

**R. A. Gregory**  
**Exploration Licence 9/2013 Priority**  
**Partial Relinquishment Report**

**Ken Morrison**  
**27 March 2015**

# 1. Introduction

EL 9/2013 is a 205 km<sup>2</sup> Categories 1 and 5 Exploration Licence in the Priory area, northwest of St Helens (Figure 1). The EL was acquired by R.A. Gregory primarily to explore for sapphire and zircon gemstones associated with Tertiary basalts and detrital sediments derived in part from the weathering products of basalts.

Exploration in licence year 1, ending on November 7, 2014, reviewed existing aeromagnetic data and field checked a number of discrete magnetic highs interpreted to potentially be generated by basalt plugs. The results effectively sterilised a substantial portion of the EL and consequently an application for partial relinquishment is being submitted to Mineral Resources Tasmania.

This report documents the area proposed for relinquishment and summarises the exploration completed within that area. A more comprehensive account of all exploration within EL 9/2013 to date is included in the Year 1 Annual Report.

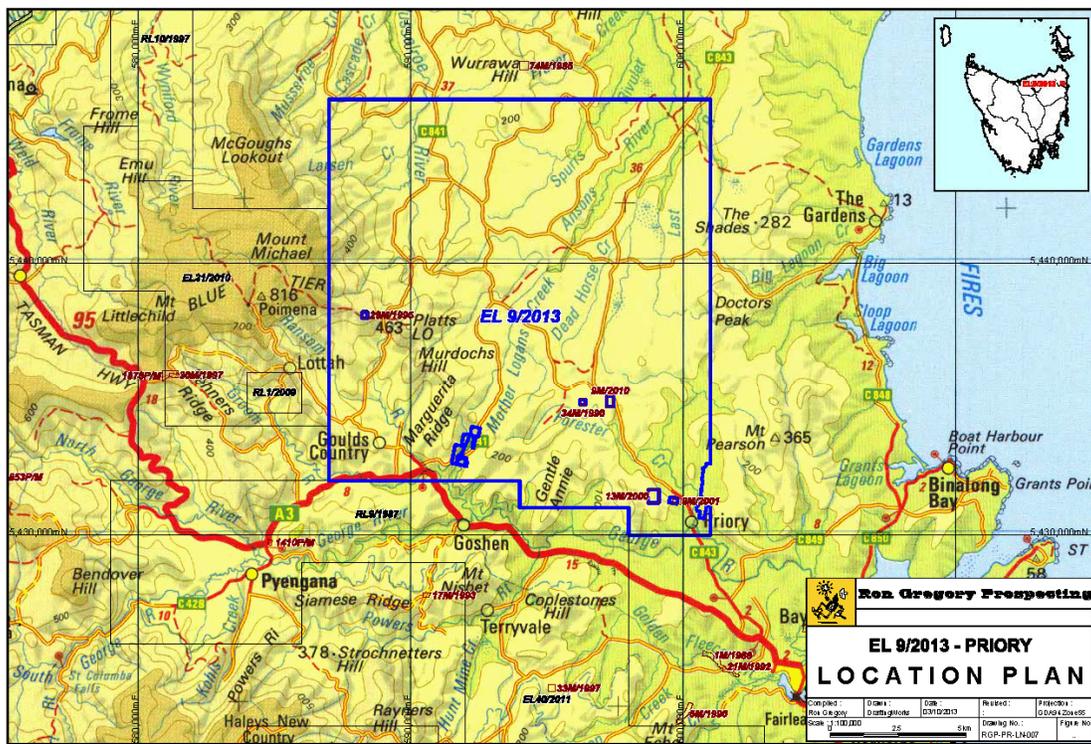
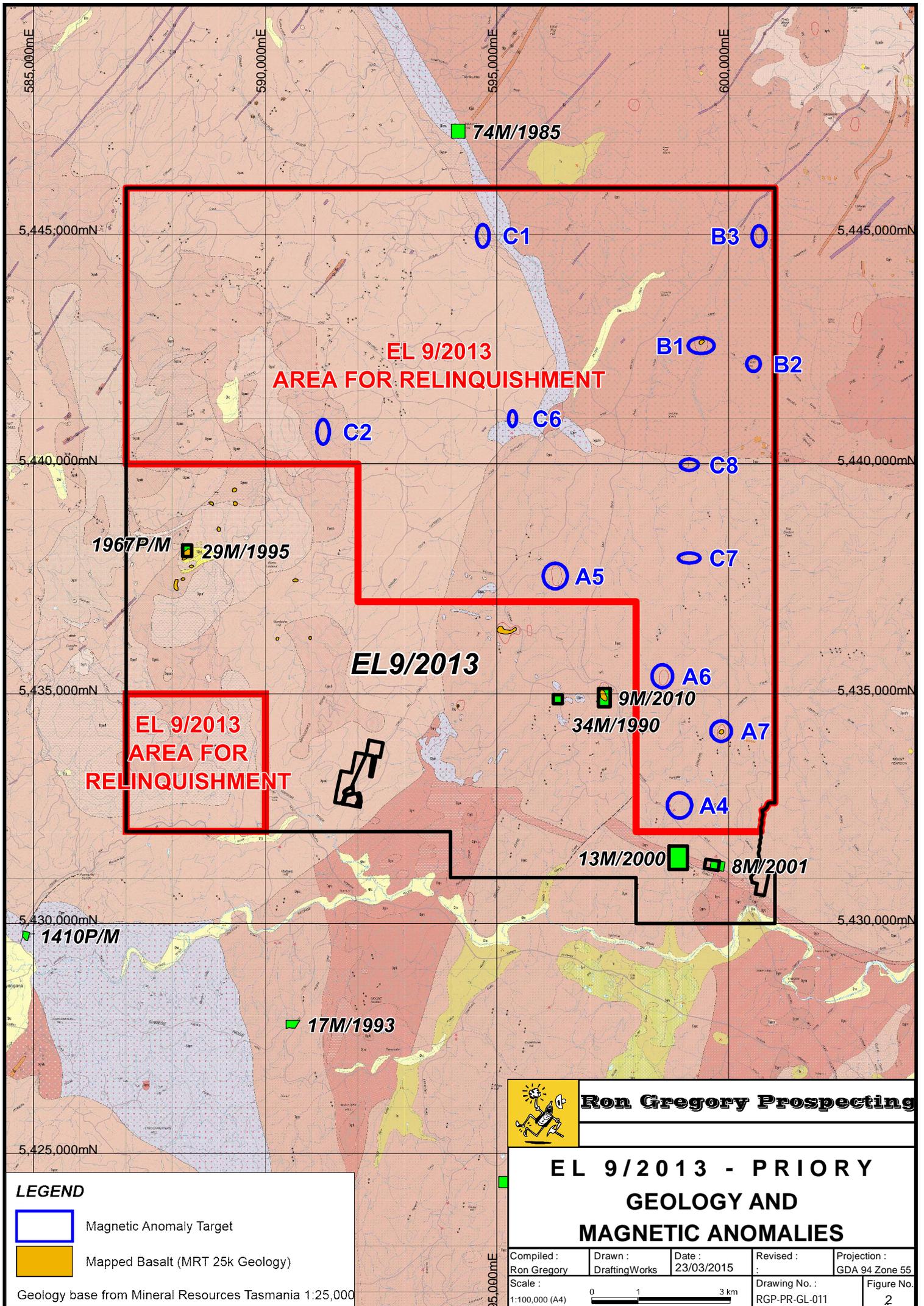


Figure 1. EL 9/2013 Location Map

## 2. Geology

Figure 2 shows the portion of the 1:25,000 MRT Blue Tier and Binalong geology sheets covered by EL 9/2013. Basement rocks are predominantly Devonian granites with minor rafts and roof remnants of contact metamorphosed Mathinna Supergroup meta turbidites, scattered through the central part of the EL. Several small basalt outcrops are mapped and those exposed at Logans and Halfway quarries are pipe-like bodies intruding through the granite, and containing abundant inclusions of olivine and spinel. Based on whole rock and trace element composition the plugs at the Logans and Halfway quarries are assigned an IUGS classification of basanites (John Everard, MRT, pers. comm.). These two sites were used to calibrate the magnetic responses which generated the additional features field checked during 2014 (Figure 2).

