

Final relinquishment report for EL50/2011



View of Mt Cleveland from Whyte River Lookout

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Introduction:

The Heazlewood River project is contained within Exploration Licence 50/2011. The licence was granted after tender to Aus Tin Mining Limited (the Company). Aus Tin Mining were focussed on locating Avebury style nickel mineralisation.

During the period 2012/17 the Company completed literature reviews, core inspection and field reconnaissance focussed on the southern part of the licence. More recently with the acquisition and development of the Granville Tin Project (21M/2003 and 9M/2006), the Company's exploration at Heazlewood River has been restricted and is unlikely to be expanded in the foreseeable future. The Company intends to relinquish its remaining interests in EL50/2011 making this the fifth and final annual report for EL50/2011.

Tenure:

EL 50/2011 was granted on 21st May 2012 and in 2013 the licence was expanded to the south by approximately 300m and then in 2014 approximately half the licence, predominately the eastern half of the licence, was relinquished. EL 50/2011 currently covers an area of 36km².

EL50/2011 is located about 25km west of Waratah. Access to the tenement can be gained via the sealed Waratah Road which runs between Savage River in the west and joins the north-south Murchison Highway to the east. EL50/2011 is bound by the Savage River National Park to the north and there is a restricted area within the Lord Brassey Mine fossicking area to the south.

Exploration Philosophy:

The target within EL50/2011 was Avebury style nickel mineralisation (and to a lesser extent tin deposits like Renison or Mt Bischoff). Avebury style deposits are essentially nickel sulfide skarn deposits formed as the result of extensive serpentinisation of ultramafic formations by major hydrothermal events capable of providing the chemical and physical environment necessary to remobilise, transport and deposit nickel sulfides and iron oxides. The mineralising system always contains magnetite which is variably accompanied by sulfide, and sometimes this sulfide includes the nickel sulfide - pentlandite. The magnetite is formed as a result of serpentinisation of olivine rich ultramafic rocks e.g. dunite, and olivine-pyroxene varieties eg harzburgite.

It was thought that to be a source rock for the formation of an Avebury style deposit, the dunite/pyroxenite must also contain nickel, possibly at low levels within the lattices of the principal components of the ultramafics, so that it is released upon serpentinisation. If nickel is not present in the source rocks, then only magnetite and pyrrhotite would form as a result of the hydrothermal alteration. It is now recognised (Keays and Jowitt, 2012) that nickel is also remobilised from a probable primary magmatic source at depth at Avebury.

Development of Avebury style deposits requires that the ultramafic source rock is extensively altered i.e. serpentinised by a major hydrothermal event which contributes heat, hydrothermal fluids and sulfur to the alteration process. Serpentinisation of a dunite (and to a lesser extent a pyroxenite) will result in the formation of serpentine minerals accompanied by variable amounts of talc and carbonate.

The sulfur source is still possibly the hydrothermal fluids i.e. from the Meredith Granite, however enough sulfur may be scavenged from the ultramafic pile and associated primary mineralisation. If sulfur is not present in the hydrothermal system, then pyrrhotite and pentlandite cannot form, in

which case the nickel would probably be deposited in various nickel silicates and the iron will concentrate as magnetite.

For major mineral deposits to form the metals must be transported by the hydrothermal fluids and concentrated in “trap sites” prior to deposition. If the hydrothermal system is essentially a large convection cell, then deposition will be focused near the top of the cell.

Fluid movement paths within the cell will be influenced by structures (faults) and country rock geometry. Trap sites, or mineralisation repositories, may be formed by a combination of structural settings and essentially non-permeable country rocks eg: hornfelsed sediments or volcanics.

If the nickel bearing fluids are not focused, they will continue to circulate within the slowly cooling hydrothermal cell, eventually forming large low grade disseminated deposits within the altered ultramafics or in fracture systems in the enclosing rock formations.

If the nickel sulfides are accumulated in repositories near the top of hydrothermal cells, it is necessary that these sites be largely preserved from subsequent erosion i.e. the best deposits will probably be concealed deposits.

