

**Leached Cap Pty Ltd  
E.L. 19/2012 Roger River  
Year 1 Annual Report**



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## **SUMMARY**

**Leached Cap Pty Ltd is exploring a 3 km long zone of outcropping silicification close to the Roger River Fault, to test the concept that the silicification is a heavily leached cap to an epithermal system which may be gold mineralised at depth. Low level soil and rock chip anomalism achieved by previous explorers, the presence of warm water springs and mounds along the faulted eastern margin of the Smithton Basin, and similarities between the geology at Roger River and established epithermal gold districts elsewhere, all support this model.**

**Landowner negotiations and grid line cutting preparations are in progress prior to a dipole-dipole IP survey across the zone of silicification. Reinterpretation of existing aeromagnetic data during the current licence year indicates an easterly dipping gradient which may reflect the attitude of the Roger River Fault and/or the siliceous rocks. The IP survey is designed to test for evidence of disseminated sulphide down to approximately 200 metres and may also confirm the dip on the Roger River Fault.**

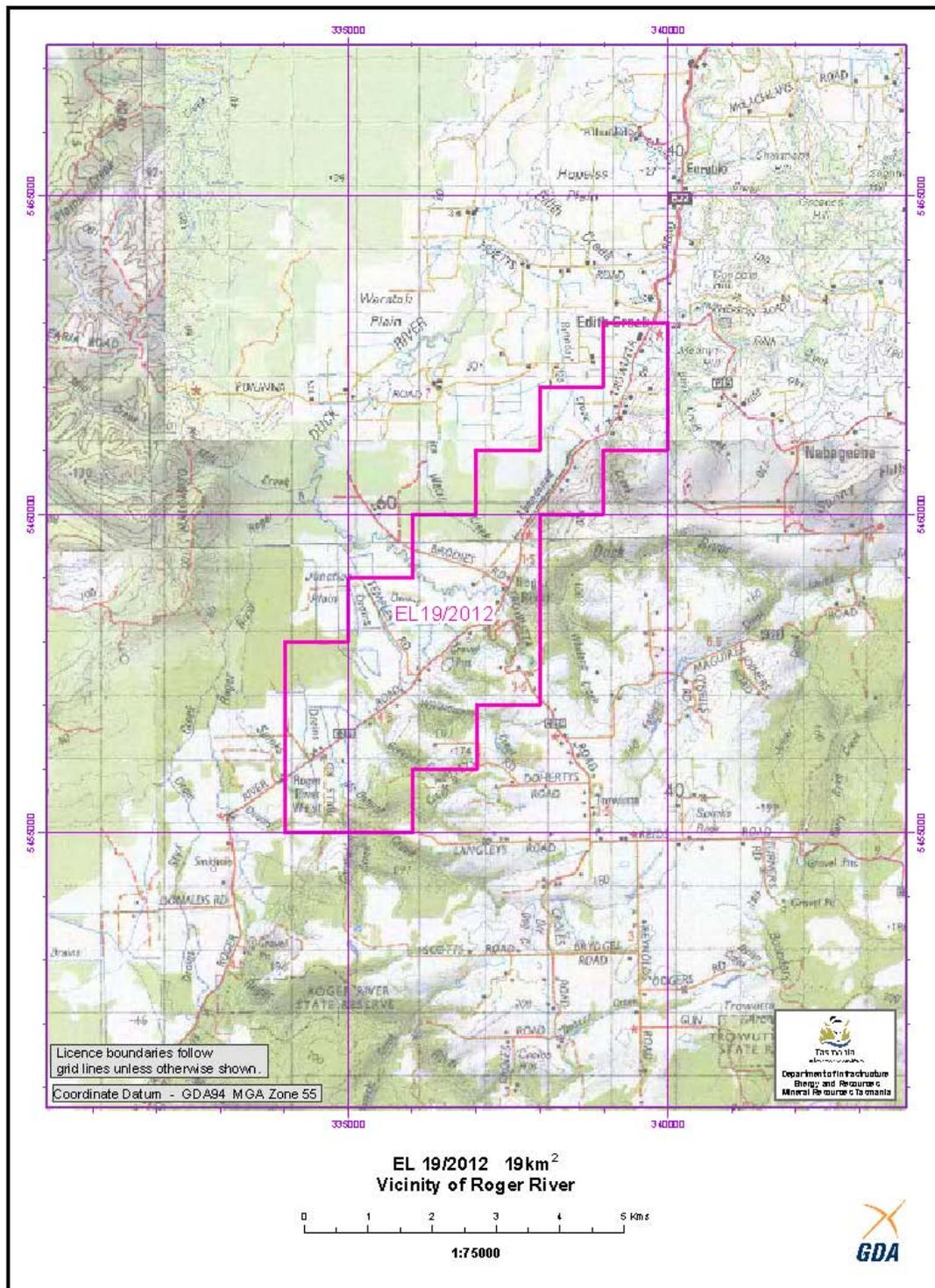
**Zonge Engineering is scheduled to commence the IP survey in late January 2014 and a drilling program will follow.**

