



BACCHUS

R E S O U R C E S

BURNSIDE PROJECT

EL31795 Fifth Annual Report For the Period 16/7/2022 to 15/7/2023

Tenure Holder: Bacchus Resources Pty Ltd
Project Operator: Bacchus Resources Pty Ltd
Commodity: Gold and base metals
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Mapsheets: 1:250,000 Pine Creek (SD5208)
1:100,000 Batchelor (5171)

Authority	Grant Date	Expiry Date
EL 31795	16/7/2018	15/7/2024

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Bacchus Resources Pty Ltd

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Abstract

The Burnside exploration licence, EL31795, is located approximately 125 km southeast of Darwin. EL31795 was granted to Bacchus Resource on the 16th July 2018 for a period of six years, and originally covered an area of 64km², which was reduced to 32km² following a partial relinquishment at the end of the second reporting year.

The tenement lies within the Pine Creek Orogen (PCO), one of the major mineral provinces of Australia. The PCO is a deformed and metamorphosed sedimentary basin up to 14 km thick covering an area of approximately 66,000 km². It is host to significant mineral resources of gold, uranium and platinum group metals, as well as substantial base metals, silver, iron and tin-tantalum mineralisation with mining and exploration occurring in the region since the early 1870's.

During the current reporting period, no field work was completed due to limited staff availability, with available resources focussed on diamond and RC drilling as well as preparing for resource modelling for the nearby Brocks Creek licence.

Exploration in Burnside is currently focussed on testing the potential for economic gold and base metal deposits.

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1. INTRODUCTION

This report details all exploration activities carried out on the Burnside Project (EL31795) by Bacchus Resources Pty Ltd during the fifth year of tenure.

1.1 Location and Access

EL31795 covers an area of 32 km² is located approximately 125km southeast of Darwin. The tenement is accessed via the Stuart Highway to the Grove Hill/ Fountain Head turnoff, following Fountain Head Road for 5km, then north along a gravel road into the exploration licence. (Figure 1).

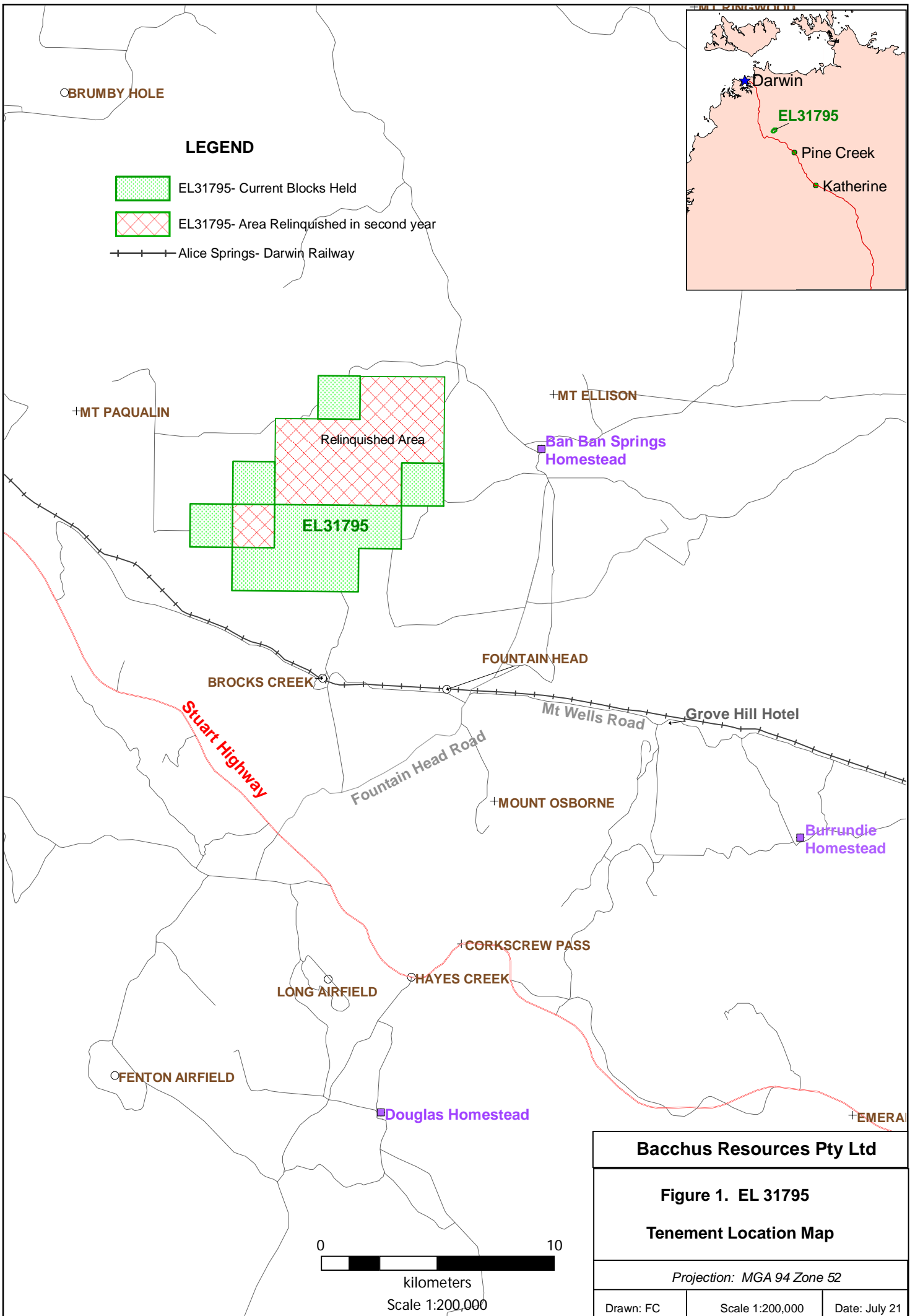
The licence area is located within the Batchelor (5171) 1:100,000 and the Pine Creek (SD-5208) 1:250,000 scale mapsheets. Access with a 4WD vehicle during the dry season is possible, but generally poor over the central granite region. The Burnside Granite covers most of the licence area and generally occurs as low lying hills with rugged outcrops and weathered sandy soils, rarely rising to more than 15 metres above the surrounding plains. The vegetation is generally tall and mixed open woodland and tussock grasses.

