OM Manganese Ltd

Title holder (s): OM (Manganese) Ltd (100%)

Operator: As above

Tenement Manager: Bichard Exploration Administration Services Pty Ltd

EL25593
Bootu Creek Project

Partial surrender report for EL25593 during the period 31st July 2007 to 30th July 2010

Author: Reddell, C.T. - Geology Manager, OM (Manganese) Ltd

Target Commodity: Manganese

Date of report: 06/09/2010

Datum/zone: GDA94 MGAz53

250k mapsheet: Helen Springs SE 53-10
100k mapsheet: Brunchilly 5760

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Abstract

EL25593 was granted on 31/07/07 to OM (Manganese) Ltd for a period of six years. During the first three years of tenure satellite imagery and detailed aeromagnetic and radiometric data were acquired over the lease. Field reconnaissance, a historical data review and RC drill testing in the northern half of the tenement suggest that the ground is not favourable to host manganese mineralisation and it was decided at the end of the third year to relinquish the northern most 21 blocks of the tenement.

Contents

Electronic file list

File Name	File type	Content
EL25593_2010_P_01_Report.pdf	pdf	This report
EL25593_2010_P_02_Appendix1.zip	zip	Satellite imagery
EL25593_2010_P_03_Appendix2.zip	zip	Drill data

1 Introduction

1.1 Location and tenure

Exploration Licence (EL) 25593 was granted to OM (Manganese) Ltd (OMM) on July 31st, 2007 for a period of six years. An 'End of Year 2' renewal was lodged in late June, 2009 with a request to waiver reduction of the licence approved on July 15th, 2009.

The licence covers 136.7 square kilometres of ground and is located approximately seven kilometres to the east of the Bootu Creek manganese mine within ML24031. The licence is contiguous with EL22428 and together with EL10412 comprises OM's Bootu Creek project area as shown in Figure 1.

Access to the area is via intermittently maintained sandy tracks heading from either the mine-site or from Number 10 bore on Banka Banka/Helen Springs pastoral stations. The only known outcrop within the licence is a small rise comprised of Cambrian aged fossiliferous limestone. Recent Aeolian deposits blanket the remainder of the licence.

1.2 Geology

The ground encompassed by the exploration licence is covered almost entirely by recent Aeolian sand. Two small outcrops of Cambrian rocks have been mapped within the tenement boundary (see Figure 2) however it is thought that the licence host part of the boundary between the Cambrian aged rocks and those of the Proterozoic Tomkinson Creek Group.

Of particular interest are the rocks of the Middle Tomkinson Creek Group comprising the Attack Creek Formation and the Bootu Creek Sandstone Formation, the former being the shallow marine sandstone and dolostone packages which host the manganiferous mineralization.

