

EL27560 Partial Relinquishment Report for the period 3 March 2018 – 2 March 2019

Titleholder: Northern Territories Resources Pty Ltd
Project Operator: Northern Territories Resources Pty Ltd
Tenement Agent: AMETS Pty Ltd
Reporting Period: 3 March 2018 – 2 March 2019
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Date: 15 May 2019
Target Commodities: Cu Pb Zn Ag Co Ni
Mapsheets: Noonamah 1:100,000 / Darwin 1:250,000

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Abstract

The relinquished portion of EL27560 is located approximately 70 kilometres south of Darwin and 7.5 kilometres north of Batchelor. At grant the tenement comprised two (2) sub blocks for a total area of approximately 0.47 square kilometres. In early 2017, the Company was informed that a portion of the tenement fell within General Reservation of Land RL31445 notably created to increase the catchment area that forms part of the Darwin Region Water Supply Strategy. Subsequently, the tenement was subject to a partial relinquishment excising the area falling within RL31445. The reduction comprised approximately 0.1 square kilometres which is the subject of this report. Activities over the relinquished area have formed part of the Company's regional exploration strategy targeting discovery of polymetallic mineralisation within the highly prospective Rum Jungle Mineral Field. Several regional geophysical surveys have been completed over the area including electromagnetics, magnetics, ground gravity, airborne gravity and LiDAR. The AEM survey was completed on 100 metre flight lines of which eleven (11) fell within the relinquished area for a total length of 1,014 metres. The ground gravity survey included just one (1) station within the relinquished area. The airborne gravity survey, also acquiring magnetics and LiDAR data, was completed on 200 metre flight lines of which six (6) fell within the relinquished area for a total length of 480 metres. In the year preceding relinquishment, the area was subject to a regional LiDAR survey at one-metre resolution. The economic prospectivity of the area is now considered redundant where it is subject to General Reservation of Land RL31445.

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1.1 Location, Physiography & Access

The relinquished portion of EL27560 is located approximately 70km south of Darwin and 7.5km north of Batchelor. Access from Darwin is via sealed roads to Batchelor and then northward via the Litchfield Road.

The area is located within the Pine Creek Bioregion characterised by a tropical monsoonal climate. The area records an average annual rainfall of 1,564mm with most occurring during the wet season between November and March.

Vegetation comprises eucalyptus woodland of moderate density.

1.2 Title History

Application for EL27560 was lodged on the 21st August 2009 and subsequently granted on the 3rd March 2010 for a period of three (3) years to Compass Resources Limited with HNC (Australia) Resources Pty Limited nominated operator and manager.

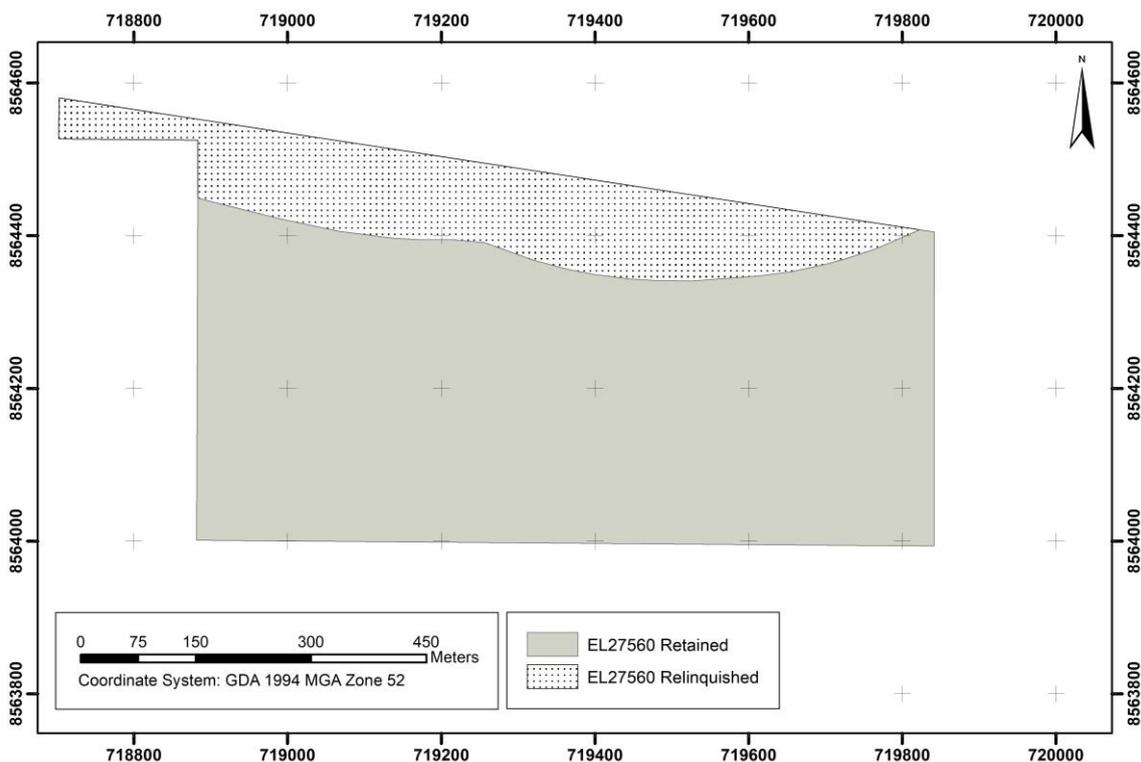
At grant EL27560 comprised two (2) sub blocks for a total area of approximately 0.47km².