### **1. TENEMENT DETAILS**

EL 19/2012 is a 19 km<sup>2</sup> licence centred on the district of Roger River, approximately 25 km by road south of Smithton, NW Tasmania (Figure 1). The licence was granted to Leached Cap Pty Ltd (Leached Cap) by Mineral Resources Tasmania (MRT) for a 5 year term commencing on 16<sup>th</sup> January 2013.

Land tenure comprises mainly private land, with a minor block of State Forest in the SW of the licence, several small strips of forestry Informal Reserves, one small Private Reserve and two small Public Reserves (Figure 2). The northern Public Reserve includes the Edith Creek School and the southern Public Reserve covers a quarry, previously worked as a source of silica road gravel. No land has been excluded from the EL and the proposed exploration program for the first two licence years will be conducted on private land and the Public Reserve over the Roger River quarry site. Private land in the district is a mix of several beef and dairy cattle farms, and eucalypt plantation and remnant native bush owned by Gunns Ltd. All year round access to the area is via the bitumen roads Trowutta Road and Roger River Road which run through the centre of the licence for its entire length (Figures 1 and 2).

This report covers Year 1 exploration, which is on-going as part of the initial two year commitment on the EL.



**Figure 1. EL 19/2012 Location Map**

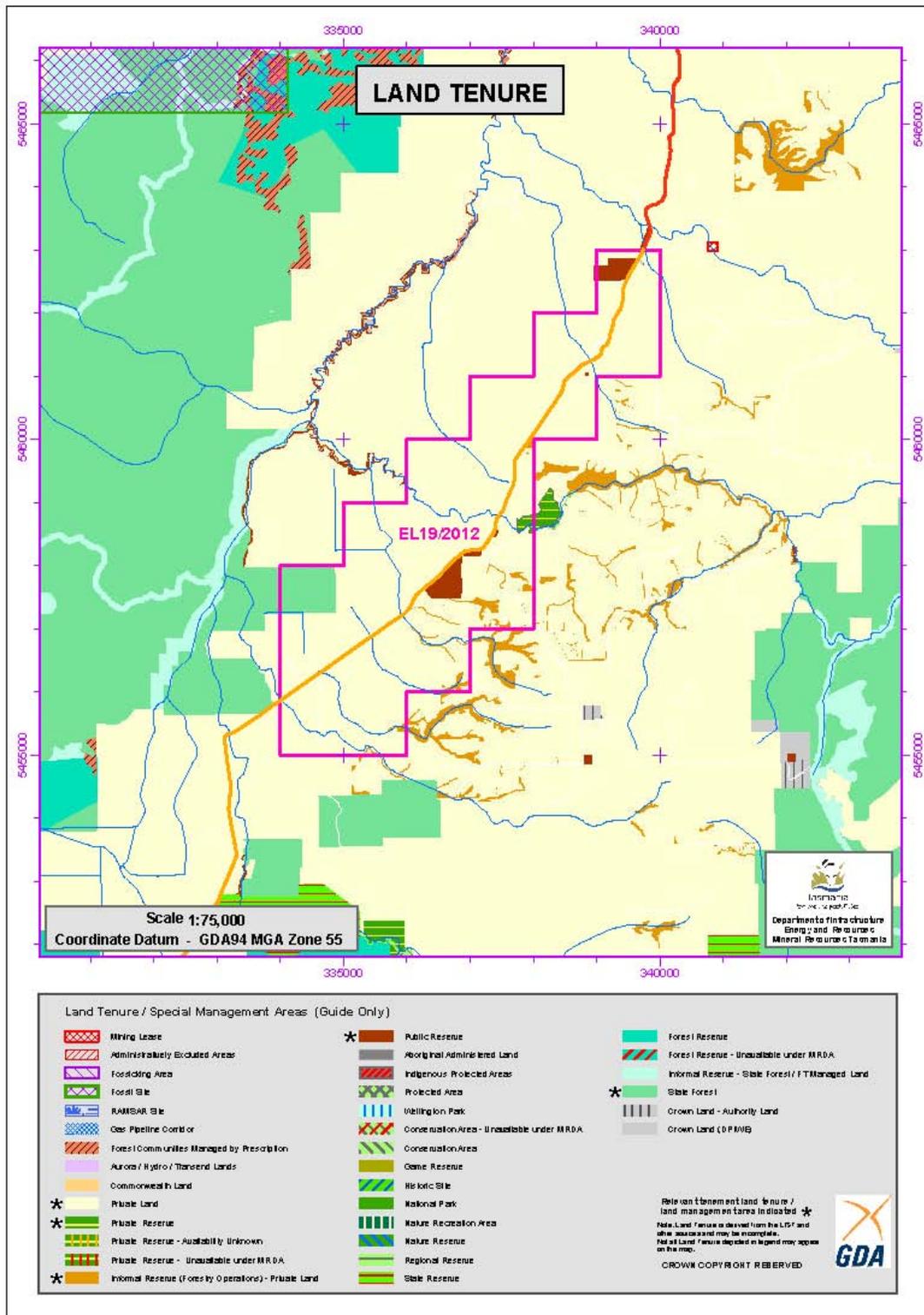


Figure 2. EL 19/2012 Land Tenure Map

## **2. GEOLOGY**

EL 19/2012 covers a portion of the Roger River Fault, a NNE trending major structure transecting Neoproterozoic rocks at the eastern margin of the Smithton Basin/Smithton Synclinorium (Smithton 1:50,000 Geological Atlas Series sheet, Roger and Togari 1:25,000 Digital Geological Atlas Series sheets). The Roger River Fault cuts through the eastern limb of a north-plunging synclinorium containing the Neoproterozoic Togari Group. The Togari Group