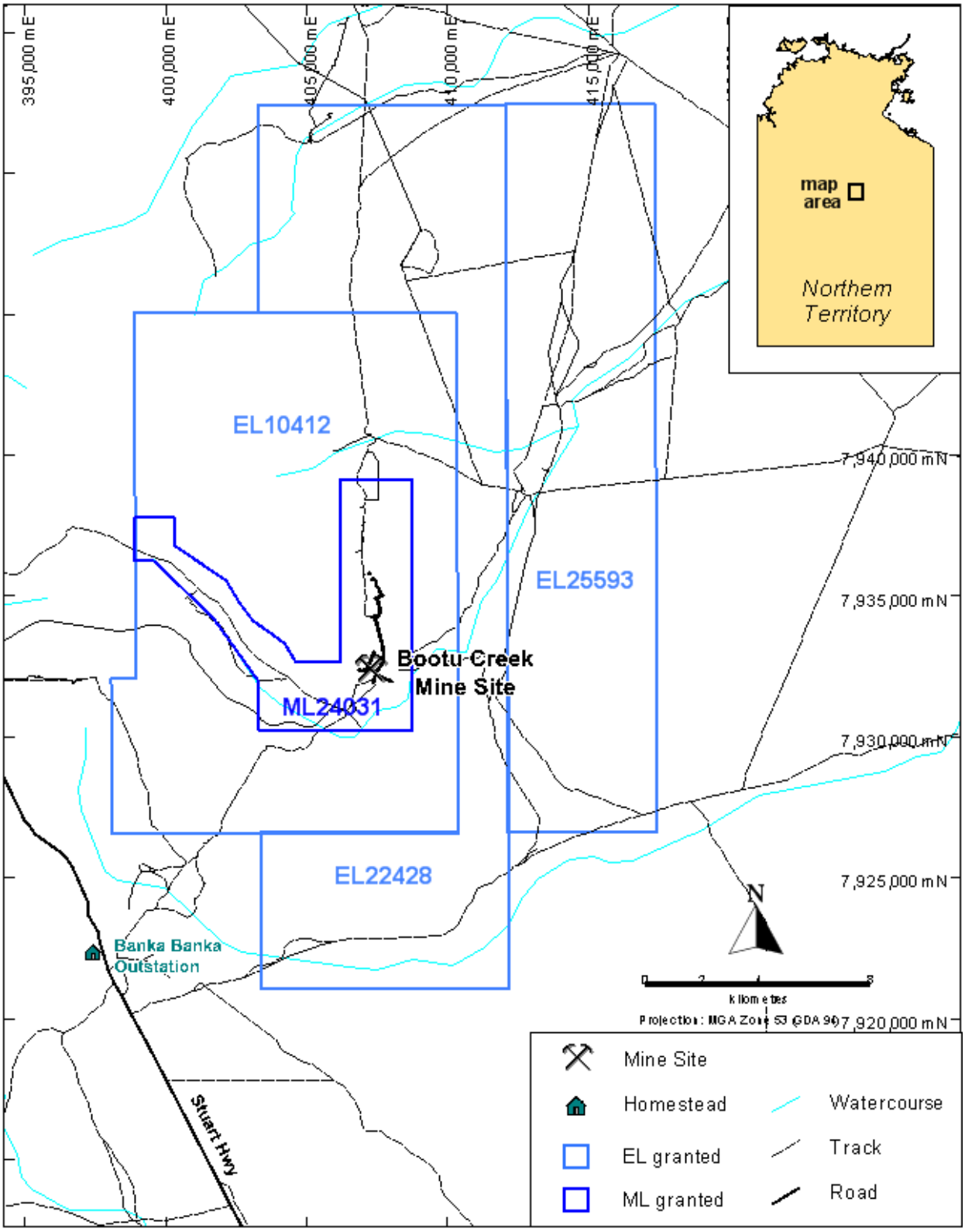

Figure 1 Plan showing the location of EL25593 in relation the Bootu Creek manganese mine.

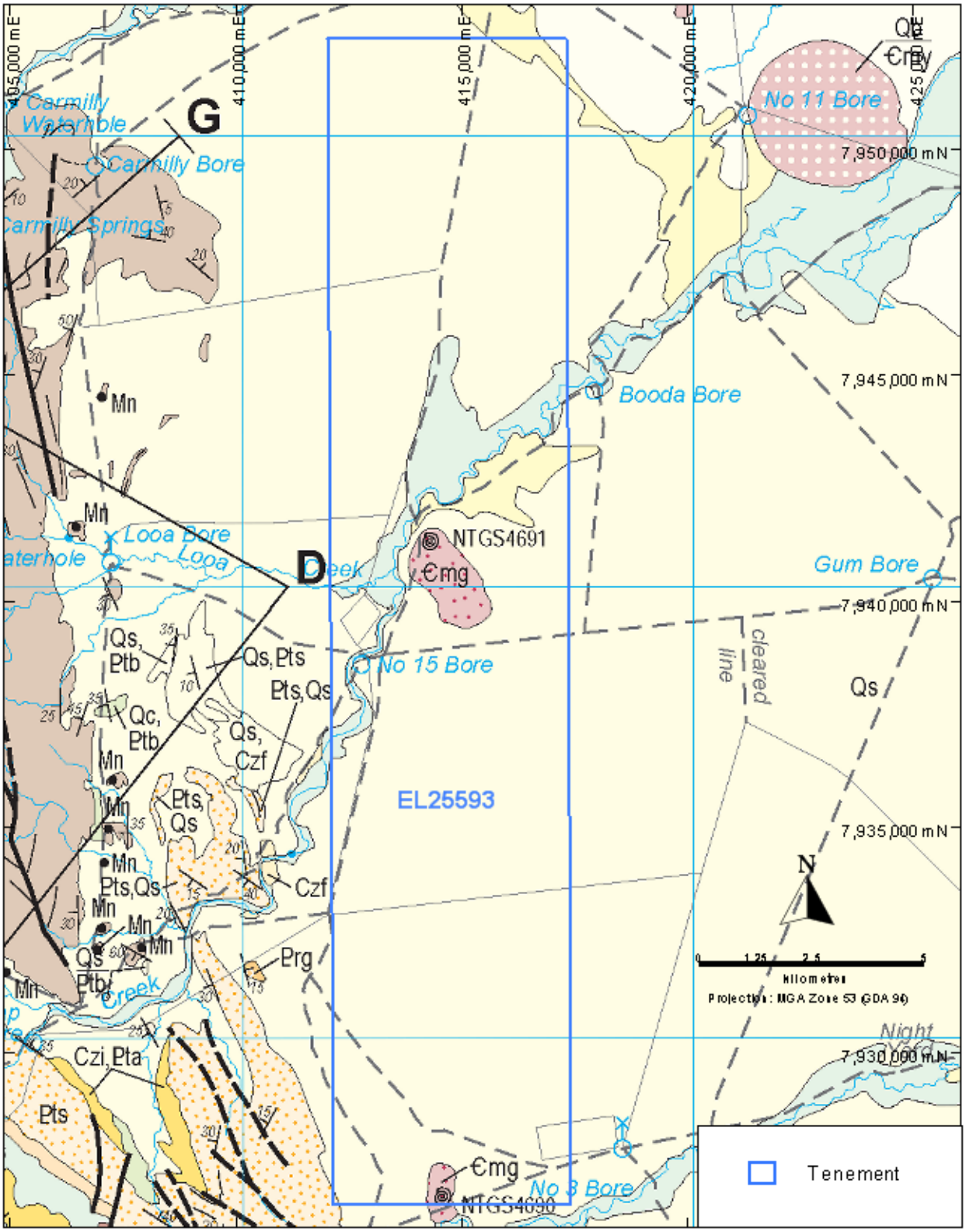

Figure 2 Geological map showing the location of known outcrop and the extent of recent cover in EL26553. Geological data is taken from the published Helen Springs 1:250,000 geology mapsheet (*Hussey et al, 2001*)

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2 Exploration Activity

2.1 Exploration Activity 2007/2008

The work conducted during the first reporting period comprised the acquisition of detailed satellite imagery and reconnaissance mapping/traversing.