On the 20th January 2017, the Company was informed that a portion of the tenement fell within General Reservation of Land RL31445 notably created to increase the catchment area that forms part of the Darwin Region Water Supply Strategy. Subsequently on the 15th March 2019, the tenement was subject to a partial relinquishment excising the area falling within RL31445. The reduction comprised 0.1km² and was backdated to the title anniversary.

The retained portion of EL27560 comprises one (1) sub block for a total area of approximately 0.37km².

The excised area is the subject of this report.

Figure 1. Area of EL27560 subject to relinquishment comprising approximately 0.1km².



1.3 Geological Setting

The relinquished portion of EL27560 is located within the Rum Jungle Mineral Field which forms part of the Paleoproterozoic Pine Creek Orogen. The Rum Jungle Mineral Field comprises two granitic basement domes (the Rum Jungle and Waterhouse domes) of the Archean Rum Jungle Complex which are unconformably overlain by a thick sequence of Paleoproterozoic metasedimentary and volcanic rocks (Mccready, et al., 2004).

Of the overlying stratigraphy, the Mount Partridge Group is of particular economic significance and includes the Whites Formation; a sequence of metamorphosed carbonaceous siltstone, mudstone and shale that hosts the Browns polymetallic (Pb-Zn-Cu-Co-Ni) sulphide Mineral Deposit (Mccready, et al., 2004). The Browns deposit is the largest mineral deposit identified in the Rum Jungle area (Mccready, et al., 2004).

The structural architecture of the region is dominated by the Giants Reef Fault; a northeast – southwest trending fault zone that separates the Rum Jungle and Waterhouse Domes with predominantly episodic dextral strike-slip movement (Gordon, 2008).

The relinquished area covers sequences of the Coomalie Dolostone which underlies the Whites Formation of the broader Mount Partridge Group. A series of north-south trending splays off the Giants Reef Fault dissect the area.

The area is covered by extensive colluvium with limited outcrop.

1.4 Exploration History

In late 2010, the relinquished area was covered by a regional aerial electromagnetic ('AEM') survey utilising a gpX-TEM Heliborne Time Domain EM system (Rosewall, 2011). The survey covering EL27560 was completed on 100m north-south flight lines; eleven (11) lines fell within the relinquished area for a total length of 1,014m. The survey was reportedly affected by military radar signals and minor internal inaccuracies which were rectified by post processing in 2011 (Rosewall, 2011).

A regional ground gravity survey was also completed during 2010 with just one (1) station occurring within the relinquished area (Rosewall, 2011).

During 2012, EL27560 was included in a regional airborne gravity survey utilising the Falcon AGG system allowing simultaneous acquisition of magnetics and high-resolution elevation data (LiDAR) (Rosewall, 2012). The survey covering EL27560 was completed on 200m north-south flight lines; six (6) lines fell within the relinquished area for a total length of 480m.

Subsequently, the relinquished portion of EL27560 was included in several regional scale desktop assessments targeting synthesis of the various geophysical datasets (including electromagnetics, magnetics and gravity) to enhance exploration targeting (Rosewall, 2015).

1.5 Exploration Rationale

EL27560 is dominated by extensive sequences of the broader Mount Partridge Group known to host several polymetallic mineralisation occurrences, including the Browns polymetallic (Pb-Zn-Cu-Co-Ni) sulphide Mineral Deposit.