consists of a basal dolomite-chert-lutite sequence (Black River Dolomite), overlain by an interstratified mixed sedimentary and volcanic sequence (Kanannah Subgroup), overlain in turn by the Smithton Dolomite and the Salmon River Siltstone. A distinctive member of the Kunannah Subgroup is a massive basalt unit (Spinks Creek Volcanics).

In the area covered by the EL the precise location of the Roger River Fault is masked by surficial sediment cover but it appears to be close to the contact between the Smithton Dolomite to the west and the Kunannah Subgroup to the east. Outcrop of the Smithton Dolomite is restricted to drainage ditches excavated into the flat lying farm land west of the fault and it is reasonable to interpret the fault location as being close to the persistent break in slope at the boundary between the well exposed Kunannah Subgroup on the eastern hill slopes and the largely regolith and soil covered Smithton Dolomite on the flat westerly side of the fault. The current dip direction on the Roger River Fault and the relationship between the fault and discrete zones of silicification are unclear and these are significant issues for the current exploration program, as will be discussed below. Although mapping suggests that the younger Smithton Dolomite appears to be down thrown to the west, implying a normal fault dipping to the west, Everard et al (2007) note that the Black River Dolomite and The Kunannah Subgroup thicken from west to east across the fault zone, suggesting syn-depositional growth faulting and the possibility of an easterly dip, at least during the Proterozoic. By comparison with other major basin bounding faults in western Tasmania it is likely that the Roger River Fault has been through at least two major orogenic deformation events during the Palaeozoic and it may have been reactivated again during the regional Cainozoic rifting and volcanism associated with the development of the Bass Basin.