2.1.1 QuickBird satellite imagery capture

As an aid to locating tracks, fences, outcrop and other features of use to exploration and drilling access, OMM commissioned a high resolution satellite image from GeoImage Pty Ltd in Brisbane, Queensland. The satellite was tasked to acquire data over the entire area (598 km^2) of EL10412, EL22428, and EL25593 as shown in Figure 3.

The QuickBird colour scene was produced from QuickBird 0.6m, 3-band pan sharpened, data captured during July 2008. The dataset was orthorectified to GDA94/MGA53 datum/projection. The dataset is comprised of imagery dated 06 July 08 and 11 July 2008.

The dataset was formatted to ECW compression format and provided with an ALG and TAB file for opening within MapInfo GIS products. Additionally, the data was supplied in BIL format with associated header files. The GIS files for this data are included as Appendix 1.

The dataset was orthorectified using PCI OrthoEngine with cubic convolution methodology. XY control for the orthorectification was supplied by OMM.

2.1.2 Field reconnaissance

Ground traverses along and proximal to existing tracks confirmed the almost entire coverage by Aeolian sand.

2.2 Exploration Activity 2008/2009

Exploration activities conducted during the past year included:

- completion of an RC drilling program,
- acquisition of aeromagnetic and radiometric survey data, and
- reprocessing of the new aeromagnetic data.

2.2.1 RC drilling program

McKay Drilling was contracted to perform drilling within EL25593. The drilling contractor used a Schramm T650WS rig with a towed dust suppression trailer mounting a cone splitter producing an approximate 25% split sample. The rig was accompanied by a truck mounted auxiliary compressor and a third truck with drill-rod handling facilities on-board. The rig drilled a 5¼" hole.

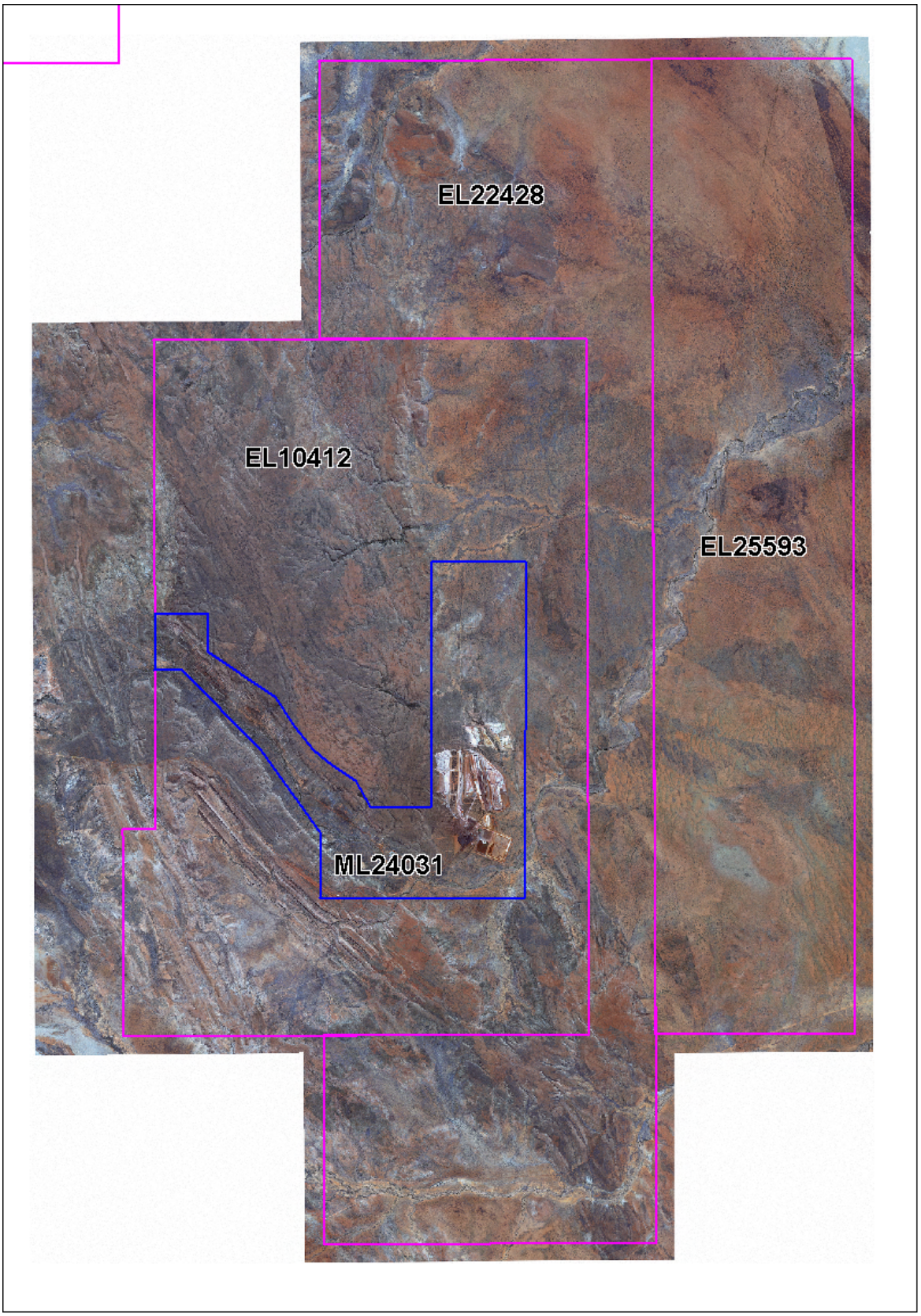

Figure 3. Quickbird satellite imagery captured over EL10412, EL22428, EL25593 and ML24031 during the first year of tenure.

