



GARDINER PROJECT
PARTIAL RELINQUISHMENT REPORT
to the Department of Primary Industry and Resources
for the period 21/08/12 to 24/10/18 for
EL29593 and EL27367

Date: 8 November 2018
Compiled by: C Turnbull
Land Administration Geologist
Northern Star Resources Ltd

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TITLE PAGE AND BIBLIOGRAPHIC DATA SHEET

Project Name: Gardiner

Combined Report number: GR-442

Tenements: EL29593 and EL27367

Tenement operator: Northern Star (Tanami) Pty Ltd

Tenement holder: Northern Star (Tanami) Pty Ltd (25%); Tanami Gold (NT) Pty Ltd (75%)

Report type: Partial Relinquishment Report

Report title: Partial Relinquishment Report to the Department of Primary Industry and Resources for the period 21/08/2012 to 24/10/2018

Report period: 21/08/2012 to 24/10/2018

Compiled by: C Turnbull - Land Administration Geologist, Northern Star Resources Ltd

Date of report: 8 November 2018

1:250 000 map sheet: SE52-15 Tanami

1:100 000 map sheet: Mallee 4759, Pargee 4758

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Department of Primary Industry & Resources (NT)	(1)
Northern Star Resources Limited (WA)	(1)
Central Land Council (NT)	(1)

1 SUMMARY

This report describes exploration activities primarily for gold undertaken by Northern Star (Tanami) Pty Ltd and previous operators over the partially relinquished portion (31 blocks) of EL29593 and (24 blocks) of EL27367 as part of the Gardiner Project GR-442 between grant date on the 21 August 2012 and the date of partial relinquishment on the 24 October 2018.

The Gardiner Project is in the Granites-Tanami region approximately 600km north-west of Alice Springs, along the Western Australia and Northern Territory border. The project occupies land owned by the Purta, Mt Frederick 1 & 2 and Central Desert Land Trusts.

Access to the project from Alice Springs can be made via the Tanami Road for approximately 600km. The Tanami Road passes along the southern margin of the projects between the Tanami Mine and the Western Australia-Northern Territory border. From the Tanami Road, cleared lines, old exploration tracks and the 'old' Tanami Track pass through the project area.

Alternatively, the project can be reached travelling 300km along the Tanami Road eastwards from Halls Creek in Western Australia. The northern portion of the Gardiner-Tanami Project is most easily accessed from Halls Creek eastwards along the Duncan and Gordon Downs Road to the Ringer Soak community.

Work completed over the partially relinquished portion of the tenements by Northern Star (Tanami) Pty Ltd comprised:

- Geological reconnaissance
- Aeromagnetic and radiometric survey
- Regional aeromagnetic geological interpretation
- Rapid Eye satellite imagery

Work completed by Northern Star (Tanami) Pty Ltd on the Gardiner Project has resulted in the identification of 31 out of 104 blocks on EL29593 and 24 out of 127 blocks on EL27367 to be non-prospective for gold and consequently partially relinquished in October 2018. There are 73 remaining contiguous blocks of EL29593 and 103 remaining blocks in three separate portions of EL27367.

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2 INTRODUCTION

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Access to the project from Alice Springs can be made via the Tanami Road for approximately 600km. The Tanami Road passes along the southern margin of the projects between the Tanami Mine and the Western Australia-Northern Territory border. From the Tanami Road, cleared lines, old exploration tracks and the 'old' Tanami Track pass through the project area.

Alternatively, the project can be reached travelling 300km along the Tanami Road eastwards from Halls Creek in Western Australia. The northern portion of the Gardiner-Tanami Project is most easily accessed from Halls Creek eastwards along the Duncan and Gordon Downs Road to the Ringer Soak community.

The climate is semi-arid with rainfall averaging approximately 400 mm per annum. Most rainfall occurs as summer storms associated with the monsoon season between November and March. Daily temperatures range from winter minima of near zero to summer maxima of about 48°C. The mean maximum temperature ranges from 26°C in June/July to 39°C in November/January. The area is devoid of surface water except in small soaks after heavy rain. The Tanami Desert in which the leases are situated is typically dominated by smooth plainlands widely covered in aeolian sand with a vegetation cover described as tall open acacia scrubland with a hummocky grass under-story (spinifex).

