Annual Report of Mineral Exploration 2011, SEL 18/2009, Tunbridge area, central Tasmania

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Introduction

KUTh Exploration Pty Ltd is exploring for geothermal energy in Tasmania via its primary licence SEL 26/2005 which covers 12,360 km^2 of eastern Tasmania, extending from Beaconsfield to Hobart. As a result of that exploration further licences were granted where results suggested extensions of geothermal energy targets extended beyond the boundaries of SEL 26/2005. These new licences comprise SEL 45/2007, SEL 57/2008 and most recently SEL 15/2010. All of these licences are for geothermal substances (category 6).

The subject of this report, SEL 18/2009, was granted to Mineral Ventures Pty Ltd for Category 1 minerals. Both Mineral Ventures Pty Ltd and KUTh Exploration Pty Ltd are 100 % subsidiaries of KUTh Energy Ltd (ASX: KEN) for which Tasmania is a major project. KUTh Energy also has geothermal exploration tenements in Queensland and Vanuatu.

SEL 18/2009 lies entirely within KUTh Exploration's SEL 26/2005 and exploration for minerals is largely incidental to geothermal exploration. The following information briefly reviews the status of exploration in SEL 26/2005 as it relates to the exploration for minerals within SEL 18/2009.

Work Program Review

The geology of SEL 18/2009 consists of a cover sequence of generally flat-lying Permian-Triassic sediments of the Tasmania Basin and Jurassic dolerite sills which unconformably overlies low-grade meta-sediments of the Ordovician-Devonian Mathinna Supergroup. Within the licence area the Mathinna is thought to be intruded by Devonian granite, analogous to extensive granite outcrops to the north and east (Holgate and Goh 2010).

While exploring for geothermal energy in SEL 26/2005, KUTh has discovered a large, complex, highly-conductive structure at depth that is largely unknown although it has the potential to host significant metallic mineralisation. Details of the MT surveys which discovered this feature and the geological characteristics of SEL 26/2005, which fully encloses SEL 18/2009, have been reported by Holgate and Goh (2010).

SEL 18/2009 encloses the most intense parts of the conductivity anomaly (Fig. 1) which, in this area, lies between about 2,500 and 3,500 m deep. The anomaly does not crop out at the surface and has not been intersected by any drilling. Regionally, it is discontinuous but elements appear to extend northwestwards (Holgate and Goh, 2010) and may link with the similar "Tamar Conductivity Zone" revealed by early MT studies in the Tamar valley area (Hermanto 1990). Suggestions for the origin of the conductivity feature include:

- a fracture system filled with saline fluids, possibly with elevated temperatures in parts, or
- hydrothermal clays formed by reaction between wall-rocks and moderate-temperature fluids (70-200 °C) at some time in the past, with large-scale thrusts or other faults providing upwards or downwards pathways for fluids.

In both cases the temperatures involved are likely to be modest, however in certain circumstances they may produce significant mineral deposits (e.g. Mernagh et al. 1994).