## **3. EXPLORATION AIMS & PHILOSOPHY**

Leached Cap is specifically targeting the zone of silicification which extends for approximately 3 km along the strike of the Roger River Fault (Figure 3). Prospectivity for epithermal gold mineralisation at depth beneath the outcropping silica has been established by previous mapping and exploration geochemistry (Turner, 2001, 2003, 2009) and the current exploration program is based on the concept that the outcropping silica represents heavily leached high level capping to an epithermal system analogous to some established gold epithermal provinces elsewhere on Earth (eg. Radtke and Davis, 1990). The presence of geologically juvenile mounds and warm water springs along the eastern margin of the Smithton Basin supports the model.

The aim for the first two year program is to confirm the relationship between the outcropping silicification and the Roger River Fault, to test the current dip direction on the fault and to test for mineralisation at depth. This will be achieved by a combination of reinterpreting existing magnetics and gravity data, conducting a new IP survey and drilling the best targets.

#### **4. SUMMARY OF PREVIOUS EXPLORATION**

Previous exploration which has direct relevance to the current program is restricted to mapping, rock chip and soil geochemistry and on-ground gravity and magnetics, conducted by Greenstone Resources NL and Morrith Holdings Pty Ltd, between 2001 and 2003, on ELs 61/1994, 11/1997, 12/1997, 13/1997, 14/1997 and 17/2001 (Turner, 2002, 2003). Some further compilation and interpretation of results from this work was done for Manasia Mining and Metals Ltd on their EL 31/2005 (Turner, 2009).

Mapping demonstrated a series of outcropping bodies of erosion resistant micro crystalline cherty silica with a variety of textures ranging through massive, brecciated, banded, honeycombed and pitted. The outcrop is distributed along a narrow, 3 km long and up to 300 metres wide, zone conformable with the probable sub crop position of the Roger River Fault. The siliceous zone envelope as mapped by Turner (2002) is reproduced on Figures 3-5.

Selective rock chip sampling on outcrop and several east-west lines of soil sampling across the zone detected spotty low level anomalism for; gold (max 15 ppb), arsenic (max 1273 ppm), antimony (max 30 ppm), copper (max 886 ppm), zinc (max 510 ppm) and lead (max 302 ppm). One rock chip sample from outcrop in an abandoned road aggregate quarry at Roger River (approximate location 336550E, 5457600N MGA) included visible barite and assayed almost 6% barium and 1.5 ppm mercury (Turner, 2003).

No follow up field work had been conducted on this target prior to the current program.

#### **5. YEAR 1 EXPLORATION RESULTS**

The current status of the initial two year exploration program on EL 19/2012 is depicted on Figures 3-5. Permitting from MRT and the five relevant landowners for the four line IP survey has been granted and contractors have been engaged for grid line cutting and flagging (Ron Gregory Prospecting) and for the IP field data acquisition (Zonge Engineering). Liaison with farmers regarding management of cattle movement and electric fence switching, and with Circular Head Council regarding traffic movement on Roger Road and Trowutta Road during the IP survey, is continuing.