The economic prospectivity of the area is considered redundant where the area is now subject to General Reservation of Land RL31445 notably created to increase the catchment area that forms part of the Darwin Region Water Supply Strategy.

1.6 Exploration Activities Completed During the Reporting Period

During the year preceding relinquishment, EL27560 was subject to further geophysical studies including re-processing of the 2010 AEM data (Lori, 2018). While this work is continuing, preliminary assessment did not identify any anomalies within the area.

In 2018, the tenement was subject to a regional LiDAR survey with the area flown with 2-point coverage or one-metre resolution (Lori, 2018).

1.7 Conclusions & Recommendations

The economic prospectivity of the area is considered redundant where it is now subject to General Reservation of Land RL31445 notably created to increase the catchment area that forms part of the Darwin Region Water Supply Strategy.

1.8 Data

On the 14th May 2019, the Department approved a request to obviate the need to “cookie-cut” the various geophysical datasets pertaining to the relinquished portion of the tenement. Approval was granted on the premise that these datasets are inconsequential given the size of the area (0.1km²) subject to relinquishment.

1.9 Figures

Figure 2. Location plan.

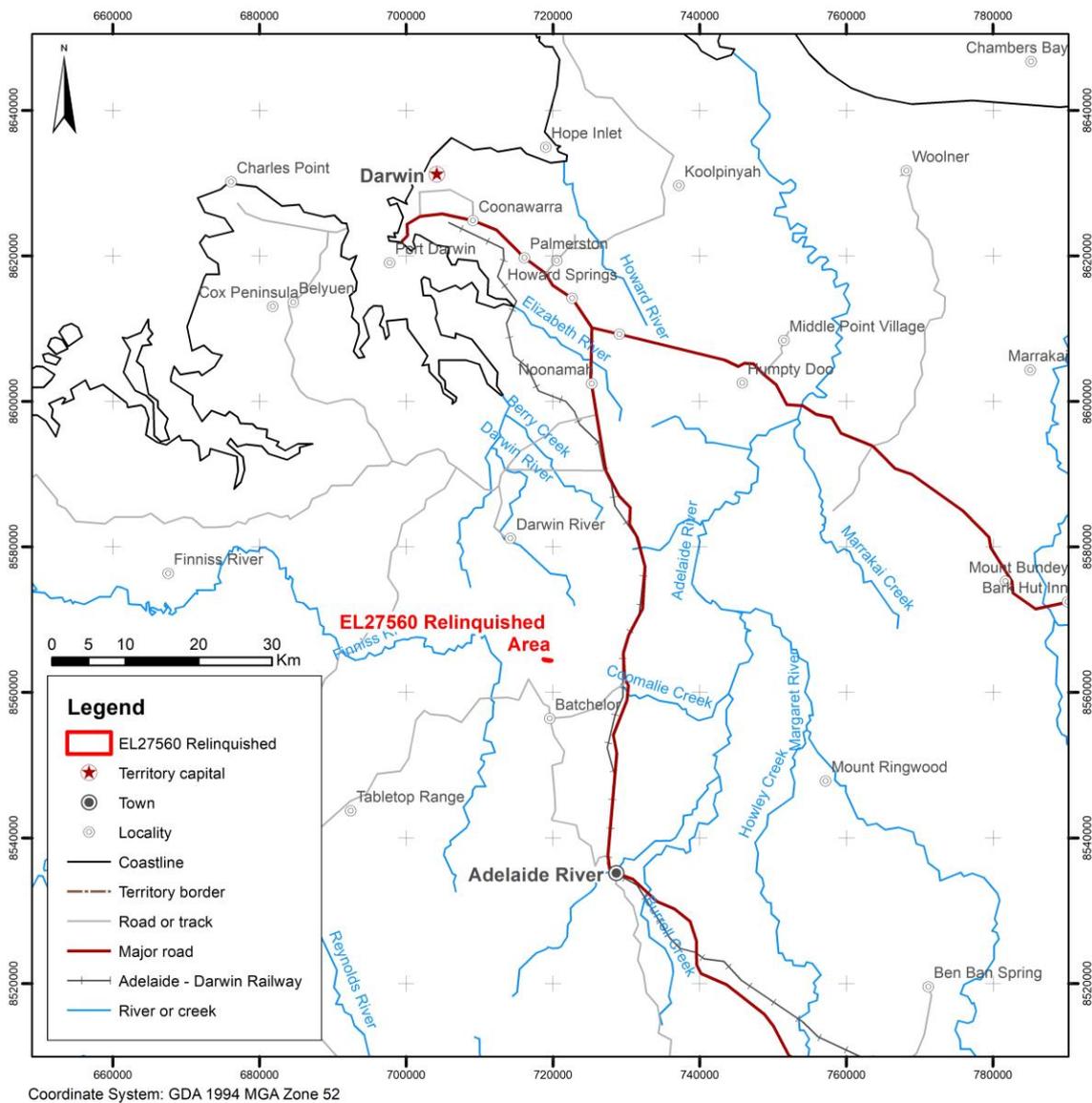


Figure 3. Falcon AGG Gravity re-processed imagery for the relinquished portion of EL27560.

