



BROWNS RANGE PROJECT
PARTIAL RELINQUISHMENT REPORT
to the Department of Primary Industry and Resources
for the period 21/08/12 to 24/10/18 for
EL29592

Date: 4 December 2018

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

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TITLE PAGE AND BIBLIOGRAPHIC DATA SHEET

Project Name: Browns Range

Combined Report number: GR-441

Tenement: EL29592

Tenement operator: Northern Star (Tanami) Pty Ltd

Tenement holder: Northern Star (Tanami) Pty Ltd (100%)

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: 4 December 2018

1:250 000 map sheet: SE52-15 Tanami

1:100 000 map sheet: Mallee 4759

Target commodity: Gold

Keywords: Proterozoic Granites-Tanami Inlier, Tanami Group, Mt Charles Formation, Birrindudu Group, Gold, Greenschist Facies, Aeolian Sand Blanket, Rapid Eye Satellite Imagery Acquisition, Aeromagnetic and Radiometric Surveys, AMAG Geological Interpretation

Prospects drilled: N/A

List of assays: N/A

Distribution:

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 (38 blocks) of EL29592 as part of the Browns Range Project GR-441 between grant date on the 21 August 2012 and the date of partial relinquishment on the 24 October 2018.

The Browns Range Project is located in the Granites-Tanami region approximately 750km 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 700km, then north along remote tracks for approximately 80km. 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 WA. The northern portion of the Project is most easily accessed from Halls Creek eastwards along the Duncan and Gordon Downs Road to the Ringer Soak community and thence station and exploration tracks.

Work completed over the partially relinquished portion of the tenement by previous operators and Northern Star (Tanami) Pty Ltd comprised:

- Airborne magnetic and radiometric data acquisition
- AMAG geological interpretation
- Acquisition of "Rapid Eye" high-resolution satellite imagery

No surface sampling or drilling has occurred within the relinquished portion of the tenement.

Work completed by Northern Star (Tanami) Pty Ltd on the Boulder Ridge project has resulted in the identification of 38 out of 140 blocks on EL29592 to be non-prospective for gold and consequently partially relinquished in October 2018. There are 102 remaining non-contiguous blocks of EL29592 in two separate portions.

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2 INTRODUCTION

This report describes exploration activities primarily for gold undertaken by Northern Star (Tanami) Pty Ltd over the partially relinquished portion (38 blocks) of EL29592 as part of the Browns Range Project GR-441 between grant date on the 21 August 2012 and the date of partial relinquishment on the 24 October 2018.

Access to the project from Alice Springs can be made via the Tanami Road for approximately 700km, then north along remote tracks for approximately 80km. 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 WA. The northern portion of the Project is most easily accessed from Halls Creek eastwards along the Duncan and Gordon Downs Road to the Ringer Soak community and thence station and exploration tracks.

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).

3 TENURE

This report covers the Exploration Licence EL29592 which is part of the Browns Range Project under the Group Report number GR-441. The tenement was 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, both executed 29 August 2016, with completion effective from 9th January 2017, Northern Star (Tanami) Pty Ltd

became the 100% beneficial owner of the EL29592 Title. Transfer of Title to Northern Star (Tanami) Pty Ltd were lodged and registered by the Department on 8 March 2017.

Reporting Group GR-441 was approved on 23 February 2017 which incorporated EL29592. Group GR-441 was approved with a reporting period of 21 August to 20 August.

On the 24th October, 38 blocks of EL29592 were relinquished as a compulsory partial surrender.

