KRUCIBLE METALS LTD

ABN: 12 118 788 846

EL 28170
TOBERMOREY

PARTIAL RELINQUISHMENT REPORT
5 April 2011 to 26 March 2015

Holder/Operator:	Krucible Metals Ltd
Tenement Manager:	Krucible Metals Ltd
Author:	B Humphries
Commodity:	Copper, Gold, Silver/Lead/Zinc
Report Date:	21 April 2015
Datum/Zone:	AGD66/Zone 53
250,000 Mapsheet:	Hay River (SF53-16)
Report ID:	KRB-TSV-2015-212
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1. SUMMARY

The Tobermorey exploration licence (EL 28170) is located on the Northern Territory/ Queensland border about 400km east of Alice Springs and 300km south-south-west of Mount Isa.

EL 28170 comprising 490 sub-blocks was granted to Krucible Metals on the 5th of March 2011 for a period of six years. A total of 112 sub-blocks were relinquished at the end of the 2nd year of term. At the end of the 3rd year of term a further 78 sub-blocks were relinquished. A relinquishment of 110 sub-blocks and a further 139 block relinquishment were lodged prior to the end of the 4th year of grant. This report documents exploration carried out on the 139 relinquished sub-blocks for the term of tenure.

Exploration carried out during on the relinquished blocks since grant date consists of a review of historic and regional data, surface geochemical exploration included the collection of 198 lag samples and 21 grab samples. Sections of the relinquished area were also covered by an airborne magnetic and radiometric survey and subsequent processing.

2. INTRODUCTION

The Exploration Licence (EL) is situated in an area where the Arunta Complex is believed to be at a shallow depth (<100m) and subjected to several phases of deformation. Geophysical images also indicate a number of parallel structures associated with deformation and remobilisation of fluids deemed prospective for Iron Oxide Copper Gold (IOCG) and Orogenic/Tennant Creek Style mineralisation. Secondary targets include Century and Broken Hill Style lead/zinc/silver mineralisation in Proterozoic rocks as well as Mississippi Valley Style base metal mineralisation in neo Proterozoic – Palaeozoic sediments.

Krucible believes this area is prospective due to the geological units present, the complex structural framework, the location close to crustal terrane boundaries and the remote location where no previous companies have completed systematic exploration. Krucible focussed on the Tobermorey EL area following the return of anomalous copper from drilling on Krucible's Toomba EPM approximately 60km east across the border in Queensland.

This report covers exploration conducted on the 139 sub-blocks relinquished from EL 28170 throughout the term of tenure.

2.1. Tenement Details

The EL 28170 'Tobermorey' consisted of 490 sub-blocks and was granted to Krucible Metals on 5 March 2011 for a period of six years. Krucible completed a relinquishment of 112 sub-blocks at the end of the 2nd year of term and a further relinquishment of 78 sub-blocks at the end of the 3rd year of term. A relinquishment of 110 sub-blocks and a further 139 sub-block relinquishment (Table 2) were lodged prior to the end of the 4th year of term reducing the area to 51 blocks (Figure 2).

Table 1: Tobermorey Relinquished Sub-blocks

BIM	Block	Sub-Block
SF53	2878	C D H J N O T U Y Z
SF53	2879	D E K V
SF53	2880	A B C D E F G H J K M N O P S T
SF53	2950	E
SF53	2951	A B F G M N O R S T U X Y Z
SF53	2952	J N O P Q R S T U V W X Y Z
SF53	3021	G H J K M N O P
SF53	3022	L M N Q R S T V W X Y Z
SF53	3023	D E J K P
SF53	3024	A B C D E F G H J K L M N O P R S T U W X Y Z
SF53	3093	E K
SF53	3094	A B C D E F G H J K L M N O P Q R S T U W X Y Z
SF53	3095	A F L Q
SF53	3096	D E

Total = 139 Sub-Blocks

2.2. Location and Access

The Tobermorey tenement is located on the Northern Territory/Queensland border about 400km east of Alice Springs and 300km south–south-west of Mount Isa in the 1:250,000 Hay River (SF53-16) map sheet. The project area is accessed via existing (Tobermorey) station tracks south from the Plenty Highway to Yardida Bore (Figure 1).