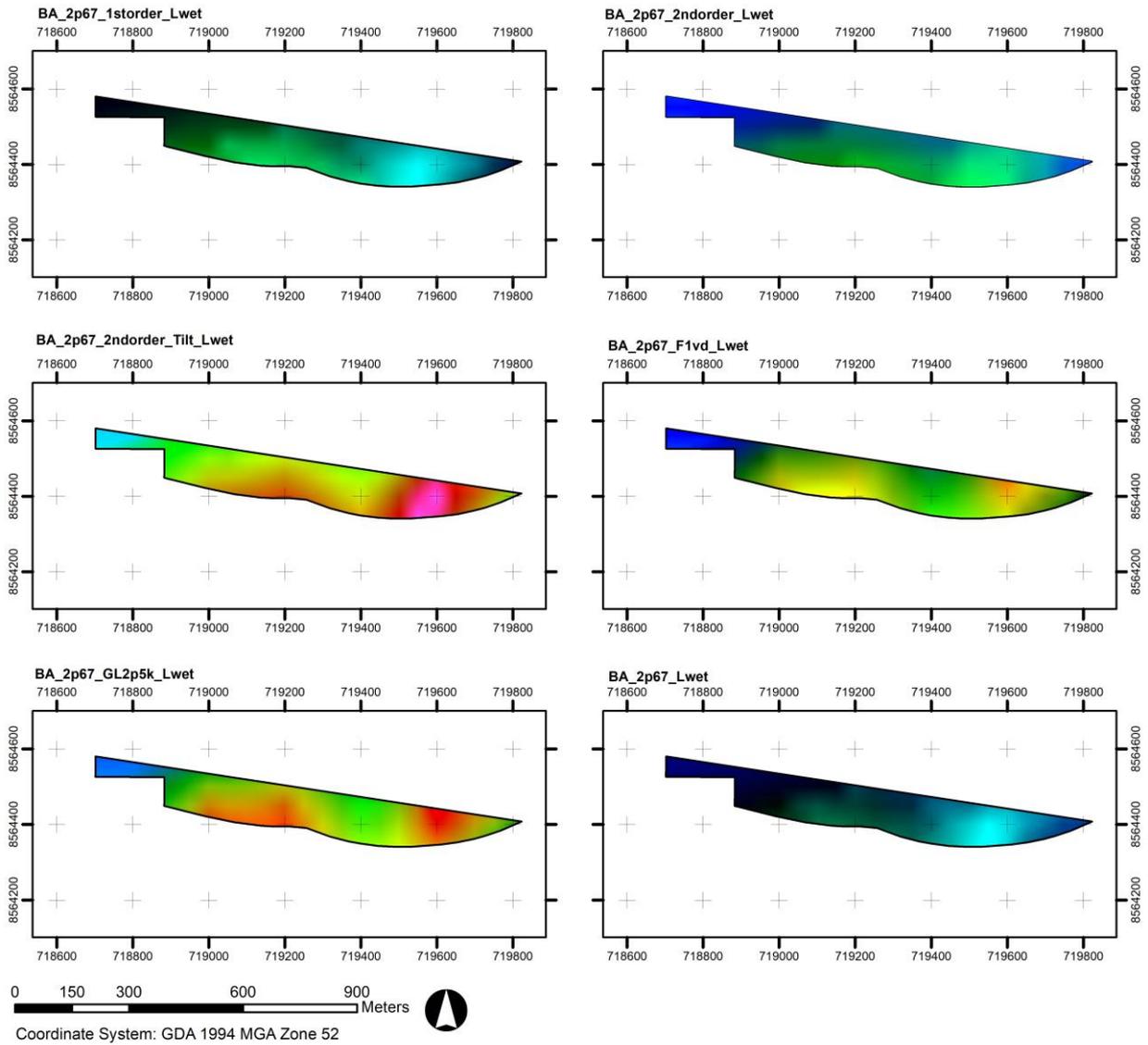


Figure 4. Re-processed magnetic imagery for the relinquished portion of EL27560.