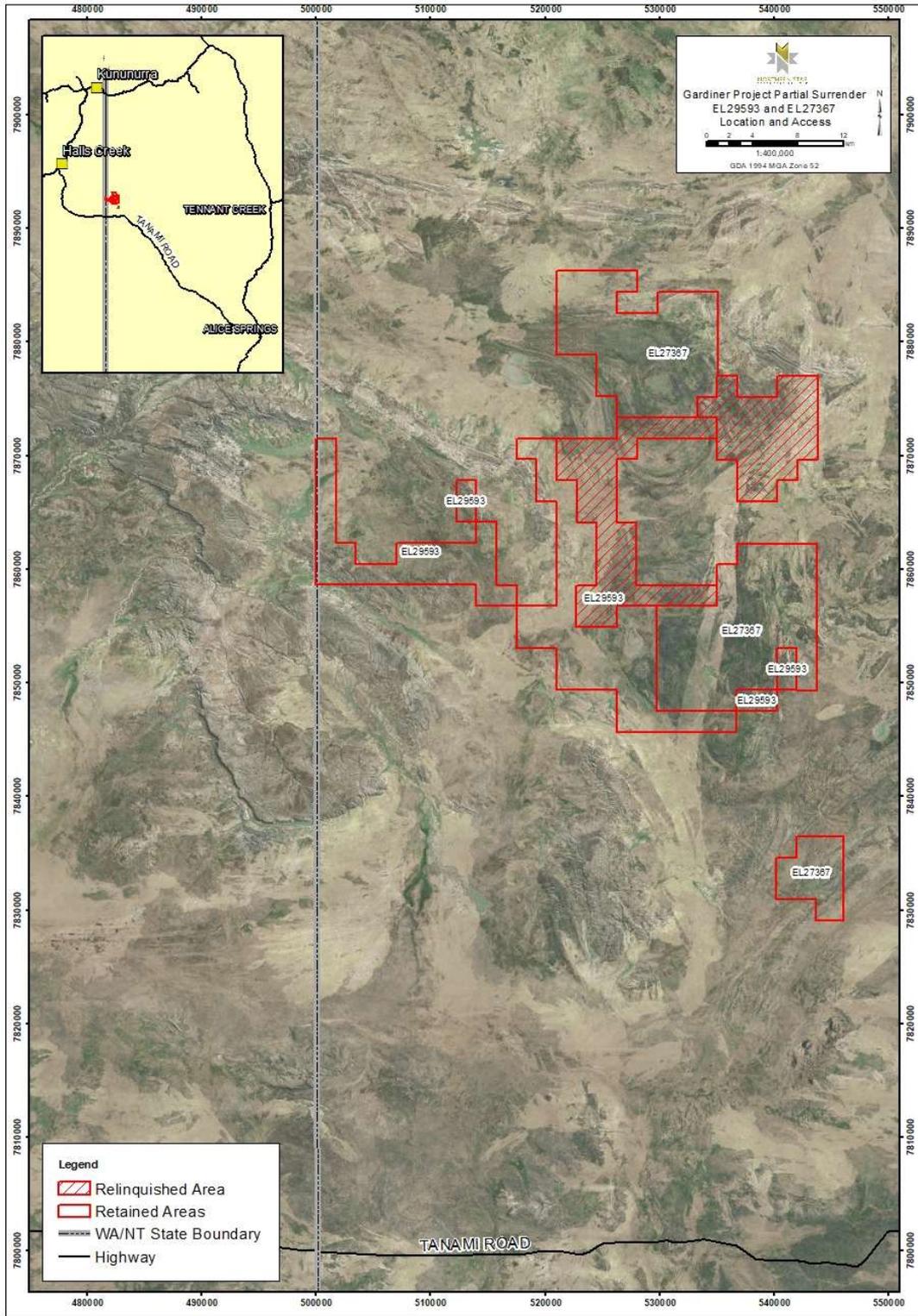


Figure 1: Location and access to EL27367 and EL29593

3 TENURE

This report covers the Exploration Licences EL29593 and EL27367 which are part of the Gardiner Project under the Group Report number GR-442. The tenements were due to expire

on the 20th of August 2018, but a renewal was submitted for a further two years in August this year.

Pursuant to a Tenement Sale Agreement and Mineral Rights Agreement executed on 29 August 2016 with completion effective from 10th January 2017, Northern Star (Tanami) Pty Limited became the 100% beneficial owner of the licenses. The transfer of titles to Northern Star (Tanami) Pty Ltd was lodged and registered by the Department on 8 March 2017.