A small outcrop of Tertiary sediment exists in the far southeast corner of the EL and is likely to be a distal fragment of the alluvial deep lead system (Thureaus Lead) which hosts the abandoned placer tin mines of the St Helens district. Minor Quaternary alluvial sands, predominantly granite derived, overlie basement around some of the larger creeks. Minor occurrences of detrital sapphire and zircon are known from amateur fossicking in Cenozoic stream gravels in the southeast part of the EL, within the area of EL 9/2013 to be retained.



**EL 9/2013  
AREA FOR  
RELINQUISHMENT**

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**EL9/2013**

**LEGEND**

-  Magnetic Anomaly Target
-  Mapped Basalt (MRT 25k Geology)

Geology base from Mineral Resources Tasmania 1:25,000



**Ron Gregory Prospecting**

**EL 9/2013 - PRIORY  
GEOLOGY AND  
MAGNETIC ANOMALIES**

Compiled : Ron Gregory	Drawn : DraftingWorks	Date : 23/03/2015	Revised :	Projection : GDA 94 Zone 55
Scale : 1:100,000 (A4)			Drawing No. : RGP-PR-GL-011	Figure No. : 2

### **3. Exploration Results from the area to be Relinquished**

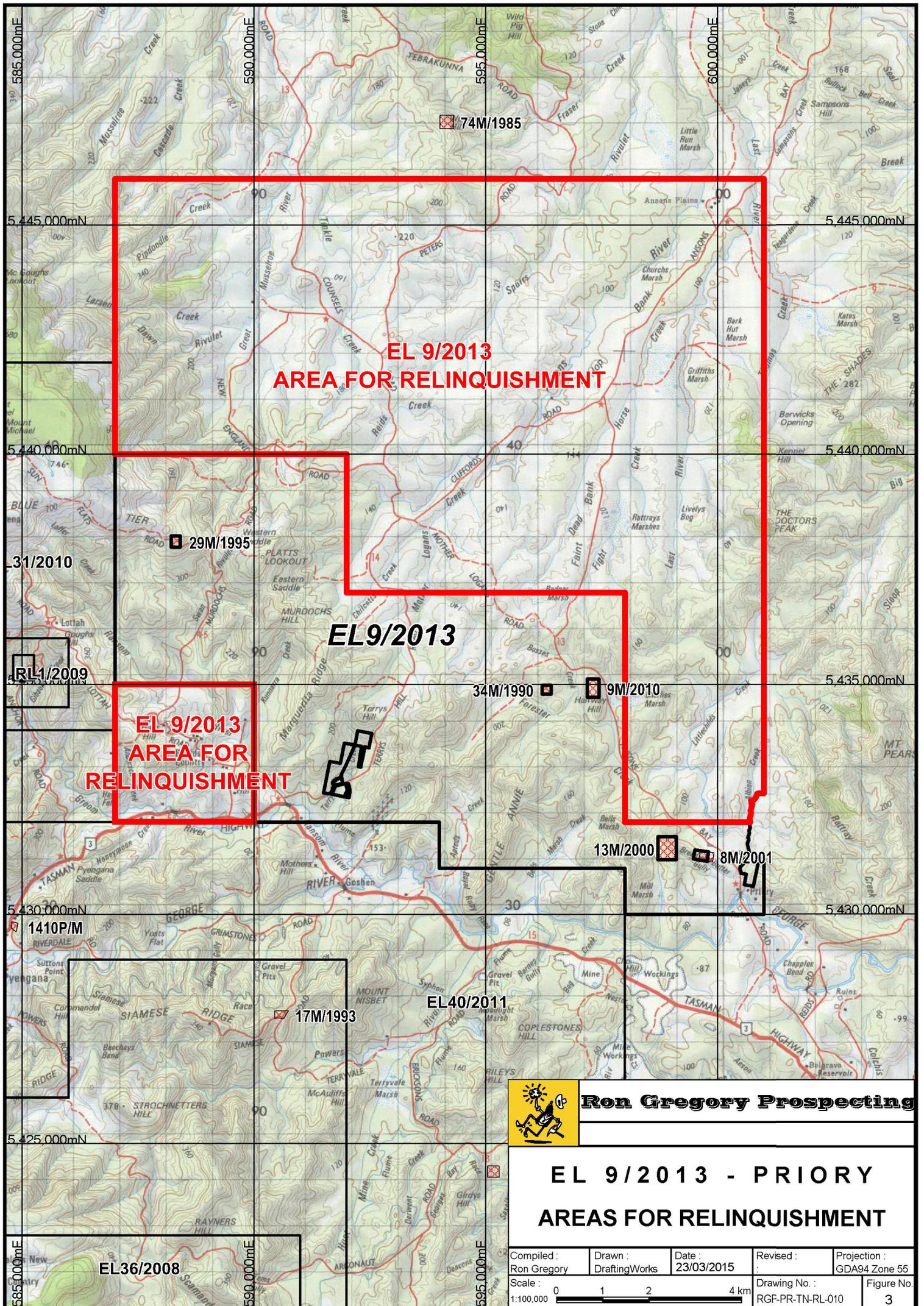
No known gemstone occurrences exist within the area proposed for relinquishment (Figures 2 and 3) and no known reports on exploration for gemstones, prior to the current work, have been identified. During licence year 1, twelve discrete magnetic features interpreted as possible plugs with magnetic signatures similar to the basalts at Logans and Halfway (Figure 2), were field checked. All sites were determined to be unprospective for gemstones on the basis of some combination of; no basalt at surface, basalt interpreted as massive olivine lava, or nearby alluvial sediments showing no indications of a basalt source.