A total of 4 holes, shown in Figure 4, were drilled to various depths of between 150 and 200 metres for a cumulative total of 708 metres. All holes were completely dry and no manganese was intersected.

A zipped file containing the drill data in txt format and a pdf of the logging codes is included as Appendix 2.

2.2.2 Aeromagnetic and radiometric survey

GPX Geophysical Exploration Services were contracted to acquire both radiometric and aeromagnetic data across all of OMM's tenement holdings. The total survey parameters are shown in Table 1.

The total survey area was divided into two sections covering the grouped tenement holdings. EL25593 lies entirely within the southern survey area. The location of the southern survey area is shown in Figure 5.

All data captured during this survey was submitted as part of the EL23459 2008/2009 annual report.

Type of Data	Aeromagnetics and Radiometrics
Survey datum	GDA94, MGA Zone 53
Survey line spacing	150 metres
Survey line direction	090-270 degrees
Tie line spacing	1,500 metres
Tie line direction	0-180 degrees
Mean terrain clearance	53 metres
Survey distance	10,605 km
Survey Date	October 2008
Survey by	GPX Geophysical Exploration Services
Job No.	2356
Survey commissioned by	OM (Manganese) Limited

Table 1. OMM 2008 Geophysical survey parameters

2.2.3 Aeromagnetic data

GPX supplied four gridded magnetic images with the data package - TMI, RTP and their 1VD. Figure 5 (magnetic data reduced to pole) highlights the extent of what has been interpreted to be extruded igneous rocks as discussed below. The western margin of the volcanics is quite clear in contrast to the rocks of the Tomkinson Creek Group.

Also clearly visible are the zones of low magnetic anomalism in the northern part of EL25593. During the initial interpretation of the magnetic data these zones were thought to represent topographic highs of sedimentary rock, or 'islands' around which the lavas had flowed when erupted. As discussed below, the drilling produced data which does not entirely support this idea.