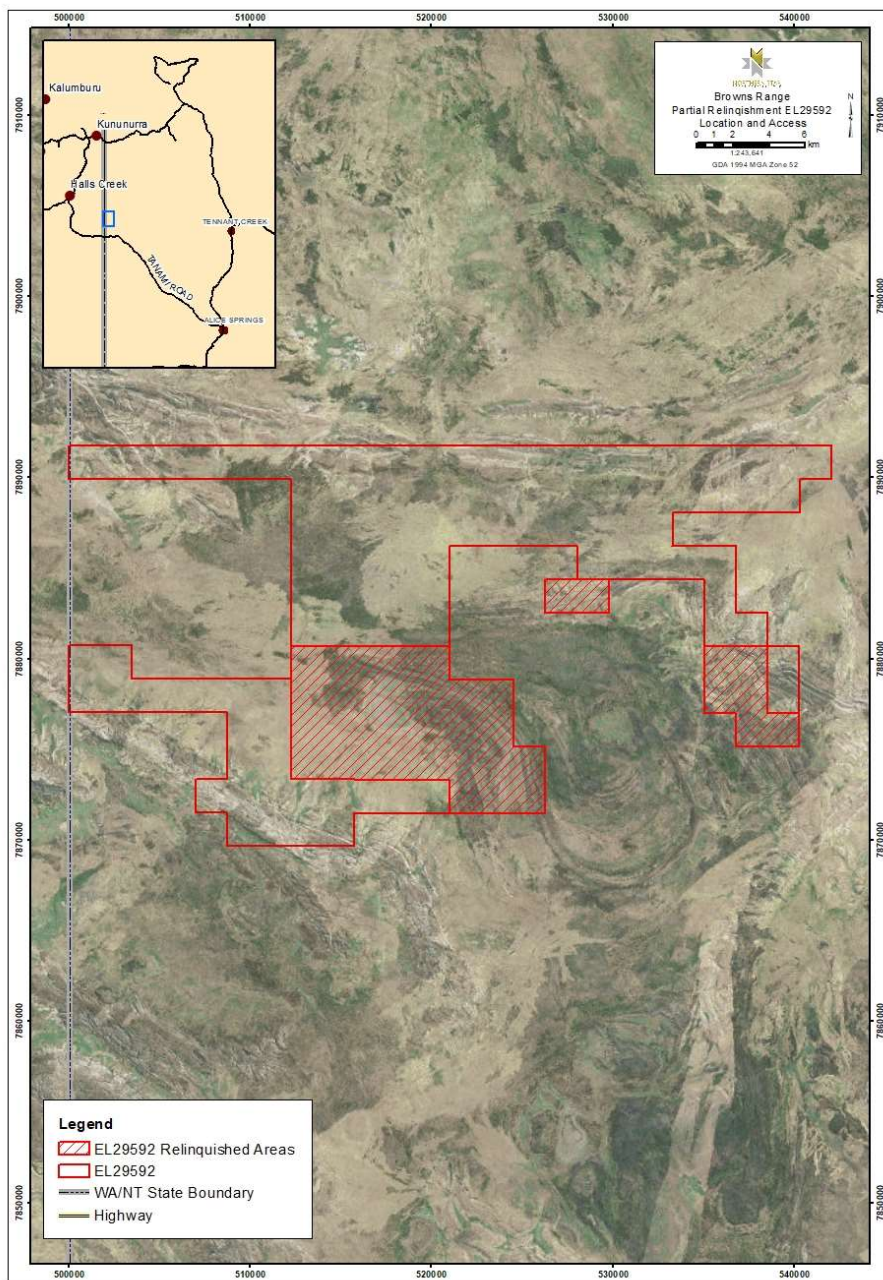


Figure 1: Browns Range location and access

Tenement	Holder	Current Area (blocks)	Grant Date	Renewal Date
EL29592	Northern Star (Tanami) Pty Ltd	102	21/08/2012	20/08/2020

Table 1: Tenure of EL29592

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.