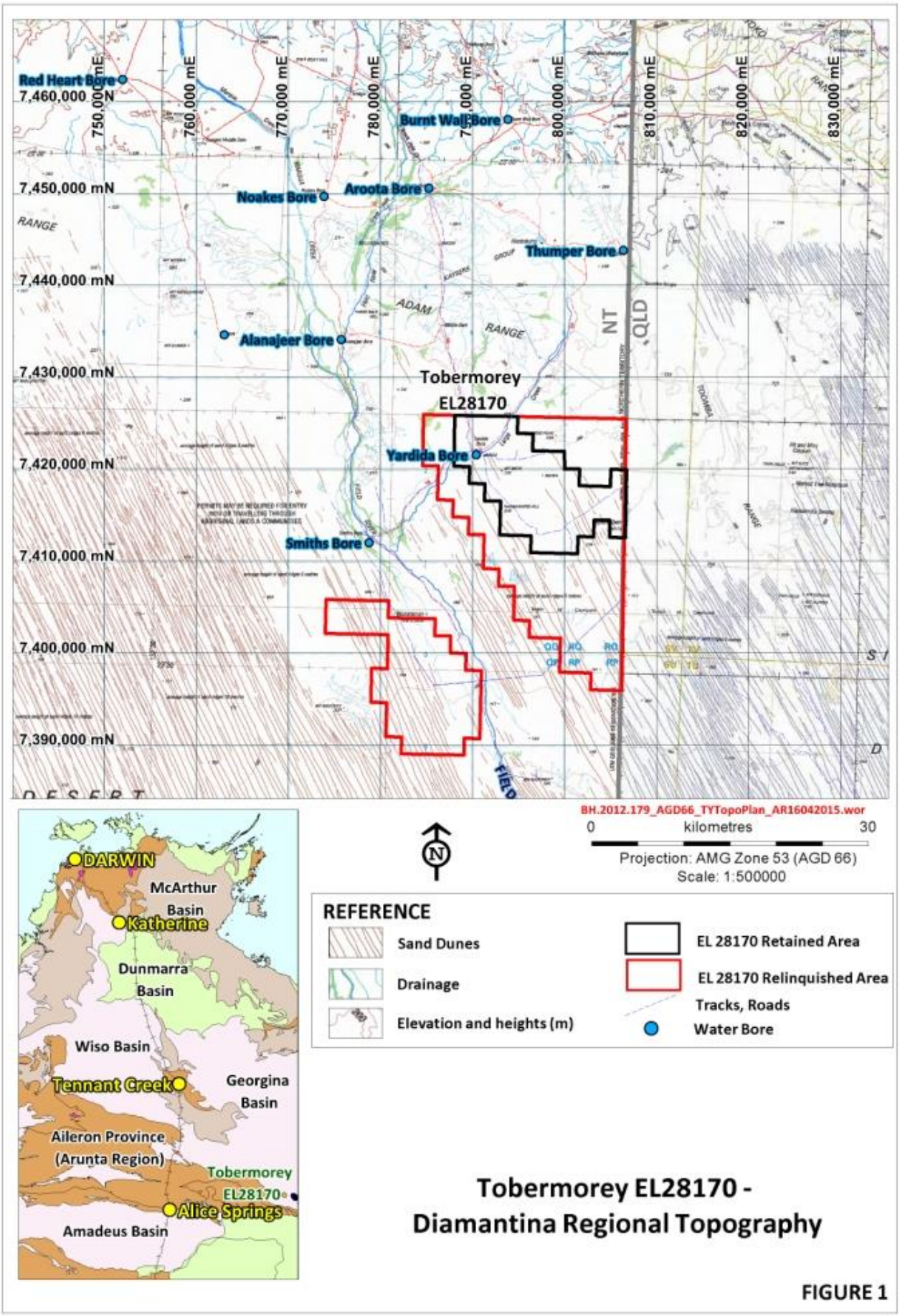

Figure 1: Tenement Location Plan

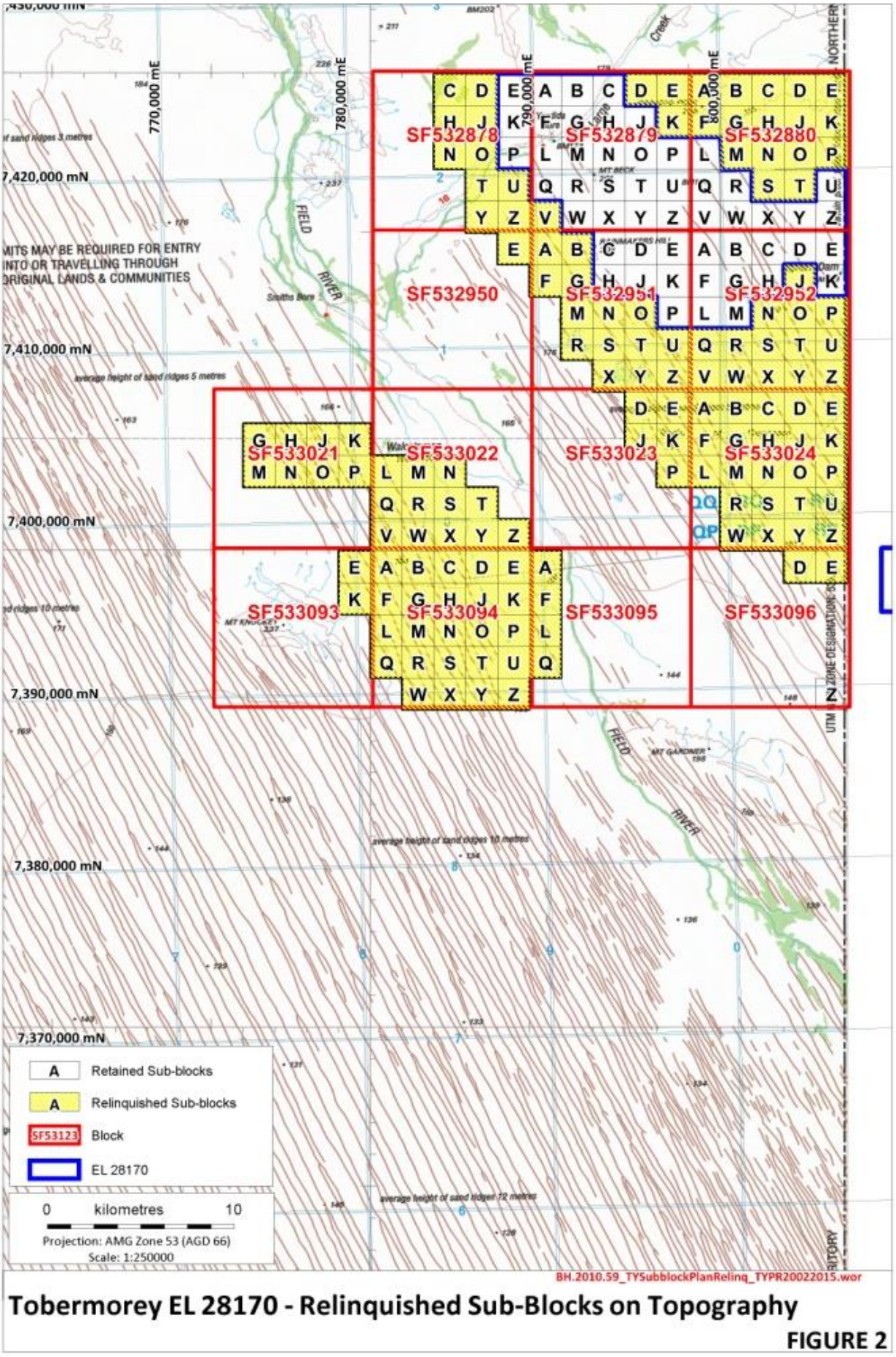

Figure 2: EL 28170 Plan Showing Retained and Relinquished Are

3. GEOLOGY AND MINERALISATION

3.1. Regional Geology

The tectonic model for the Diamantina region is poorly understood due to paucity of information. However, research suggests the region is characterised by large scale tectonic plate movement and that the Tobermorey tenement lies within the eastern extent of the Arunta Province close to the junction of three major plates i.e. the Mount Isa Block, the Tennant Creek Block, and the Gawler Craton. Subsequent rifting and thrusting would have created zones of high heat flow and brecciation conducive to development of large scale mineral deposits such as IOCG or orogenic shear hosted deposits. Secondary targets include base metal mineralisation in Proterozoic or younger sediments.

The regional basement geology (Figure 3) of the Tobermorey Project is interpreted to consist of the Northeast Aileron Province which is 'a Paleoproterozoic crust in the Arunta Region' (pg 12:1 Ahmad & Munson 2013) the age of which is prior to 1700Ma. This Province is comprised of granite, metamorphic rocks, and pegmatite's intruded by alkali granitoids. Outcrops occur as sporadic granitic and schist outcrops. The northern section of the block is considered to be continuous with the gold bearing Tennant Creek Region (Carroll 2008). In the southern area of the EL the Strangways Metamorphic Complex (part of the eastern Arunta Province) is interpreted to be at shallow depths. This complex contains a number of metamorphic assemblages derived from mafic and felsic granitic units (GA 2012).

Sitting unconformably on the Aileron (east Arunta) Province (GA 2012) the Georgina Basin is a widespread Neoproterozoic-Palaeozoic intracratonic basin that was initiated as part of the centralian super-basin and extends east into Queensland (NTGS 2011). The basin is comprised of clastic and calcareous units consisting of shales, limestones, dolostones, and siltstones.