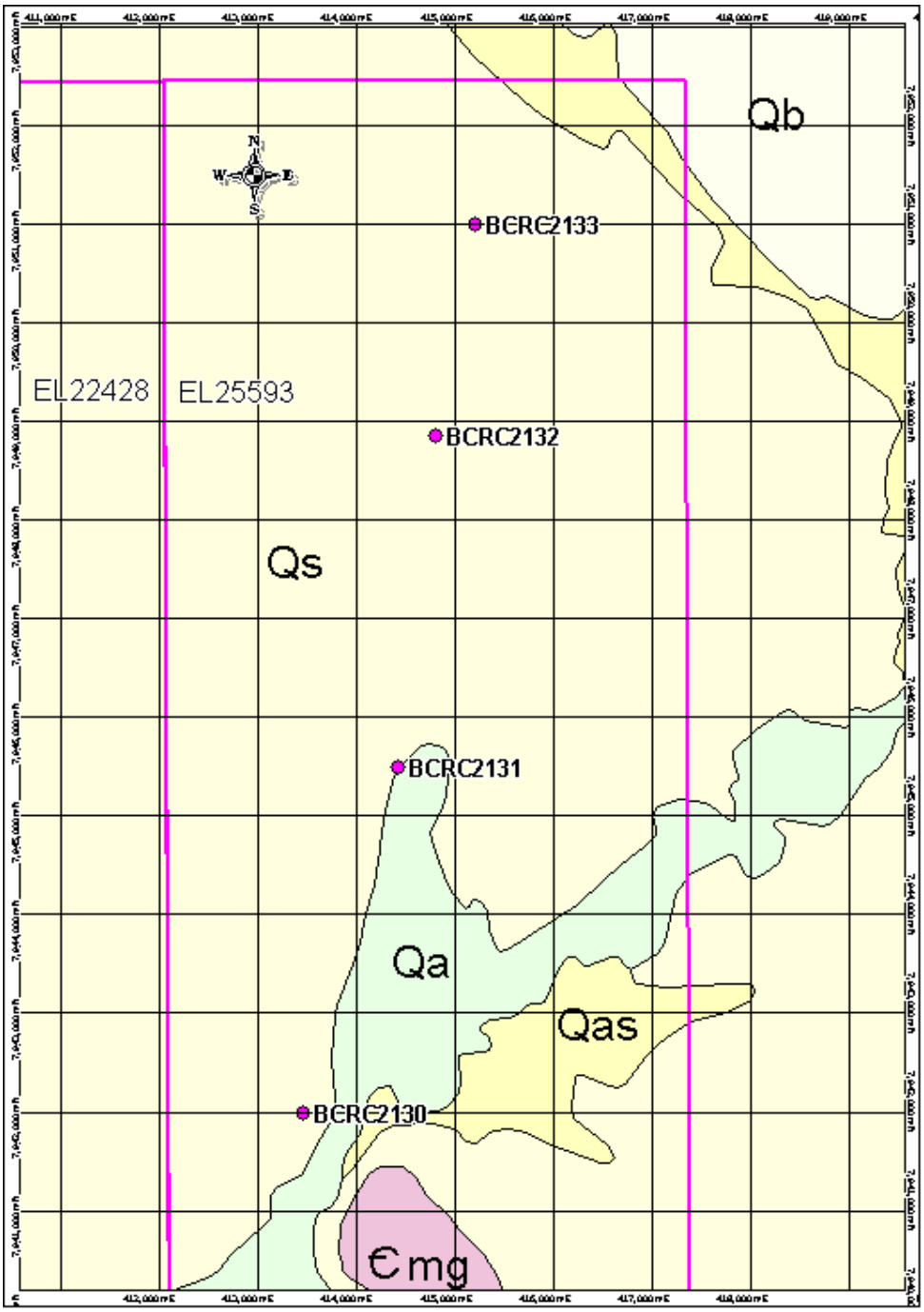

Figure 4. Plan showing the location of the four RC holes drilled within EL25593 during the reporting period. Background is the published NTGS geology from the 1:250k Helen Springs geological map.

2.2.4 Radiometric data

As is to be expected where Aeolian sands cover almost the entire licence, the radiometric data shows very little detail and few anomalous signatures. Elevated potassium is observed coincident with the trace of Bootu Creek however this is thought to reflect the burden carried by the creek from the Attack Creek Formation rocks upstream.

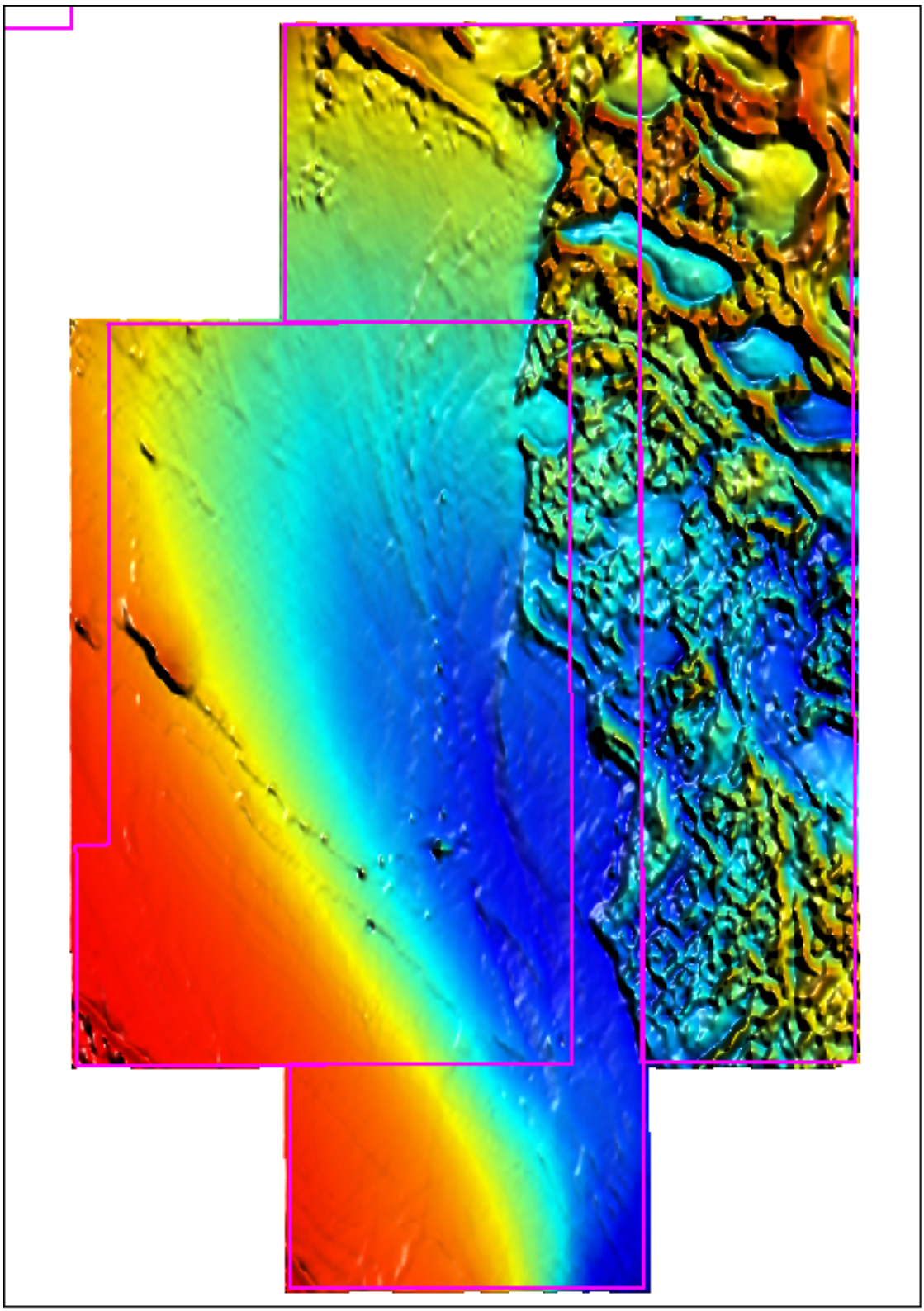

Figure 5. Map showing the extent of the aeromagnetic data over the southern survey area. The data (RTP) highlight the interpreted distribution of the extrusive volcanic rocks across EL25593 and in part of EL22428.

2.2.5 Reprocessing of aeromagnetic data.

The data collected during the reporting period were sent to Vector Research for reprocessing using the TargetMap algorithms.