In summary the Avebury model requires the following:

- Granite < 5 kms of current surface
- extensive alteration of ultramafics with resultant production of magnetite
- evidence of extensive hydrothermal processes, including addition of sulfur to the system
- development of substantial structures within the hydrothermal environment to facilitate movement and focusing of hydrothermal fluids
- presence of trap sites for mineralised fluids and subsequent preservation of these sites

Surrendered Area:

The area to be relinquished is shown in Figure 1 below:

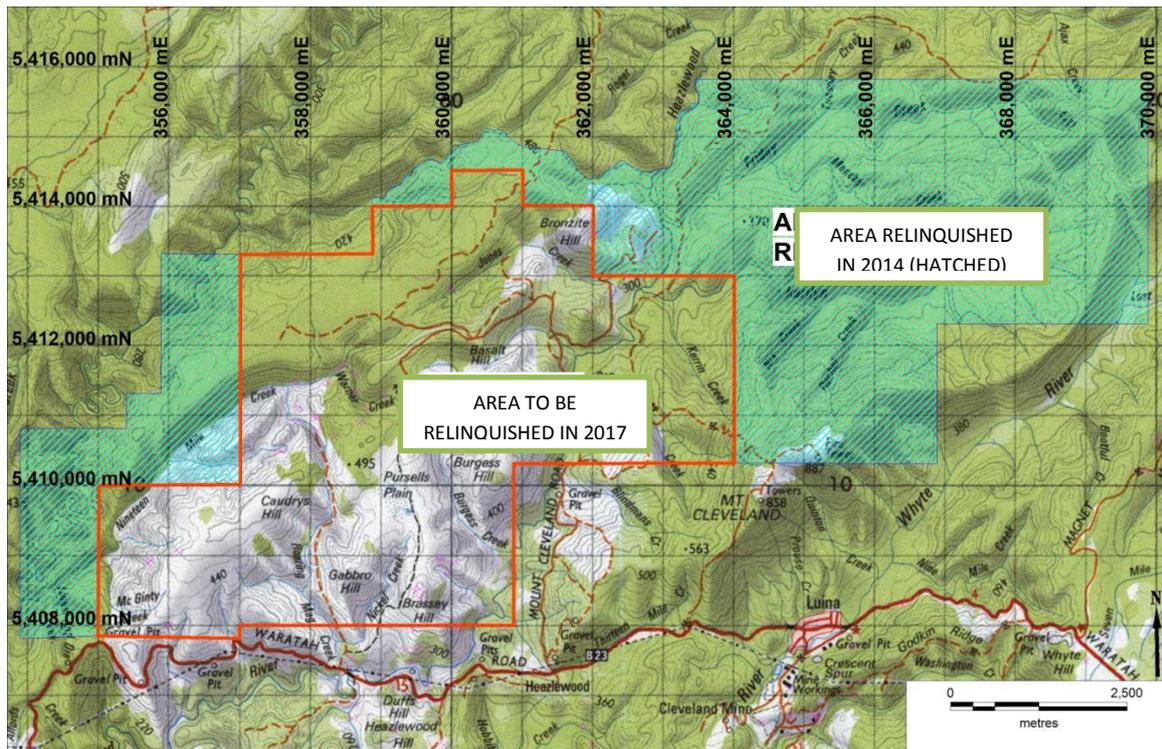


Figure 1 - Area to be relinquished bound by red tenement boundary

Exploration Undertaken:

Field work within EL50/2011 was restricted to field reconnaissance / mapping. No ground disturbing exploration was undertaken in the area to be relinquished. A total of \$40,282 was spent at EL50/2011 over the five years.

Details of work undertaken:

The region was assessed for nickel and tin potential on the basis of the magnetic character and the proximity of the Meredith Granite and it is considered a pole-dipole IP survey may yet generate a nickel drill target. However, with the Company focussed on the development of tin projects, such an exploration program is unlikely to be undertaken in the foreseeable future.

Conclusions:

The highest priority target was the area south of Brassey Hill which Aus Tin Mining termed Anomaly E. A ground based IP survey to assess the orientation of any sulphide bodies within the prospective zone (Anomaly E) was proposed and is considered to be the next stage of exploration.

No conclusion can be reliably drawn as to the mineral potential within the relinquished area as on ground works or further surveys were not conducted in these zones.

Rehabilitation Considerations:

No track cutting or other ground disturbing works have been undertaken and hence no rehabilitation was required or undertaken.

Digital Data:

No new digital data was acquired for the relinquished areas.

Bibliography:

The reports below were used in assessing the area to be retained and the area to be relinquished -

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