3.2. Tenement Geology

Most of EL 28170 is covered by aeolian sand with occasional sand dunes becoming more prominent in the southern area of the tenement. Duricrust development is common within the EL.

Within the relinquished area recessive outcrops of Neoproterozoic Gnallen-A-Gea Arkose and Yardida Tillite formations occur outcropping as shales, quartzite and tillites. There are a number of quartz outcrops within the EL which appears to have been fractured and infilled by iron rich fluid.

3.3. Mineralisation and Concepts

The Arunta Complex historically has not been considered a highly prospective province but this may be due to the limited exploration. Copper, gold, lead and zinc deposits have all been found and mined in this province and there is increasing interest in this under explored terrane. The Strangways Metamorphic complex is prospective for carbonatites with associated REE mineralisation and for marble lenses in the lower stratigraphic units of the complex which may be prospective for base metal mineralisation.

Magnetic maps provided by Government show numerous destruction zones and obvious large scale folding and faulting with potential remobilisation of fluids deemed prospective for IOCG and orogenic shear hosted mineralisation. There are a number of sub-parallel structures indicative of stacked or listric fault systems. Gravity images have poor resolution to give much detail over the prospective area.

IOCG Olympic Dam Style - Breccia Hosted

Krucible's main target in this EL is Olympic Dam IOCG+REE style intrusive granite breccia systems within a shallow-level magmatic-hydrothermal breccia complex. The reasons for selection of this are as follows:

- The Toomba Fault is a major thrust separating the Toko Syncline (east) from platform basement (west) - this is considered to be analogous to the Stuart Shelf setting in the Gawler Craton that hosts the Olympic Dam mineralisation.

- There are a number of co-incident & near co-incident magnetic / gravity anomalies as well as magnetic anomalies on gravity gradients which are considered to be ideal conduits for IOCG mineralisation

- The magnetics at Tobermorey indicate strongly magnetic units which may equate to steely hematites and iron rich metasediments. These are considered to be analogous to the footwall units to mineralisation at Olympic and Prominent Hill

Orogenic-Shear Hosted Tennant Creek Style Copper, Gold, Bismuth Mineralisation

The Tennant Creek region is known for shear related gold, copper, and bismuth deposits hosted within a magnetite +/- hematite ironstone unit. The genesis involves deposition of turbiditic sediments which were then hydrothermally altered to discordant magnetite, hematite, chlorite, quartz ironstone bodies and then deformed by faulting during the Barramundi Orogen (1860-1840Ma). A period of granitic intrusions within close vicinity were the source for the economic fluids which precipitated within dilation, fold hinges and shear zones to form many thin pipe-like, ellipsoidal or lensoidal mineralised bodies (Skirrow, Walshe 2002). The reasons for selection of this are as follows:

- The Toomba Fault is a major reverse thrust fault similar to those responsible for the deformation and alteration in the Tennant Creek Province.

- The magnetics show indications of folding which maybe reflecting BIF (Banded Iron Formations) or Ironstone units similar to the host type in the Tennant Creek Region.

- Interpretations of the Arunta Complex suggest it is geologically continuous with the gold bearing Tanami and Tennant Creek provinces (Carroll 2008). Possible metamorphosed sediments with hydrothermal oxidation close to Toomba fault zone within the Arunta Complex would be a favourable host setting

- Both areas have similar evolution settings: there is the initial deformation event (Barramundi Orogen) creating the hydrothermal ironstones as well as dilation and shear zones and possible folding, and then later granitoid intrusions which provide the economic fluids.