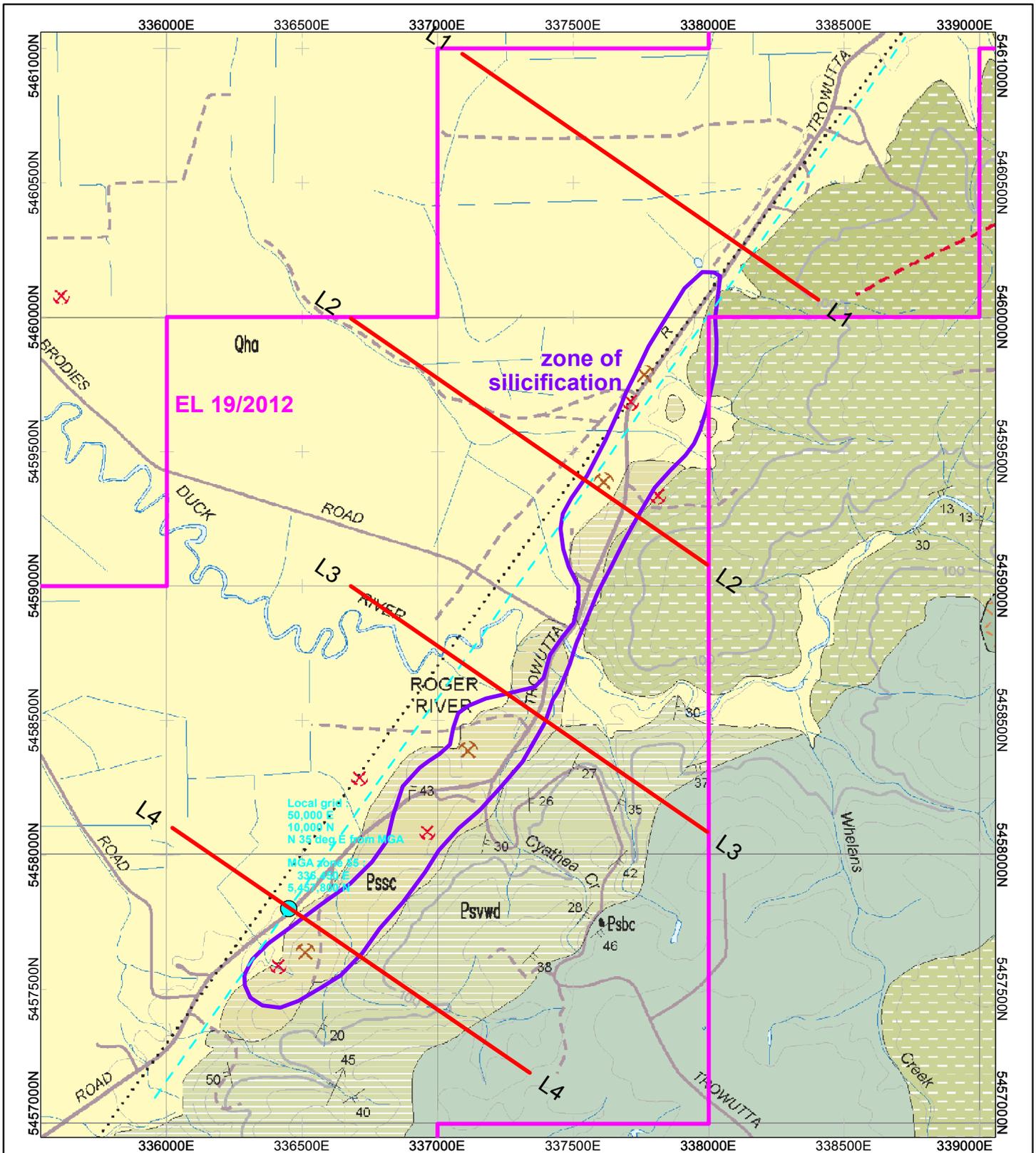
The locations of the IP lines were determined as a best fit to test the siliceous rocks close to the main outcrops and to minimise impact on the farming operations (Figure 5). Minor shifts from geologically ideal positions were required to increase the distance between the lines and eagles nests. Discussions between Zonge and consultant geophysicist Phil

Muir, combined with modeling hypothetical data based on surface geology, determined that 1600 metres was the minimum line length needed to achieve reliable data down to approximately 200 metres.