TargetMap is a 2-dimensional pattern recognition algorithm developed by Vector Research to enhance the resolution of geophysical survey data. It can resolve detail in survey data and "see" the subsurface geology and its structures through the masking effects of overburden and cultural interference.

2.2.6 Discussion of data collected during 2008-2009

The four RC holes drilled in September 2008 were quite widely spaced and were intended to produce a regional picture of the geology within EL25593. Figure 6 is an interpreted cross-sectional view originally produced at a scale of 1:50,000 with a vertical exaggeration of X100. Analysis of the XRF data shows three dominant rock types (ignoring the several metres of Aeolian sand covering the area).

BCRC2133, the northern most hole, contained approximately 40 metres of quartzite over rocks which assayed (nominally) 35% Ca, 25-30% Mg, and 30% volatile material. This unit was classified as dolomite.

All four holes contained what appeared to be a slightly porphyritic (as noted in RC chips) rock with obvious feldspar crystals of <2mm, and a variable weathered dark mineral (amphibole?) of <2mm in a fine groundmass. Assay results show the rock to be composed of 52-56% silica, 8-10% FeO, ~15% Al_2O_3, 1% TiO_2, and 2% K_20. No data is available for the sodium content of the rock however the high aluminium content and the intermediate silica content suggest the rock is a peraluminous andesite.

The great thickness of dolomite observed in BCRC2133 contrasts with its complete absence in the 'adjacent' hole, BCRC2132. This suggests a structurally controlled contact between the two packages.

BCRC2132 intersected 20 metres of andesite at depth from 87 metres and this horizon is also absent in adjacent holes. However a recurrence of ?the same? unit at a shallower depth is observed in all four holes (separated by a total of nine kilometres). The igneous unit is variably intercalated with quartzite and thickens to the south where it is as shallow as six metres below surface.

Figure 5 shows several magnetic lows elongated in a NW-SE orientation. A preliminary interpretation of the data suggested that these bodies may have been hills or 'islands' of sediment during the time of eruption of the lavas. However as both BCRC2133 and BCRC2132 are located within two of these bodies, and BCRC2132 intersected andesite at depth, the validity of this hypothesis is questionable given that the drill-hole intersected at least thirty metres of lava.

Both BCRC2130 and BCRC2131 intersected significant thicknesses of igneous rock and are located in the zone of 'noisy' magnetic high. Thus the areal extent of that magnetic 'unit' is interpreted to reflect the distribution of the andesite.

The explanatory notes accompanying the 1:25k geological map (Hussey *et al*, 2001) describe the volcanic lithofacies of the Cambrian aged Helen Springs Volcanics as being of basaltic composition however no chemical data were found in the available literature to support this. The unit intersected with drilling during the reporting period may belong to the Helen Springs Volcanics.