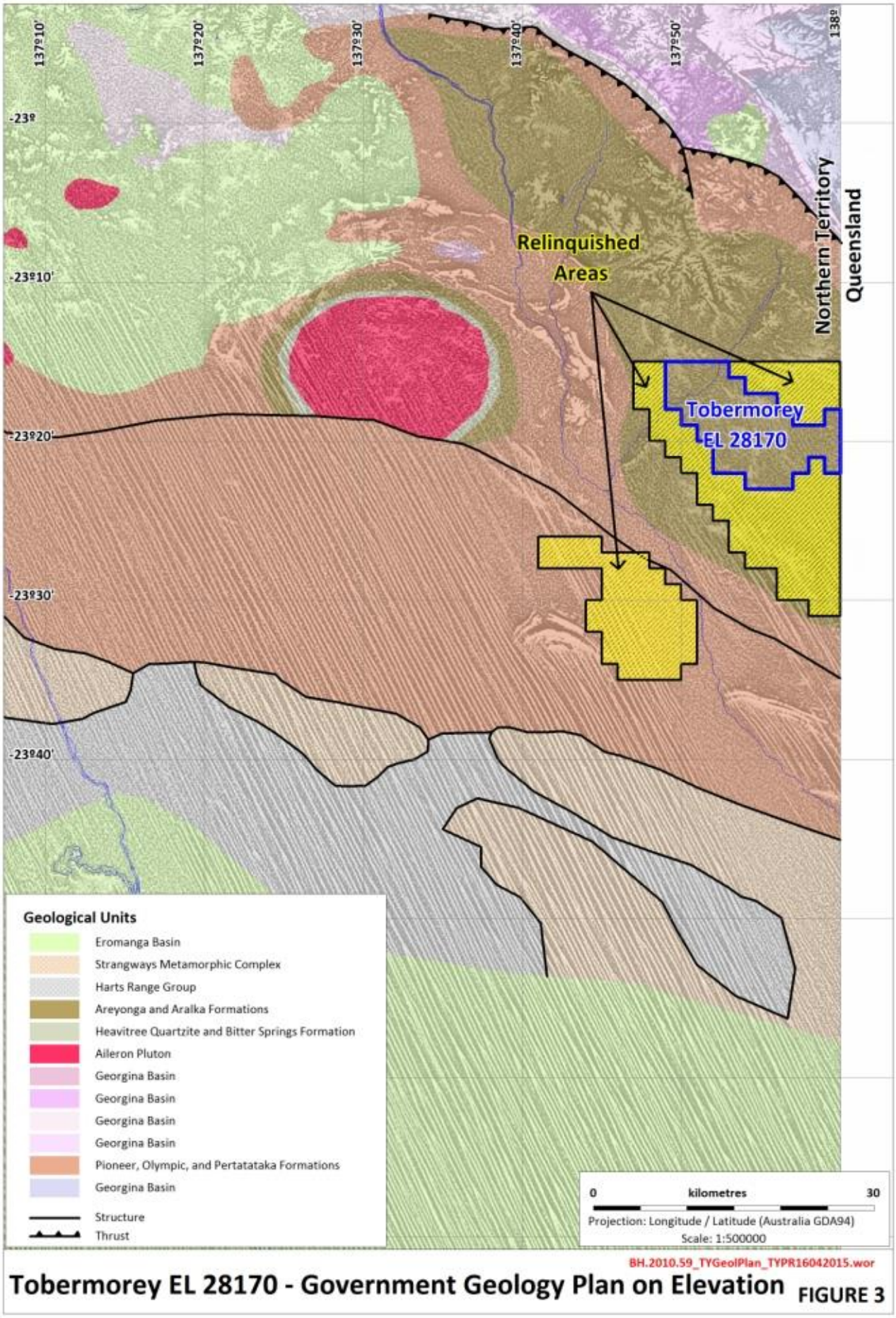

Figure 3: Tobermorey Project Geology

4. PREVIOUS EXPLORATION

The Tobermorey EL has had little previous exploration completed presumably due to the remote location of the tenement. Exploration programmes and results are summarised in Table 2 below.

Table 2: Summary of Previous Exploration on EL 28170

Company	EL	Date	Commodity	Work Done	Results	Reference
Le Nickel (Australia) Exploration	EL366	1973	Uranium	Helicopter supported reconnaissance	Failed to locate any prospective areas	Carrie 1973
Broken Hill	EL3164	1983	Diamonds	Geophysical Interpretation and Percussion drilling	Negative results	
Jones Mining/BHP Minerals	EL4320		Roxby Downs targets	Geophysical interpretations	2 anomalies not followed up	
CRA Exploration	EL7311		Pb, Zn, Cu, Au	111 Stream sediments, 6 rock chips	120ppm Pb, 550ppm Zn in rock chip	

5. EXPLORATION COMPLETED

During the reporting period Krucible completed reviews of the available historical and regional data. An airborne magnetic/radiometric survey was flown in July 2014 and surface geochemical programmes including grab and lag sampling was also completed over the Elstone prospect area.

The areas selected for surrender were chosen on the basis of the failure to identify any potential for mineralisation, through analysis of regional and historical data in conjunction with field exploration results and data.

5.1. Geophysics

Krucible contracted UTS geophysics to complete an airborne magnetic and radiometric survey (Figure 4) the details of which are in Table 3 below. Further details including the equipment used are given in the survey report attached as Appendix 1.