Reinterpretation of MRT 2001 Western Tasmanian Regional Minerals Program aeromagnetic data shows a strong easterly dipping gradient beneath the siliceous zone on the first vertical derivative image (Figure 4) and although the main aim of the IP survey is to search for potential drill targets based on conductivity and chargeability, it also has potential to increase understanding of the shape and attitude of the Roger River Fault and the predicted silica cap rocks.

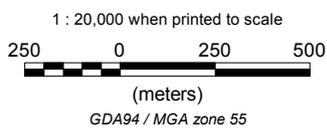
## **6. ENVIRONMENTAL ISSUES**

Locations of the IP lines have been designed to achieve the required buffer distance to eagle nests registered as existing in forest country further to the east. Liaison with landowners at Roger River to minimise environmental and economic impact is on-going and additional field crew have been recruited to monitor safety and environmental issues. Special attention is being given to ensuring that no fires are possible due to live wires coming into contact with dry vegetation in the forest country along the eastern side of the grid.

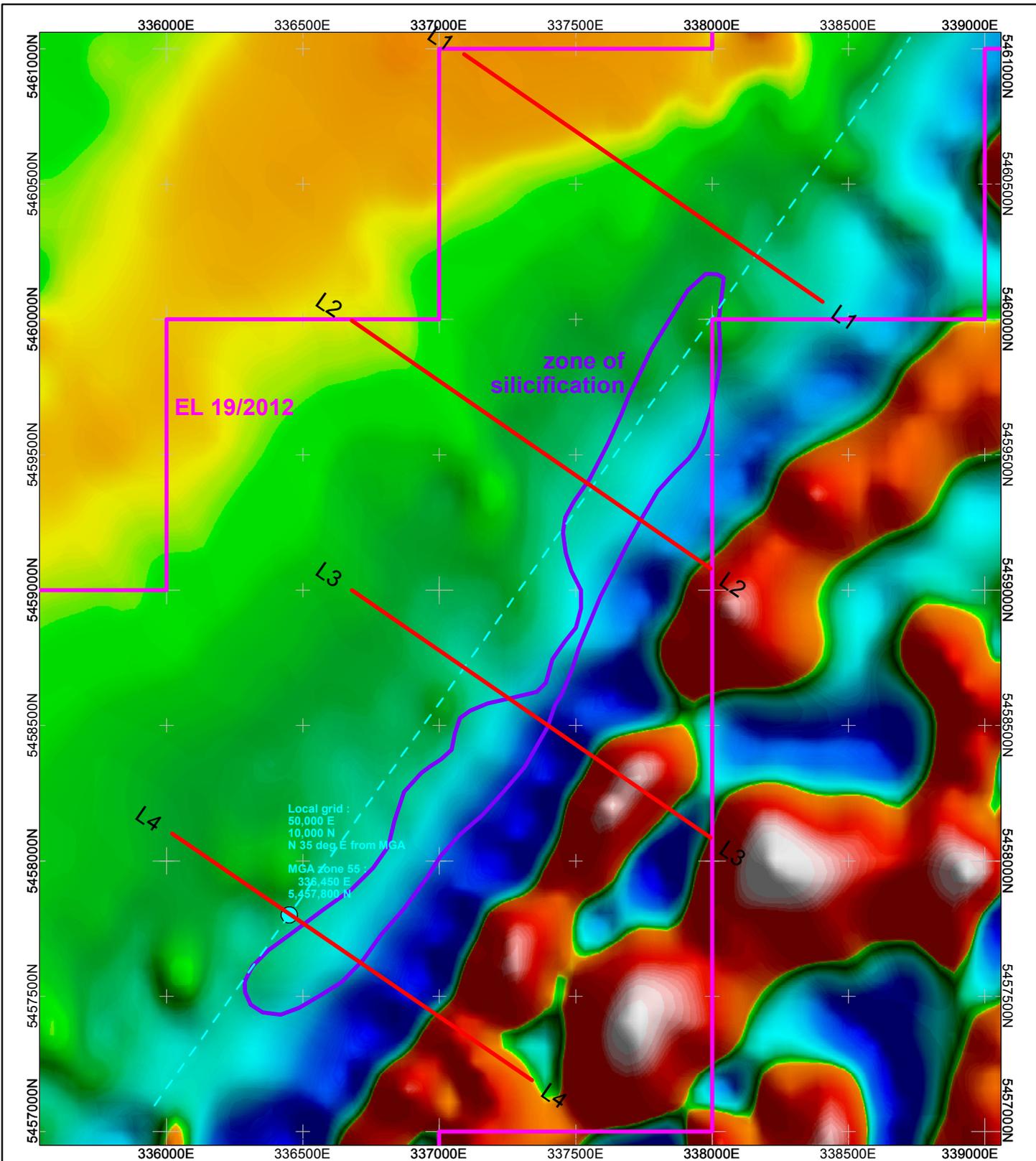


geology source : MRT 1:25,000 scale map series; Roger, Togari

proposed IP lines



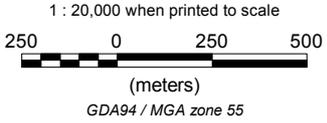
<b>LEACHED CAP PTY LTD</b>	
EL 19/2012 - Roger River	
Proposed IP survey	
<b>Geology</b>	
<b>Figure 3</b>	
Author: KM / PM	Date: Jan 2014



Local grid :  
 50,000 E  
 10,000 N  
 N 35 deg E from MGA  
 MGA zone 55 :  
 336,450 E  
 5,457,800 N

mag data source : MRT 2001 WTRMP Area B airborne survey

 proposed IP lines



<b>LEACHED CAP PTY LTD</b>	
EL 19/2012 - Roger River	
Proposed IP survey	
<b>Magnetics : First vertical derivative</b>	
<b>Figure 4</b>	
Author: KM / PM	Date: Jan 2014

