some potential for high grade silica.

No pitting or drilling is envisaged at this stage and it appears probable that at least part of the EL will be relinquished in due course.

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## Mount Lorymer samples

Mount Lorymer in north western Tasmania is mapped as Barrington chert of Cambrian age and was considered prospective for high grade silica suitable as feedstock for a silicon smelter.

Field reconnaissance and surface sampling was carried out on Mount Lorymer on 30<sup>th</sup> August 2010 with the aim of forming a general impression of the geology and collecting a limited number of “type” samples for analysis.

Five surface samples of chert were submitted to the AMMTEC Ltd Burnie Research Laboratory for analysis. Their geological descriptions are as follows:

### ML60

Competent, predominantly light grey chert with minor dark grey to black banding on bedding planes. Minor iron staining associated with bedding and on fracture surfaces.

### ML61

Fractured dark grey/black chert with minor white banding on bedding planes.

### ML62

Competent, uniformly light grey chert with very minor iron staining on fracture surfaces.

### ML63

Light grey/white chert with very minor iron staining on fracture surfaces.

### ML64

Light grey/brown chert with significant iron staining on fracture surfaces as well as spotted iron staining within the rock.

XRF analyses of these samples is presented in the following table:

Sample	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	TiO <sub>2</sub>	CaO	S
	%	%	%	%	%	%	%	%
ML 60	97.7	0.70	1.36	0.07	0.05	0.02	0.05	n/a
ML 61	91.5	5.34	1.06	1.40	0.22	0.38	0.05	n/a
ML 62	95.7	2.19	1.30	0.57	0.06	0.12	0.02	n/a
ML 63	97.1	1.13	1.37	0.23	0.04	0.07	0.02	n/a
ML 64	97.0	1.13	1.47	0.23	0.05	0.05	0.02	n/a

Note: Mt Lorymer sampling starts at # ML60.

### Comments and discussion:

Of the “type” samples, sample number ML64 is considered to be most typical of the appearance of the near surface chert encountered.

Fractured material as represented by sample number ML61 has elevated impurity content consistent with its nature.

Elevated alumina and potassium in sample number ML62 is unexplained and not evident in hand specimen.

All samples may be considered impure chert with iron oxide being a major impurity while other contaminants are outside the target analysis.

Origin of the iron is considered to be pyrite in the fresh rock below the oxidised zone. (A previous analysis of black chert from depth in a borrow pit returned a high sulphur analysis while the black coloration is consistent with finely divided pyrite.)

The iron 'spotting' in sample number ML64 is also consistent with the occurrence of pyrite within the rock.

While no sulphur was detected in these samples there was no opportunity to sample below the oxidised surface zone.