Table 3: Geophysical Survey Specifications:

Project Name	Contractor	Line Spacing	Line Direction	Tie Line Spacing	Tue Line Direction	Sensor Height	Total Line KM	Date of Survey
Tobermorey	UTS Geophysics	150m	090-270	1500m	000-180	40m	2,348	July 2014

Krucible contracted GeoDiscovery to complete processing and depth to source modelling of the data. The survey images show a large deep seated magnetic source interpreted as a granitic body. This regional scale body was removed to highlight the local shallow magnetic features of the survey area (Appendix 2).

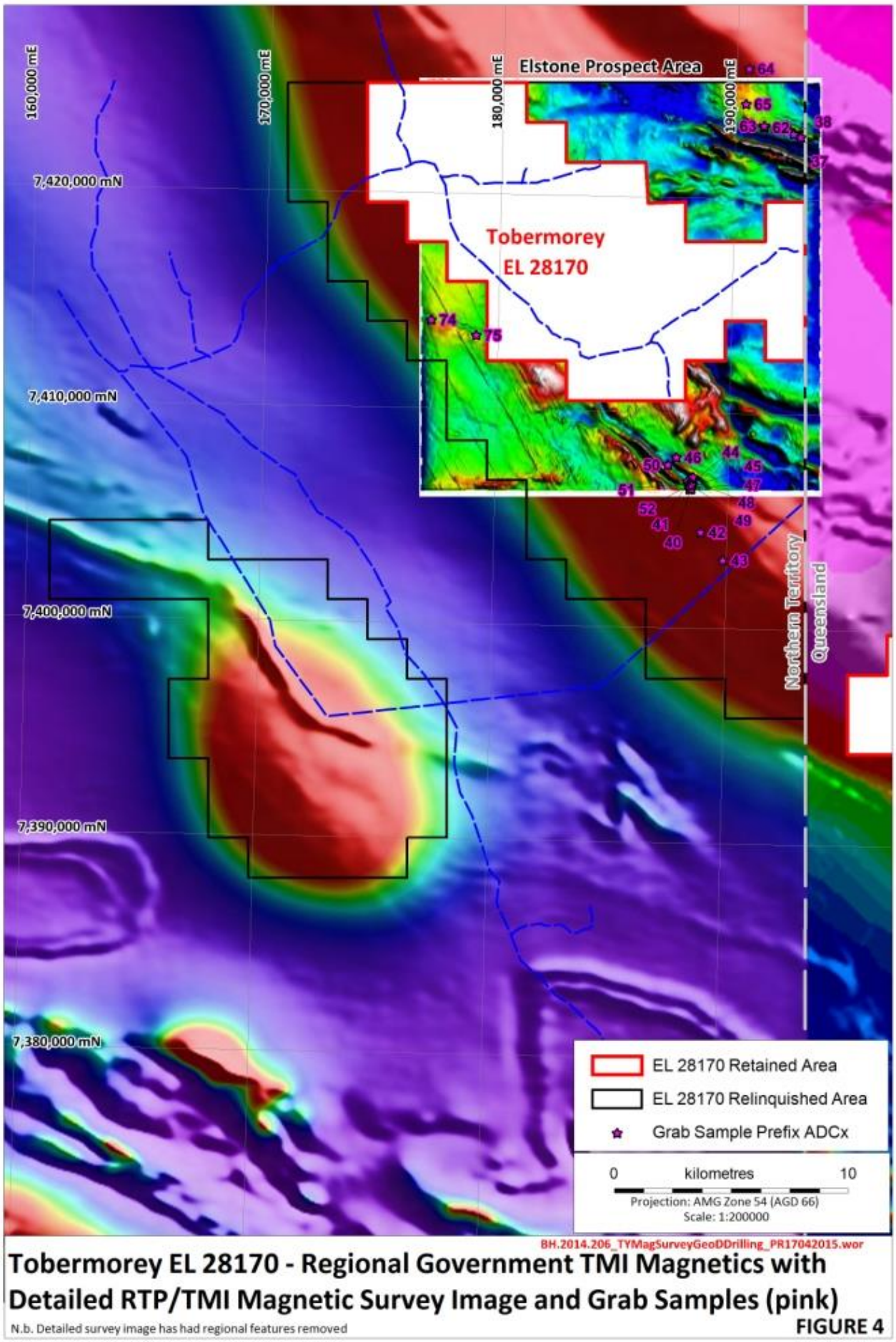

Figure 4: Tobermorey Project RTP/TMI Magnetic Survey Image and Grab Samples

5.2. Geochemical Sampling

A total of 198 lag samples were collected within the relinquished area of the EL. The two grids were selected as areas where prospective units were recorded from reconnaissance exploration. Samples were collected on a grid spacing of 200m x 200m, and a tighter grid spacing of 100m x 100m where reconnaissance exploration located narrow zones of prospective material. Due to the transported and sandy nature of the area not all of the sample points carried lag fragments. Where samples could be collected areas consisted of scree, sub-crop or outcrop.