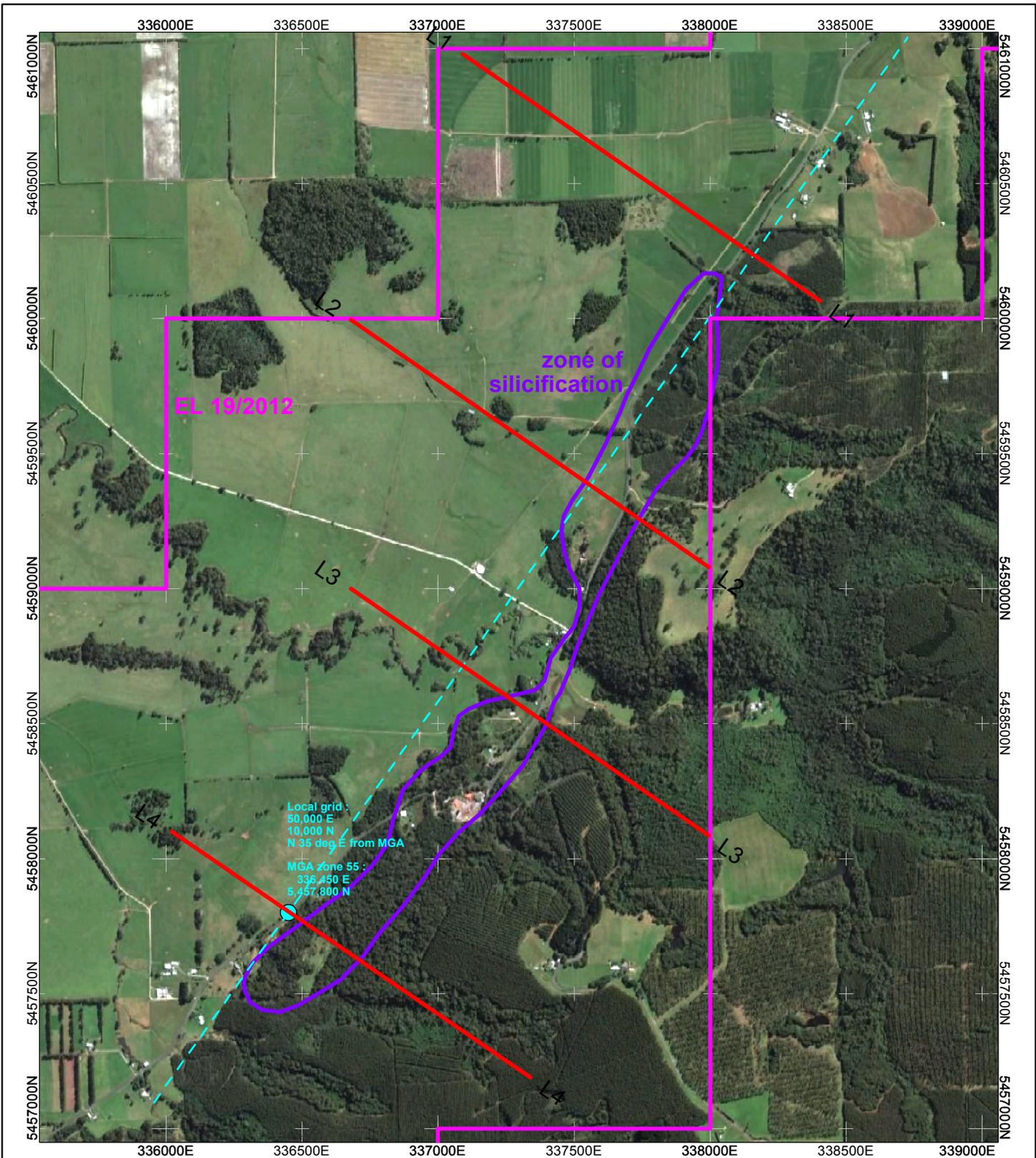
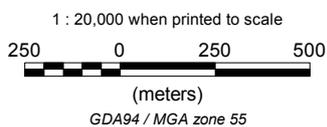


image source : Google Earth

 proposed IP lines



<b>LEACHED CAP PTY LTD</b>	
EL 19/2012 - Roger River Proposed IP survey <b>Satellite imagery</b> <b>Figure 5</b>	
Author: KM / PM	Date: Jan 2014

## 7. EXPENDITURE

Exploration costs up until 31<sup>st</sup> December 2013 are as follows:

<b>Category</b>	<b>Cost</b>
Geology	\$18,392.90
Geophysics	\$880.00
Administration & Tenement Costs	\$1,851.57
<b>TOTAL</b>	<b>\$21,124.47</b>

## 8. PROPOSED YEAR 2 PROGRAM

Following the completion of the current program and interpretation of the IP profiles a decision will be made regarding the need for infill lines of IP as a priority, or if sufficient information exists to target first pass drilling. Some drilling to test the geology beneath the silica cap will be done in 2014 regardless of the IP results.

## 9. REFERENCES

Everard, J. L., Seymour, D. B., Reed, A. R., McClenaghan, M. P., Green, D. C. and Calver, C. R., 2007. Regional Geology of the southern Smithton Synclinorium, Explanatory report for the Roger, Sumac and Dempster 1:25,000 geological sheets, Mineral Resources Tasmania.

Radtke, A. S. and Davis, G. J., 1990. Epithermal Precious Metal Deposits, their Characteristics and Exploration Guides, Unpublished Curtin University of Technology Course Guidebook, Western Australian School of Mines.

Turner, N. J., 2002. Greenstone Resources NL., Roger River Project Tasmania, ELs 11/97, 12/97, 13/97, 14/97 and 61/94 Combined Annual Report to 18<sup>th</sup> December, 2001 (3 Vols).

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