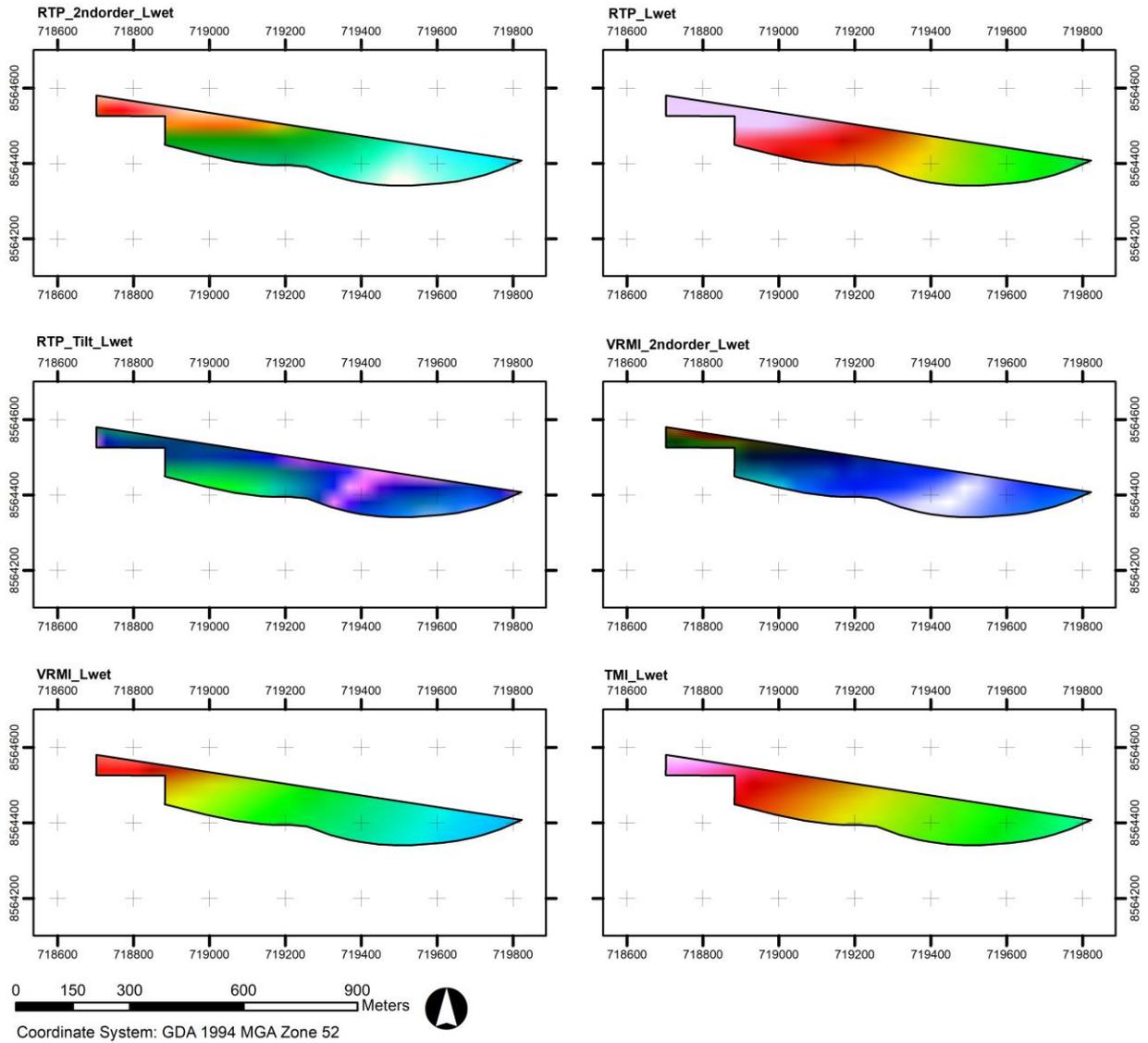
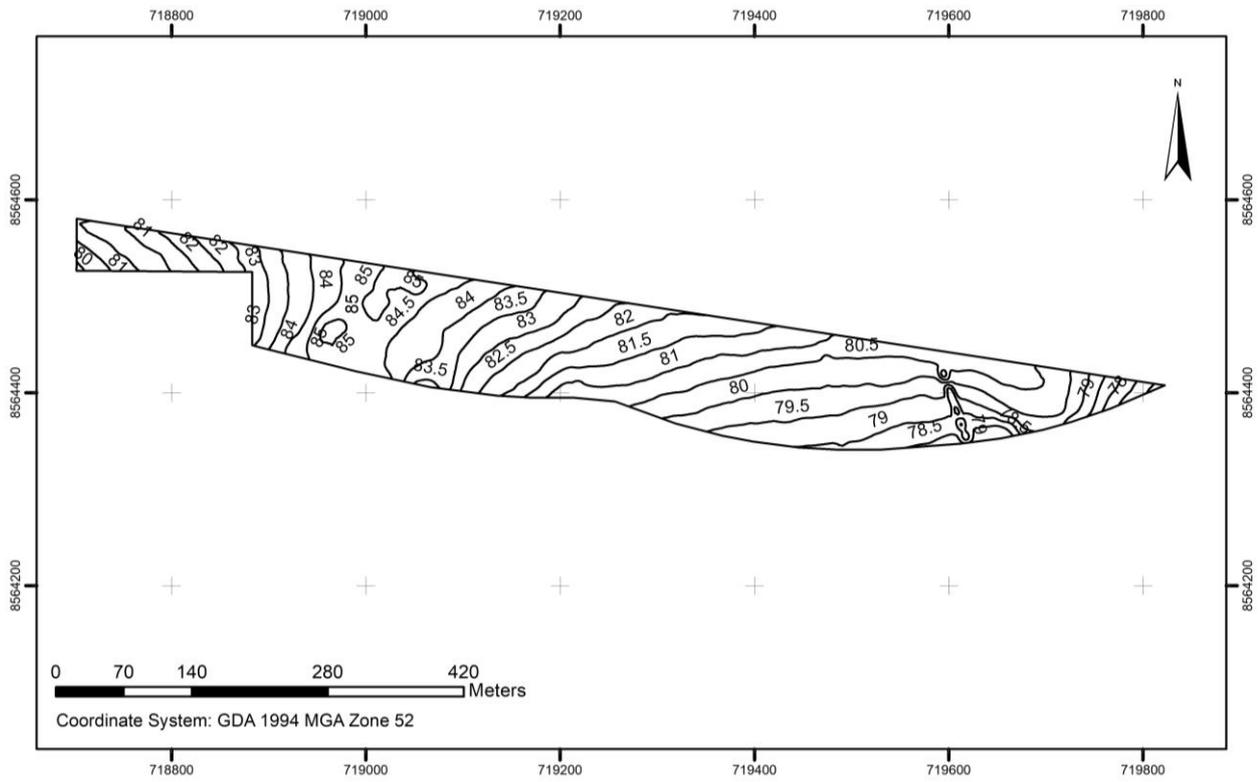