Sample sites were located using a Garmin 76 GPS with an accuracy of 5m. Samples were collected using a brush and shovel to sweep the material from the surface which was then sieved to a -6mm +2mm fraction. This process is repeated within a 50m radius of the location until the sample weighed approximately 2kg. Once the desired weight was collected the material was placed in a numbered calico bag. Krucible subsequently determined the samples collected were in a non-prospective environment for mineralisation and the samples were not assayed by a laboratory. The descriptions of the samples are attached as Appendix 4 and locations shown on Figures 5 and 6.

During sampling programmes time was spent completing reconnaissance of areas located by satellite imagery. Grab samples were collected during reconnaissance and during lag sampling where material was considered to be prospective for mineralisation. A total of 63 samples were collected where the contract geologist determined the material had potential for mineralisation based on alteration or mineral assemblage. Krucible subsequently determined the samples collected to be in an unfavourable environment for mineralisation. These samples were not analysed by a laboratory. Sample descriptions are attached as Appendix 3 and locations shown on Figure 4.

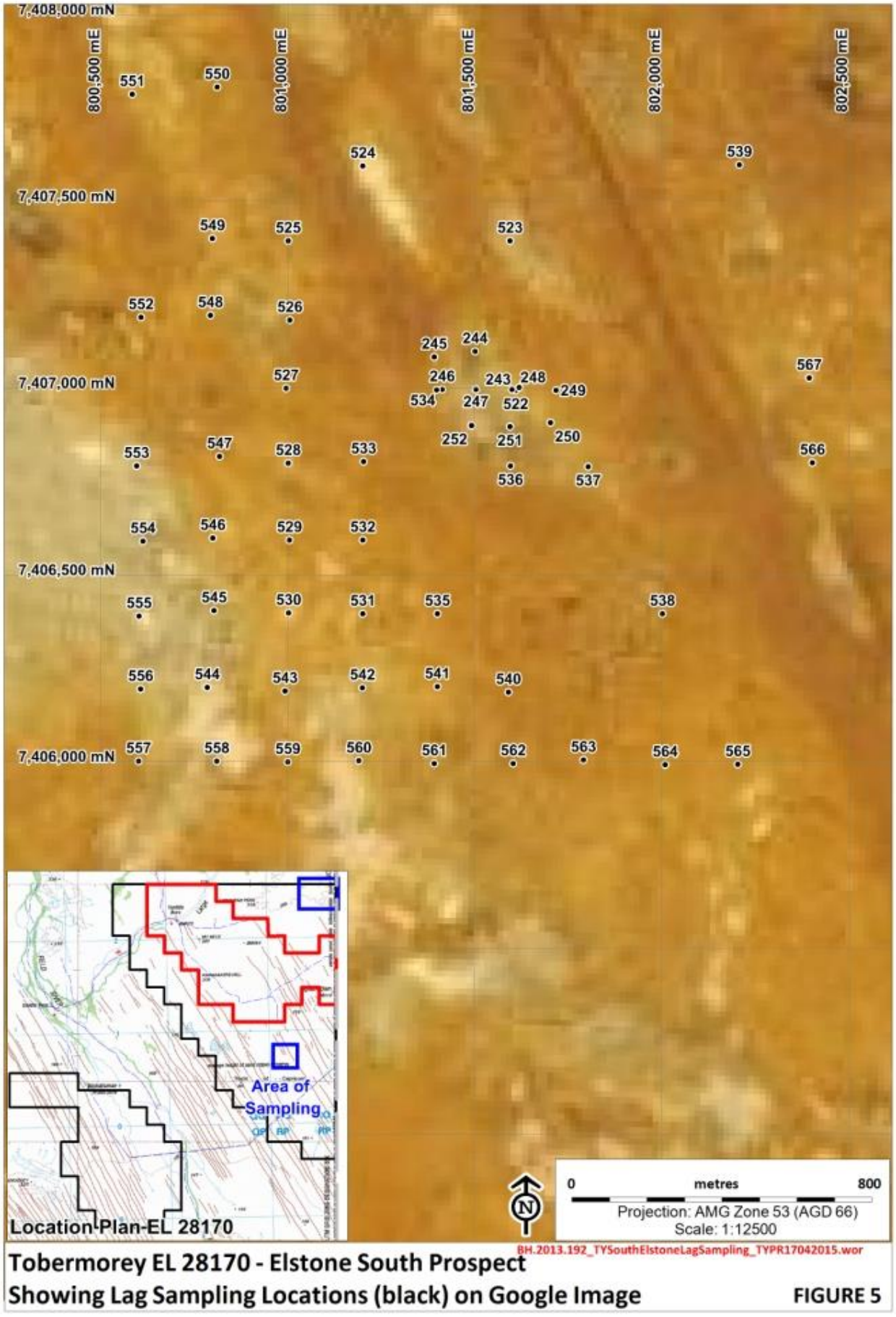

Figure 5: South Elstone Prospect Showing Lag Sampling Locations on Google Image

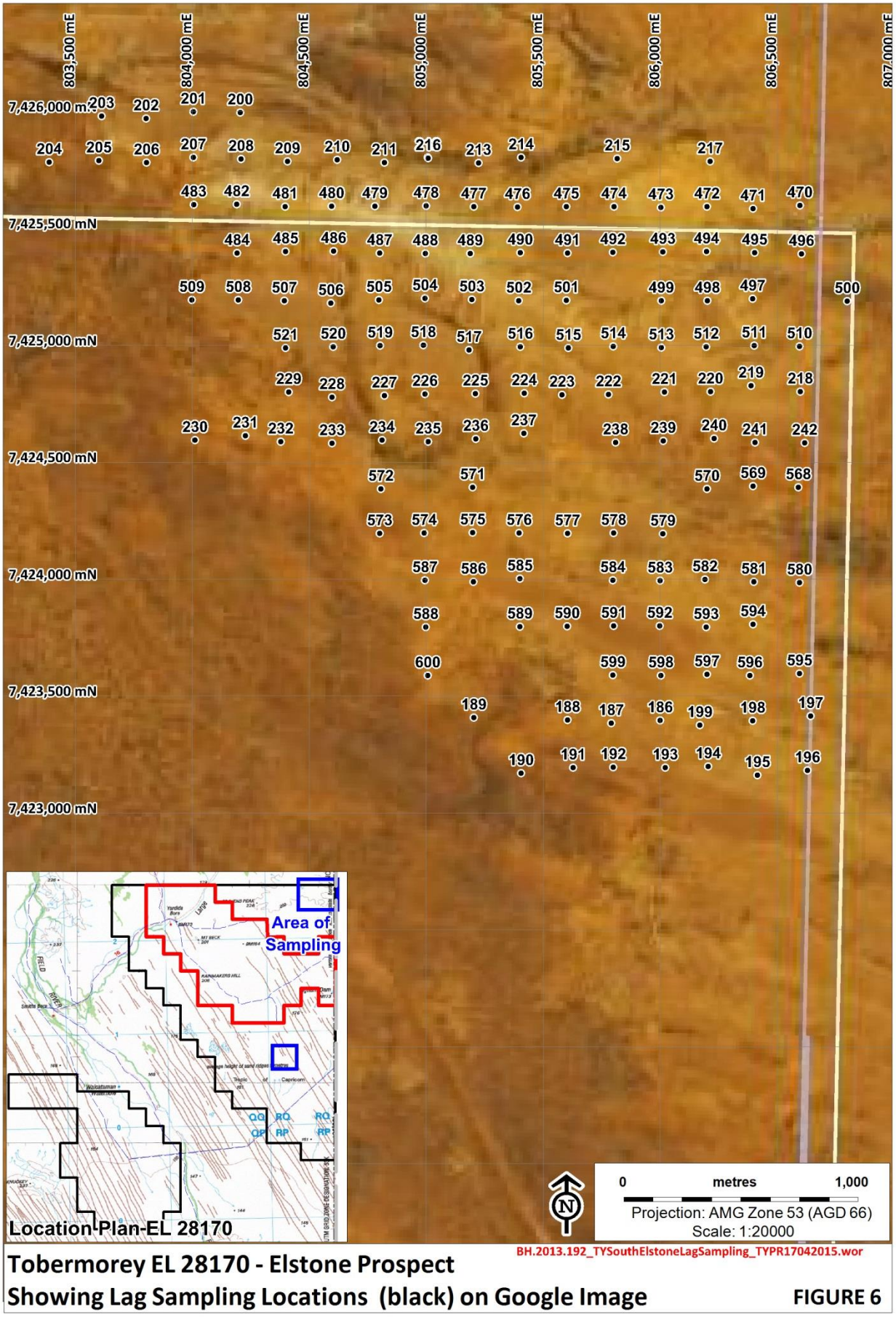

Figure 6: Elstone Prospect Showing Lag Sampling Locations on Google Image

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