Northern Star accepted and assumed all Northern Minerals' interest and obligations under the abovementioned Deed for Exploration, with a Transferee's Deed of Covenant between the CLC and Northern Star executed on 9th January 2017.

Reporting Group GR-442 was approved on 23 February 2017 with a reporting period of 26 July to 25 July and submission on 25 September.

Tenement	Holder	Current Area (blocks)	Grant Date	Renewal Date
EL29593	Northern Star (Tanami) Pty Ltd	73	21/08/2012	20/08/2020
EL27367	Northern Star (Tanami) Pty Ltd 100%	103	21/08/2012	20/08/2020

Table 1: Tenure of EL29593 and EL27367

4 REGIONAL AND LOCAL GEOLOGY

In the Tanami Region, one of the most important tectonic units is the North Australian Craton, the stratigraphic succession shows similarities with the Pine Creek and Halls Creek Orogens and other Palaeoproterozoic successions in northern Australia.

Within the region, Archaean rocks of the Browns Range Metamorphics and Billabong Complex are theorised to underlie the later Proterozoic sequences. The overlying Palaeoproterozoic Tanami Group is dominated by volcanic and volcanoclastic rocks, along with clastic and calc-silicate sediments. These are overlain by siltstone, carbonaceous shale, calc-silicates and BIF of the Dead Bullock Formation. This in turn is overlain by a thick sequence of turbidites, the Killi Killi Formation. Interbedded siltstone, greywacke and chert west of Tanami are included in the Twigg Formation.

The Pargee Sandstone and Mount Charles Formation have historically been identified as having been formed in short-lived, small extensional basins. A period of wider extension is believed to have followed, this was accompanied by felsic volcanism in the Mount Winnecke Group and Nanny Goat Volcanics. Five main granitic suites are recognised in the Tanami Region, the most important being the Coomarie and Frederick Suites. The youngest granites in the area belong to The Granites Suite.

Deposition in the Birrindudu Basin began with sandstone transgressing over the metamorphic and crystalline basement probably at about 1.7 Ga. This was accompanied by regionally extensive north-trending growth faults and volcanism, possibly indicating rifting. The Birrindudu and Tolmer Groups represent the exposed basal section of this basin and may be as much as 6,000m thick. Apart from minor felsic volcanic rocks (tentatively assigned to undifferentiated Birrindudu Group) and carbonate rocks and shale in the upper Tolmer Group, these units are dominated by coarse clastic sedimentary rocks. Neoproterozoic and younger sequences include the Redcliff Pound Group Neoproterozoic, Antrim Plateau Volcanics, Lucas Formation, Pedestal beds and Larranganni Beds.

The extensive flows of Neoproterozoic-Cambrian Antrim Plateau Volcanics consist primarily of tholeiitic basalt lava flows with minor sedimentary rocks. Flat lying sedimentary rocks of the Devonian Lucas Formation and Pedestal Beds and Cretaceous Larranganni Beds overlie Antrim Plateau Volcanics and older rocks.

Large areas of the Tanami region are covered by Cainozoic deposits of laterite and calcrete, and more recent, unconsolidated fluvial and aeolian sand and gravel.