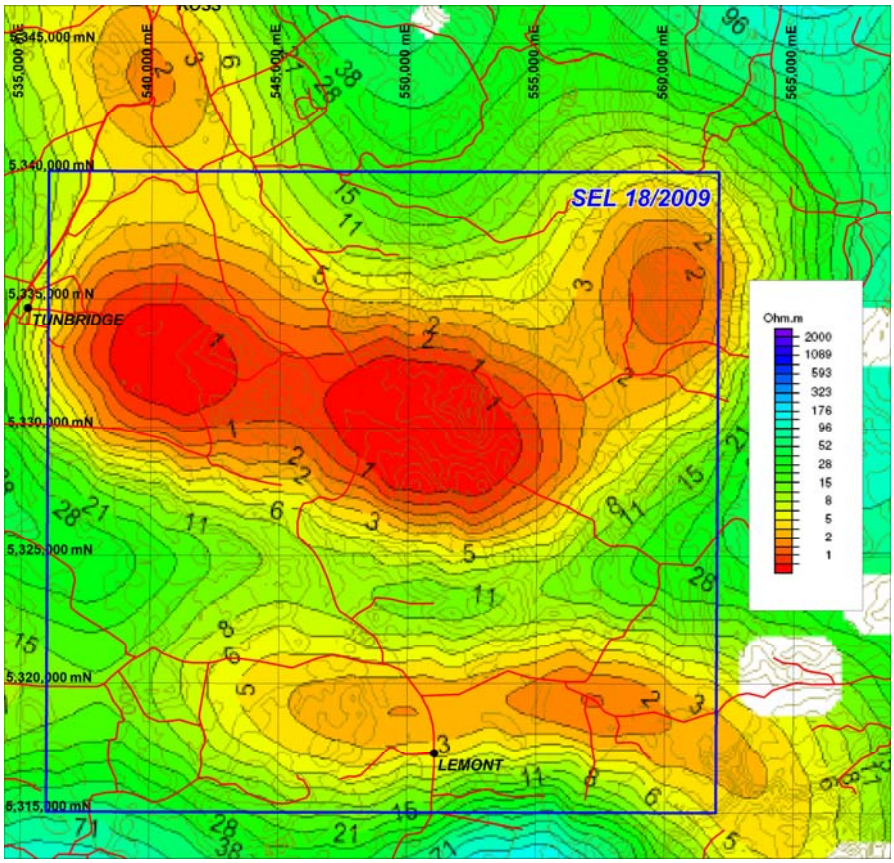

Figure 1 Location of the conductivity feature at 3,000 m depth within SEL 18/2009 (Holgate and Goh 2010). Red lines are roads.

The conductivity feature appears to lie above granite bodies which KUTh believes lie beneath much of the central and eastern parts of SEL 26/2005, and which are the principal targets for geothermal energy exploration. The principal evidence for the presence of buried granites is based on interpretation of gravity data (Holgate and Goh 2010). If present, the granites may have had a role in supplying mineralising fluids into surrounding structures including at least part of the conductivity feature. This possibility enhances the mineral potential of SEL 18/2009 but it remains highly speculative at this stage.

Further knowledge of the mineral potential of SEL 18/2009 will require drilling to determine the nature and extent of the conductivity feature. KUTh is actively planning a deep exploration hole to 4 km within the area of SEL 18/2009 which will have the dual aims of intersecting both the conductivity feature and the granite below it. The primary purpose of the hole will be to gain temperature and structural information for geothermal exploration but it will also yield lithological and geochemical information which will help determine mineral prospectivity. Detailed planning for this hole is underway and details will be reported later.

Conclusions

Mineral exploration in SEL 18/2009 is incidental to geothermal exploration in SEL 26/2005 within which it lies. In both licence areas the identification of a major conductivity feature at depth, discovered by KUTh in 2009 using MT, will be a major advance. This feature has the potential to contain significant metallic mineralisation. KUTh is currently planning a deep exploration drill-hole which should intersect the feature and provide conclusive information about its nature and origin. Depending on numerous commercial and technical issues that need to be resolved KUTh hopes to commence drilling later in 2011 or early 2012. The proportion of drilling expenditure to be allocated to mineral exploration in the next year is likely to be about $100,000.

References

Hermanto,M.R. (1990) Magnetotelluric investigations of the Tamar Lineament. University of Tasmania PhD thesis, unpublished.

Holgate,F. and Goh,H. (2010) SEL 26/2005 (Fourth Annual Report) & SEL 45/2007 (Third Annual Report) 8th July 2009 to the 7th July 2010. Company report submitted to Mineral Resources Tasmania, unpublished.

Mernagh,T.P. et al. (1994) Chemistry of low-temperature hydrothermal gold, platinum, and palladium (+ or - uranium) mineralization at Coronation Hill, Northern Territory, Australia. Economic Geology, 89 (5), 1053-1073.