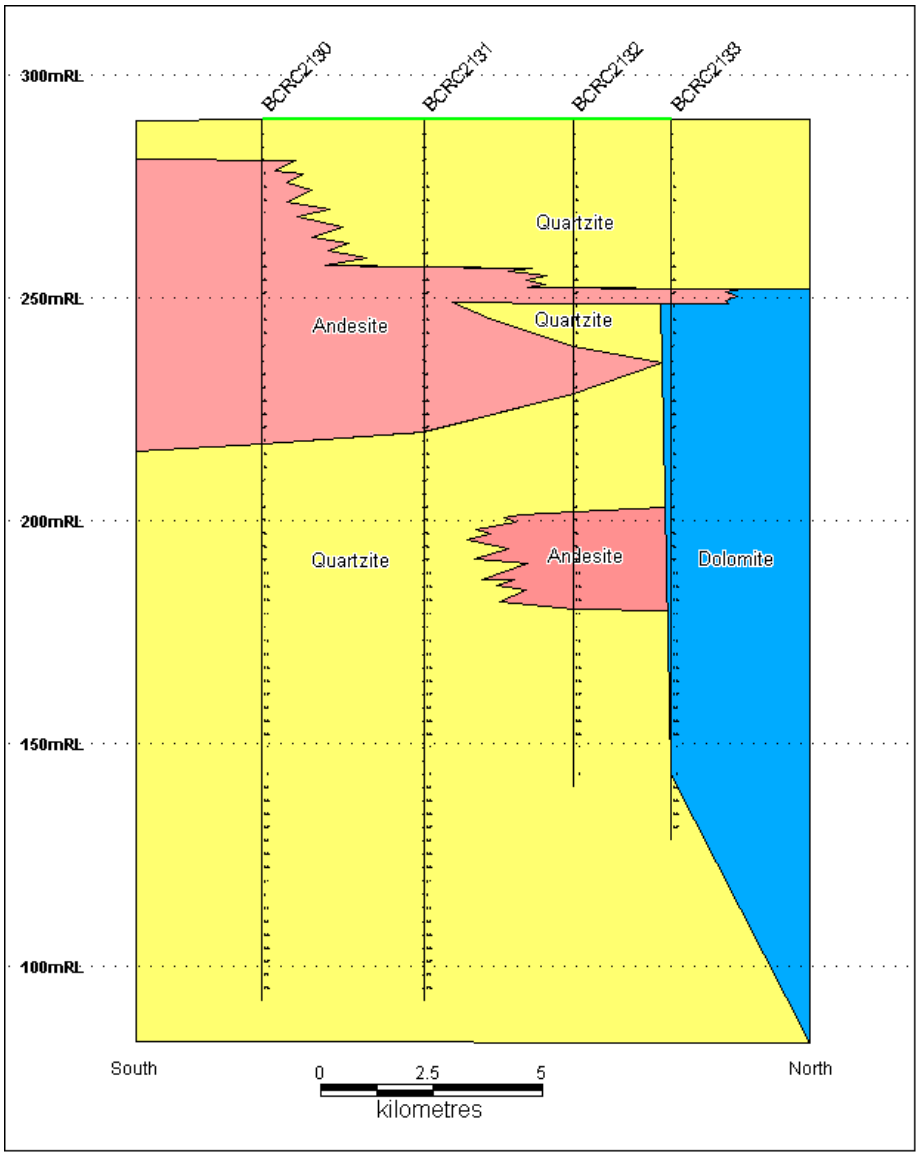

Figure 6. Stylized geology of the N-S section defined by RC drilling in the northern half of EL25593. VX = X100

The quartzites are typically composed of greater than 90% silica with the balance being K, Al, Fe and LOI.

The other member of the Helen Springs Volcanics described in the explanatory notes is the Muckaty Sandstone. While this unit is described as having quite variable thickness, the amount of quartzite observed in the drill-holes in EL25593 far exceeds that described and it is uncertain if all of the quartzite belongs to the Helen Springs Volcanics or if that unit is overlain on an older quartzite.

2.3 2009/2010 Exploration Activity

Exploration activities conducted during the past year included comprise a review of historical open file reports and collation of the data within them and a recommendation to relinquish the northern half of the tenement.

2.3.1 Historical report review and data collection

In late 2008, all available open file reports relating to historical exploration activity over the tenement area now held by OMM were requested from the NTGS.

The reports are being reviewed chronologically and, where available and possible, the drilling and surface sample data within them is being extracted and assembled in a historical database, and geological maps, local grid systems and other GIS data is being digitised. This process is ongoing, with approximately 80% of the 46 reports reviewed.

2.3.2 Partial tenement relinquishment

RC drill testing in 2008 proved the stratigraphy in the northern half of the tenement to be unfavourable for manganese mineralization instead being dominated by, what is interpreted to be, Cambrian volcanics, dolomite and sandstone. The decision was made to surrender the northern portion of the tenement, as shown in figures 7 and 8.

3 References

Hussey, K.J., Beier, P.R., Crispe, A.J., Donnellan, N., and Kruse, P.D., (2001) Helen Springs, Northern Territory. 1:250,000 geological map series and explanatory notes, SE53-10 (Second Edition) *Northern Territory Geological Survey* **pp34-36**

Bushell, D. J., Annual report for EL25593 for period 31st July 2009 to 30th July 2010. *Unpublished report for OM (Manganese) Ltd and the NT Department of Mines and Energy.*

Mudge, S. T., Specialised Processing of Aeromagnetic Data using TargetMap*, Unpublished explanatory notes for OM (Manganese) Ltd.*