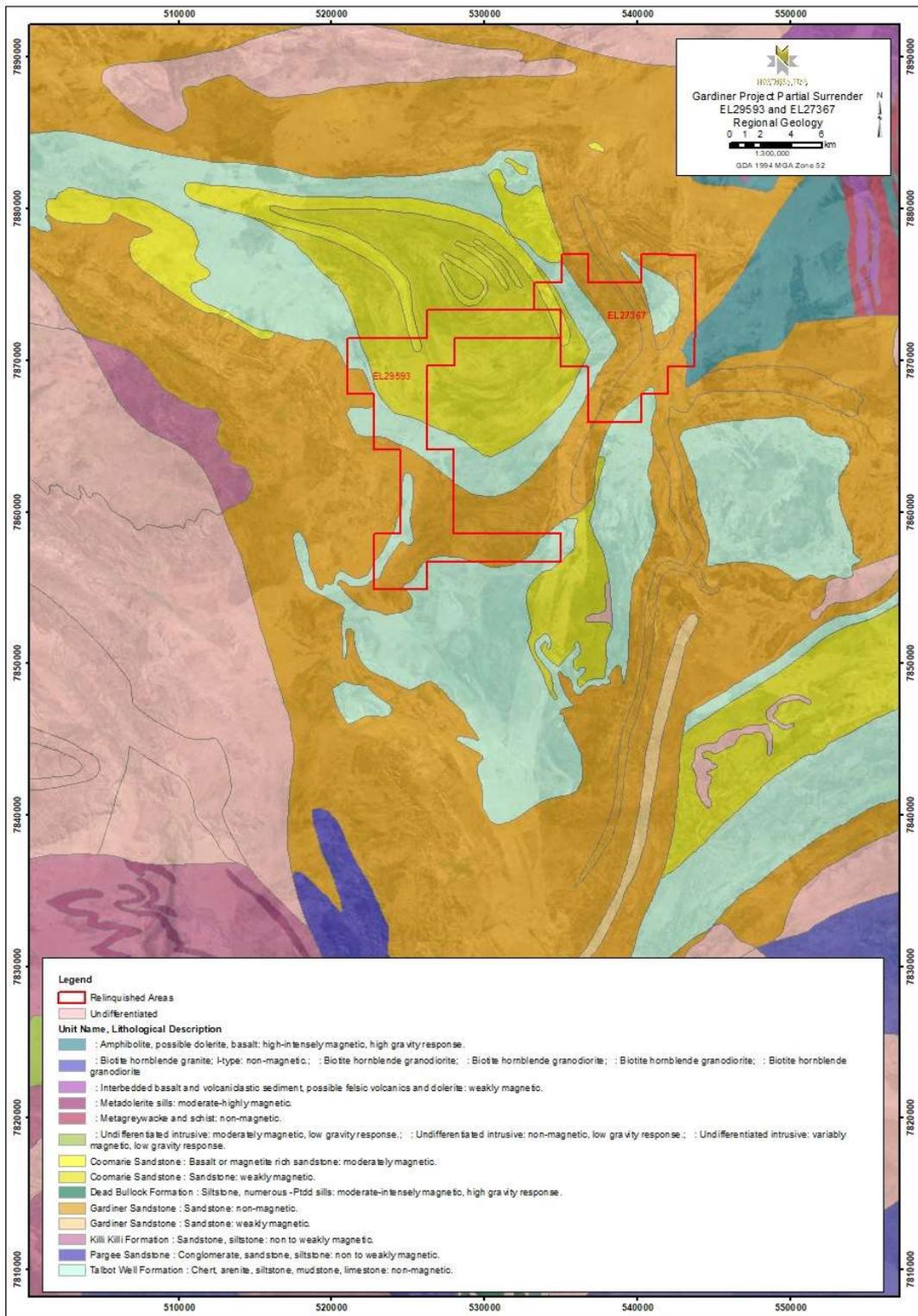


Figure 2: Regional Geology 250K NTGS

5 WORK COMPLETED ON RELINQUISHED PORTIONS OF EL29593 AND EL27367

No work had been conducted on the relinquished portions of EL29593 and EL27367 prior to the acquisition of the Gardiner Project licences by Northern Star (Tanami) Pty Ltd. After this time, Northern Star (Tanami) Pty Ltd initiated an intensive programme of data validation and compilation of Tanami Gold (NT) Pty Ltd's original database into Northern Star (Tanami) Pty Ltd's new corporate acQuire database system together with historic GIS geochemical and geophysical datasets to support regional targeting exercises with field reconnaissance to ground-truth historical geological and structural mapping.

6.1 AEROMAGNETIC AND RADIOMETRIC SURVEY

Where there were gaps in the available magnetic and radiometric data, new data was acquired via airborne surveys. A regional aeromagnetic-radiometric survey was designed to fly approximately 80% of all Northern Star (Tanami) Pty Ltd tenure in the Northern Territory. A total of 77,940-line kilometres were proposed to cover an area ~4,500km². Magspec Airborne Surveys conducted the survey which includes the relinquished portions of EL29593 and EL27367.

6.2 RAPID EYE SATELLITE IMAGERY

To better assist the geological interpretation of the acquired geophysical data and future field work, Northern Star (Tanami) Pty Ltd acquired 5m resolution RapidEye satellite imagery data over 4,372km², which includes the Gardiner region and specifically the relinquished portions of EL29593 and EL27367.

6.3 REGIONAL AEROMAGNETIC INTERPRETATION

Geological interpretation using regional aeromagnetic data has been conducted over the relinquished portions of EL29593 and EL27367 on the 1:50,000 scale base maps. Structures and magnetic features of interest have been digitised and incorporated into the GIS data for the project.