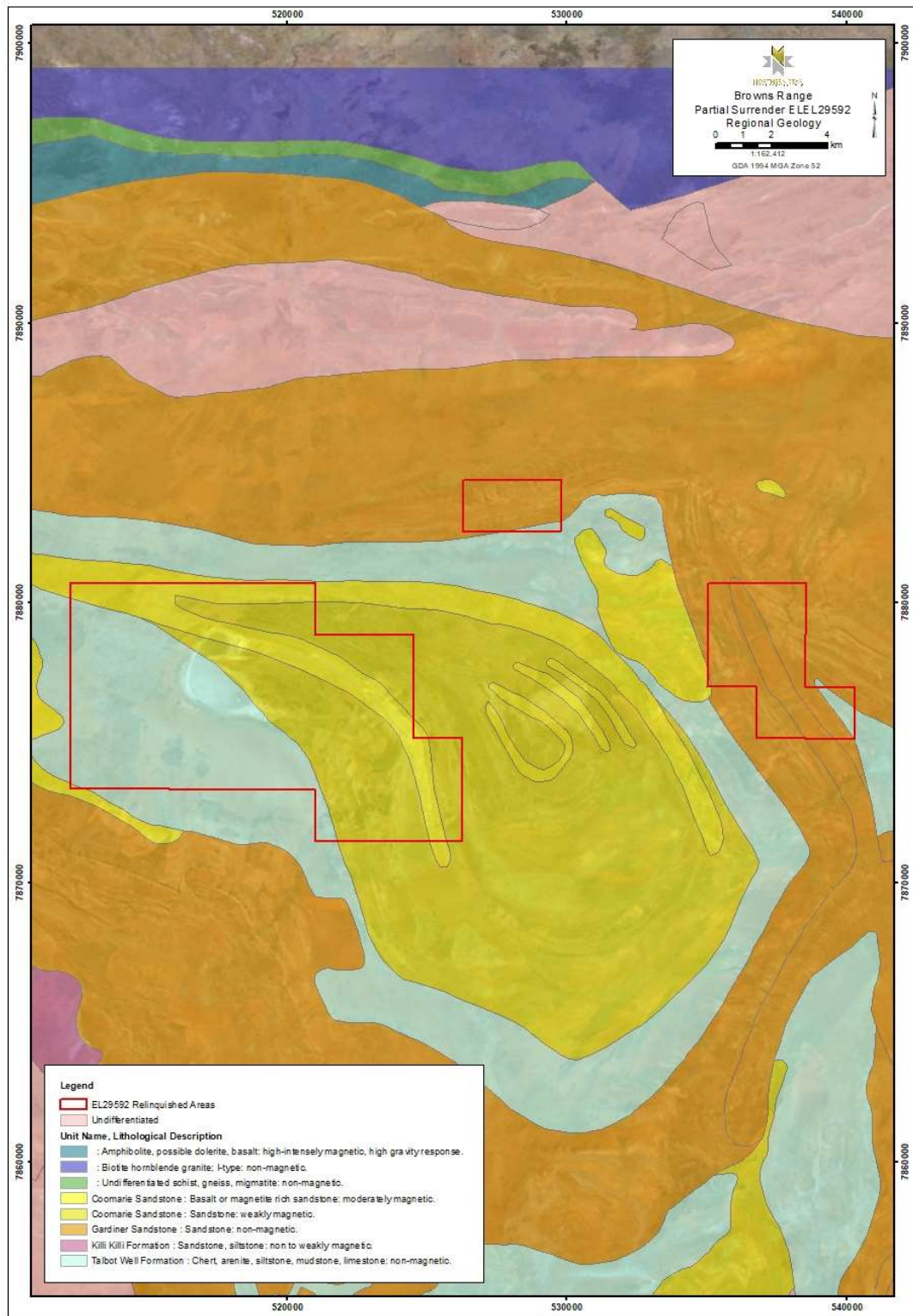


Figure 2: NTGS 1:250,000 interpreted bedrock geology

5 PREVIOUS EXPLORATION

Previous work completed within the project area was carried out by Northern Star (Tanami) Pty Ltd and involved helicopter-assisted field reconnaissance program including rock chip

sampling, acquisition of “Rapid Eye” high-resolution satellite imagery, and a regional airborne magnetic and radiometric survey.

Geological mapping and reconnaissance field work in the Browns Range area was undertaken via helicopter. This activity focussed on the discovery of any potential outcrop that would assist in better constraining stratigraphic interpretations. A total of 20 rock chips were submitted from this field work however no assays returned favourable gold anomalism.

Northern Star (Tanami) Pty Ltd also undertook 1:50,000 scale geological interpretation of the previously acquired regional magnetics and radiometrics over the project area. Exploration GIS personnel have digitised these maps to assist with identification of areas of interest.