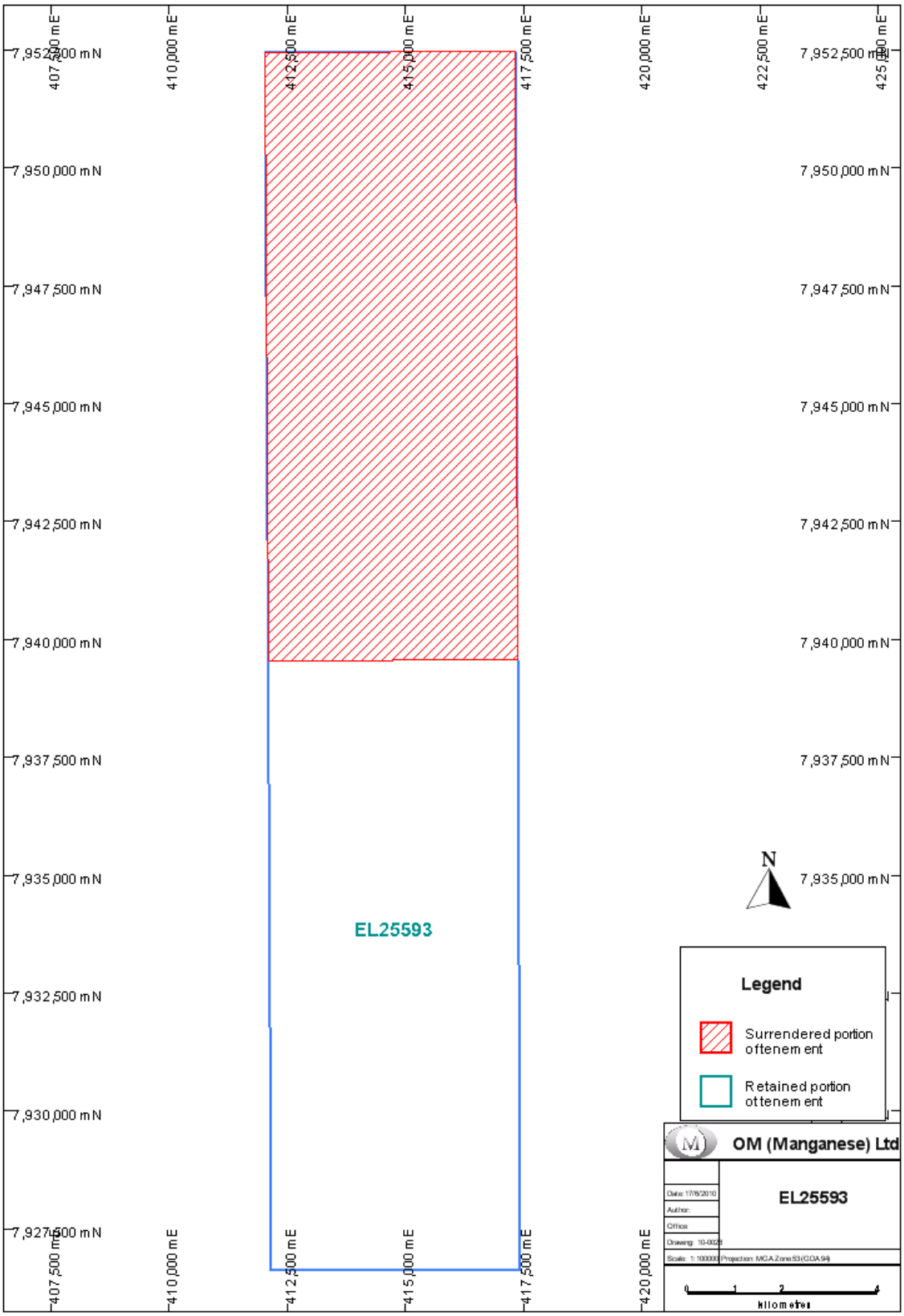

Figure 7. Plan showing the surrendered and retained portions of EL25593.

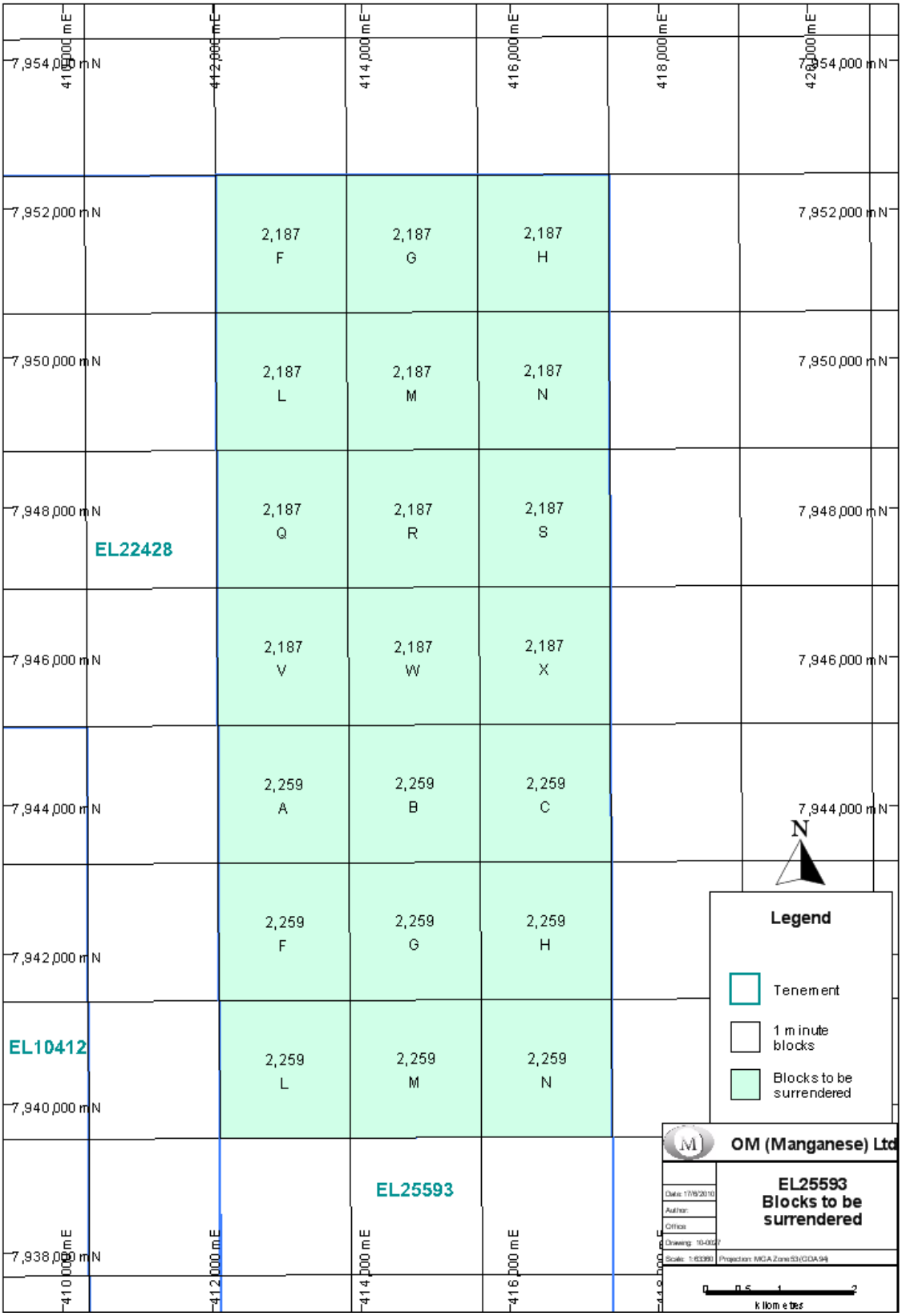

Figure 8. Plan showing the surrendered blocks of EL25593.