The results are shown on Table 1 and the consequent area to be relinquished is outlined on Figures 2 and 3. A more comprehensive account of the aeromagnetic interpretation which generated the anomalous potential basalt features is included in the EL 9/2013 Annual Report for licence year 1, which will remain under Closed File status for the duration of the EL.

The 9km<sup>2</sup> block to be relinquished in the southwest corner of the EL is considered unprospective on the combined grounds of geology and land use/environmental factors due the location in the Goulds Country area.

**Table 1 EL9/2013 Priory - Magnetic Anomaly Field Check Summary**

<b>Date</b>	<b>Site ID</b>	<b>GDA-E</b>	<b>GDA-N</b>	<b>Geology</b>	<b>Land Use</b>	<b>Pan Con Location</b>	<b>Results</b>
17/02/2014	C6	595350	5441000	granite	regrowth native forest on logged coupe	Ansons River	granite sand, no spinel
17/02/2014	C1	594700	5445000	granite	half grown pine plantation	unnamed creek	granite sand, no spinel
18/02/2014	B3	600620	5445000	granite	private cattle pasture	Last River	granite sand, no spinel
18/02/2014	B2	600500	5442150	sand dunes near granite	private cattle pasture	no close alluvials	n/a
18/02/2014	B1	599400	5442600	basalt on granite	private cattle pasture	Last River	granite sand, no spinel
5/05/2014	A4	599000	5432600	granite	private native bush-firewood logging	no close alluvials	n/a
5/05/2014	A7	599850	5434150	basalt on granite	un-used native bush	Littlechild's Creek	granite sand, no spinel, fine magnetite
5/05/2014	A6	598550	5435400	granite	native bush-firewood hooking	no close alluvials	n/a
17/06/2014	A5	596250	5437601	granite	native bush, some firewood logging	unnamed creek	overgrown creek, granite sand, no spinel
17/06/2014	C2	591251	5440701	biotite granite	pine plantation	no close alluvials	n/a
17/06/2014	C8	599149	5440000	peat cover near granite	native scrub, damp peat, button grass	Last River	granite sand, no spinel
17/06/2014	C7	599200	5437897	granite	un-used native bush	Last River	minor sediment exposed, no spinel
					<b>Anomaly Cause</b>	<b>Gem Potential</b>	
					forestry equipment?	nil	
					forestry equipment?	nil	
					nothing obvious	nil	
					nothing obvious	nil	
					basalt plug or lava patch?	nil	
					nothing obvious	nil	
					basalt plug or lava patch?	nil	
					nothing obvious	nil	
					nothing obvious	nil	
					basalt road gravel?	nil	
					nothing obvious	nil	
					nothing obvious	nil	



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**EL 9/2013 - PRIORY  
AREAS FOR RELINQUISHMENT**

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Scale : 1:100,000				Drawing No. : RGF-PR-TN-RL-010
				Figure No. 3

**EL36/2008**