6 WORK COMPLETED ON RELINQUISHED PORTION OF EL29592

No drilling or geochemical surface sampling has occurred on the relinquished portions of EL29592. The regional geophysical surveys and the associated geological interpretation have encompassed these areas, but no areas of interest were identified on the relinquished ground.

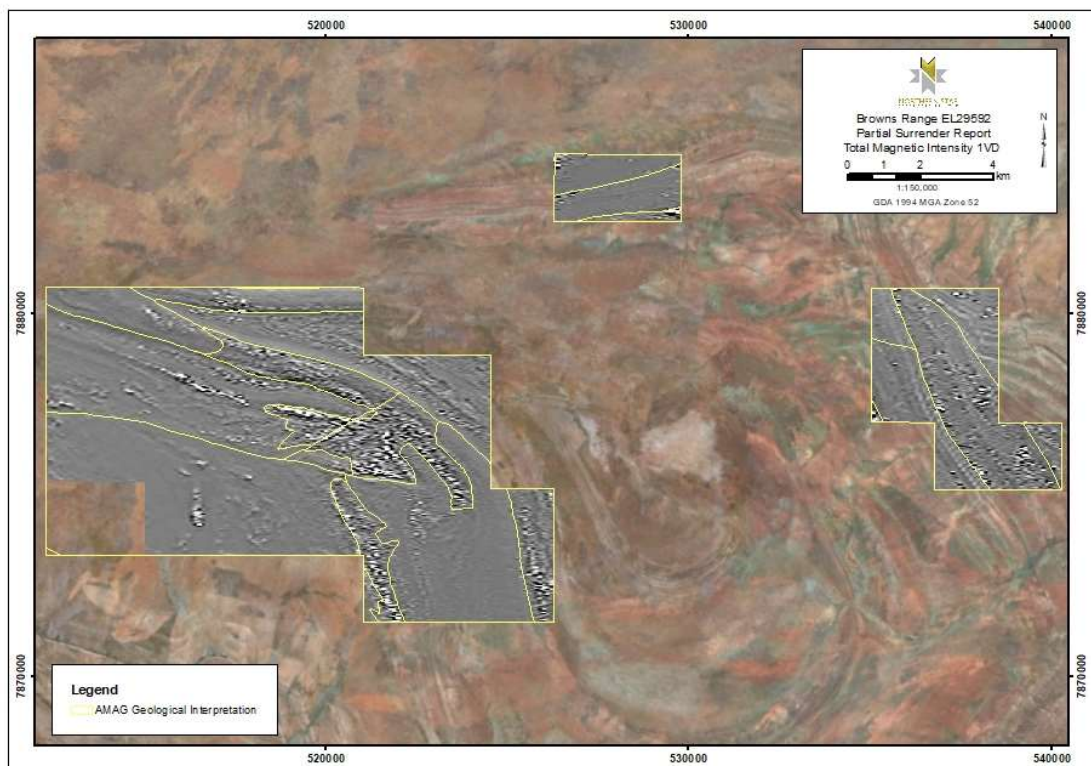


Figure 3: Total magnetic intensity (1VD) with geological interpretation

7 CONCLUSIONS AND RECOMMENDATIONS

Northern Star (Tanami) Pty Ltd wish to continue advancing the Browns Range region through detailed analysis and interpretation of the acquired airborne magnetic and radiometric data and undertake a ground gravity survey to compliment current geophysical and geological datasets. Ongoing geological works and exploration will advance target areas within EL29592.

Work completed by Northern Star (Tanami) Pty Ltd has resulted in the identification of 38 out of 140 blocks to be non-prospective for gold and consequently partially relinquished in October 2018. There are 102 remaining blocks, in two parts, of EL29592.

8 REFERENCES

Turnbull C, 2018. BROWNS RANGE PROJECT ANNUAL REPORT to the Department of Primary Industry and Resource for the period 21/08/17 to 20/08/18 for EL26270, EL26286, EL26498, EL26541, EL29592, EL24174 and EL24193, Combined Reporting Group No: GR441, Company Report.

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