Figure 5. 2018 LiDAR DEM contours for the relinquished portion of EL27560.



References

- Breedlove, J., 2017. *Group Technical Report (Group Report 437) for the period 3rd December 2016 to 2nd December 2017*, Darwin: Northern Territories Resources Pty Ltd.
- Gordon, R., 2008. *ERL148 Batchelor Annual Report for the year ended 25 November 2008*, Sydney: Compass Resources Limited.
- Lori, J., 2018. *Group Technical Report (Group Report 437) for the period 3rd December 2017 to 2nd December 2018*, Darwin: Northern Territories Resources Pty Ltd.
- Mccready, A. et al., 2004. Polymetallic Mineralization at the Browns Deposit, Rum Jungle Mineral Field, Northern Territory, Australia. *Economic Geology*, Volume 99, pp. 257-277.
- Rosewall, D., 2011. *EL27560 Annual Report for the period 3rd March 2010 to 2nd March 2011*, Sydney: HNC (Australia) Resources Pty Ltd.
- Rosewall, D., 2012. *EL27560 Annual Report for the period 3rd March 2011 to 2nd March 2012*, Sydney: HNC (Australia) Resources Pty Ltd.
- Rosewall, D., 2013. *EL27560 Annual Report for the period 3rd March 2012 to 2nd March 2013*, Sydney: HNC (Australia) Resources Pty Ltd.
- Rosewall, D., 2014. *EL27560 Annual Report for the period 3rd March 2013 to 2nd March 2014*, Sydney: HNC (Australia) Resources Pty Ltd.
- Rosewall, D., 2015. *EL27560 Annual Report for the period 3rd March 2014 to 2nd March 2015*, Sydney: HNC (Australia) Resources Pty Ltd.