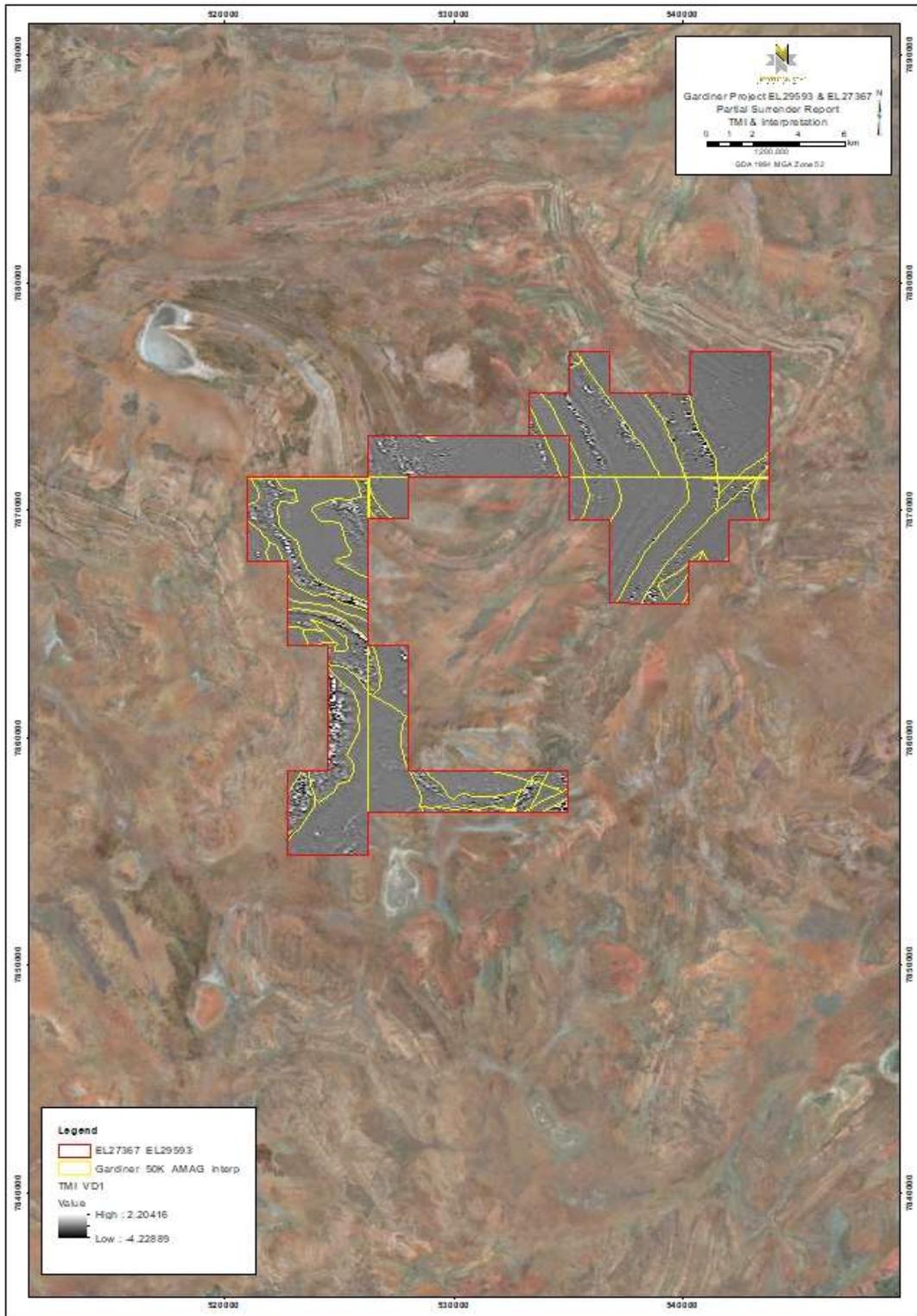


Figure 3: TMI VD1 and geological interpretation on 50K base maps

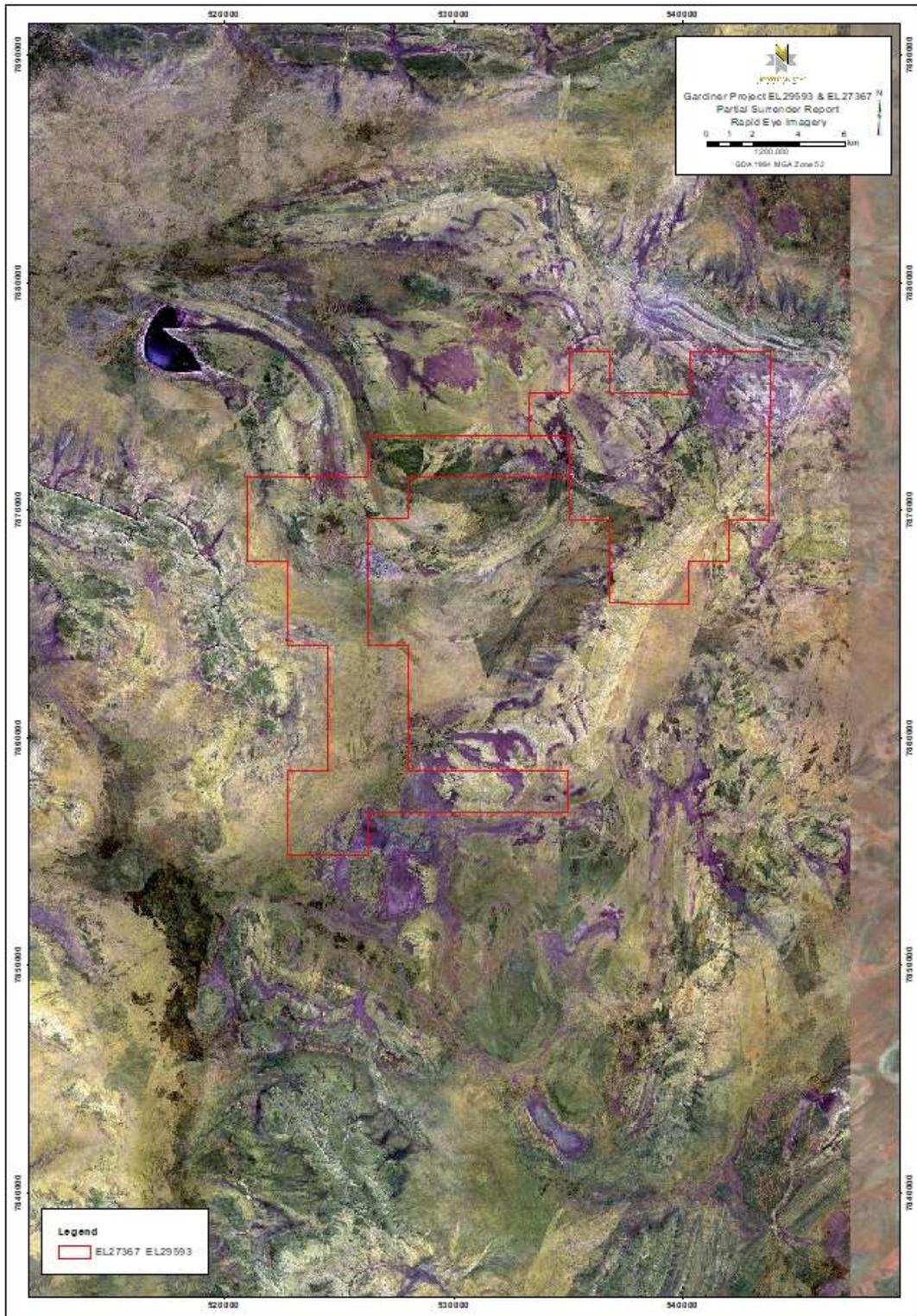


Figure 4: Rapid Eye satellite imagery

6 CONCLUSIONS AND RECOMMENDATIONS

Northern Star (Tanami) Pty Ltd wish to continue advancing the Gardiner Project through detailed analysis and interpretation of the acquired aeromagnetic and radiometric data and

via ground gravity acquisition to compliment current geophysical and geological datasets. Ongoing geological works and exploration will advance target areas within EL29593. Work completed by Northern Star (Tanami) Pty Ltd has resulted in the identification of 31 out of 114 blocks in EL29593 and 24 out of 127 blocks in EL27367 to be non-prospective for gold and consequently partially relinquished in October 2018. There are 73 remaining contiguous blocks of EL29593 and 103 remaining blocks in three separate portions of EL27367.

7 REFERENCES

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