1.2 Tenure and Land Status

EL31795 was granted to Bacchus Resources Pty Ltd on the 16th July 2018 for a period of 6 years, and covers an area of 10 graticules following a 50% reduction of 10 graticules at the end of the second year of tenure.

Table 1: Authority details for Burnside Project

Tenement	Holder	Grant Date	Expiry Date	Area (blocks)
EL31795	Bacchus Resources Pty Ltd	16/7/2018	15/7/2024	10



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**Figure 1. EL 31795
Tenement Location Map**

Projection: MGA 94 Zone 52

Drawn: FC

Scale 1:200,000

Date: July 21

2. GEOLOGY AND MINERALISATION

2.1 Regional Geology

The Burnside project area lies within the Central Domain of the Pine Creek Orogen. The Central Domain contains Early Proterozoic metasediments representing a preserved basinal sequence up to 14km thick, which unconformably overly gneissic and granitic Neoproterozoic basement. The Palaeoproterozoic sequences of the PCO are host to over 1,000 known mineral occurrences, with major commodities including Au, U, Pb-Zn-Ag, PGE, Cu-Co-Ni, Fe ore, Sn-Ta-W and phosphate (Hollis and Wygralak, 2012).

The sediments were intruded by quartz dolerite sills of the Zamu Dolerite (1870 Ma), then tightly folded and metamorphosed to greenschist facies between 1860-1835Ma (Hollis et al 2011). This also resulted in generally northwest trending structures and geology. Widespread felsic volcanism followed, with I-type granites of the Cullen Supersuite intruded (1835 Ma). The metasediments underwent contact metamorphism, with previous metamorphic features overprinted in aureoles 500m to 2km wide surrounding granite intrusions.

The Palaeoproterozoic sediments unconformably overly the Neoproterozoic basement and have been subdivided into two supergroups; the Woodcutters Supergroup (2020ma) and the Cosmo Supergroup (1860 ma).

The Woodcutters Supergroup contains the Manton, Namoon and Mt Partridge Groups, which consist of clastic sedimentary rocks, shales, greywackes and felsic and mafic volcanic rocks. These units were deposited within an intracratonic basin, and sourced from the Neoproterozoic basement rocks, during a period of continental rifting, 2020 Ma. (Hollis et al 2011).

The Cosmo Supergroup contains the South Alligator and Finnis River Groups, consisting of a succession of iron-rich sedimentary rocks, tuffs, carbonate rocks, shales, greywackes and siltstones which were sourced from younger material, with age of source rocks similar to date of deposition, most likely from an active margin source (Hollis et al 2011). Most of the gold and base metal deposits within the PCO including the Cosmo-Howley, Woolwonga, Golden Dyke, Mount Bonnie, Iron Blow, Langleys, Davies, Enterprise and Union Hill deposits belong to the metasediments of the South Alligator Group and lower parts of the Finnis River Group, within units of the Wildman Siltstone, the Koolpin Formation, Gerowie Tuff, Mount Bonnie Formation and the Burrell Creek Formation.

Cainozoic sediments cover large areas over the granites and metasediments of the Pine Creek area, consisting of sandy, silty rubbly lateritic cemented material overlying lower hill slopes while alluvial silts, sands and gravels dominate in river and creek flats.

Most of the economic mineral deposits within the Pine Creek Orogen share some common characteristics, including:

- Belong to the metasediments of the South Alligator Group and lower parts of the Finnis River Group
- Situated within zones enabling transport of ore fluids; including major lineaments, shear zones, anticlines, strike-slip shear zones and duplex thrusts.
- Located within the contact metamorphic aureole of I-type granites (Ahmad et al 2013).

2.2 Local Geology

The Burnside Granite covers most of the exploration licence, with sediments of the Koolpin Formation and Wildman Siltstone present along the eastern and western margins of the lease. Figure 2 shows the geology for EL31795.

The Burnside Granite is a pink-grey medium grained equigranular biotite granite featuring well defined rectangular jointing, which trends approximately north-south. In the field it occurs as low-lying rugged granitic outcrops containing abundant quartz veins, as well as weathered to a distinctive coarse grained pink-grey sandy soil. A distinctive 1-3.5m wide quartz vein runs through the centre of the Burnside Granite, trending roughly north-south, with pegmatite veins containing tourmaline, quartz veins, aplite and patchy greisens occurring along the margins of the granite, and into the surrounding countryside.

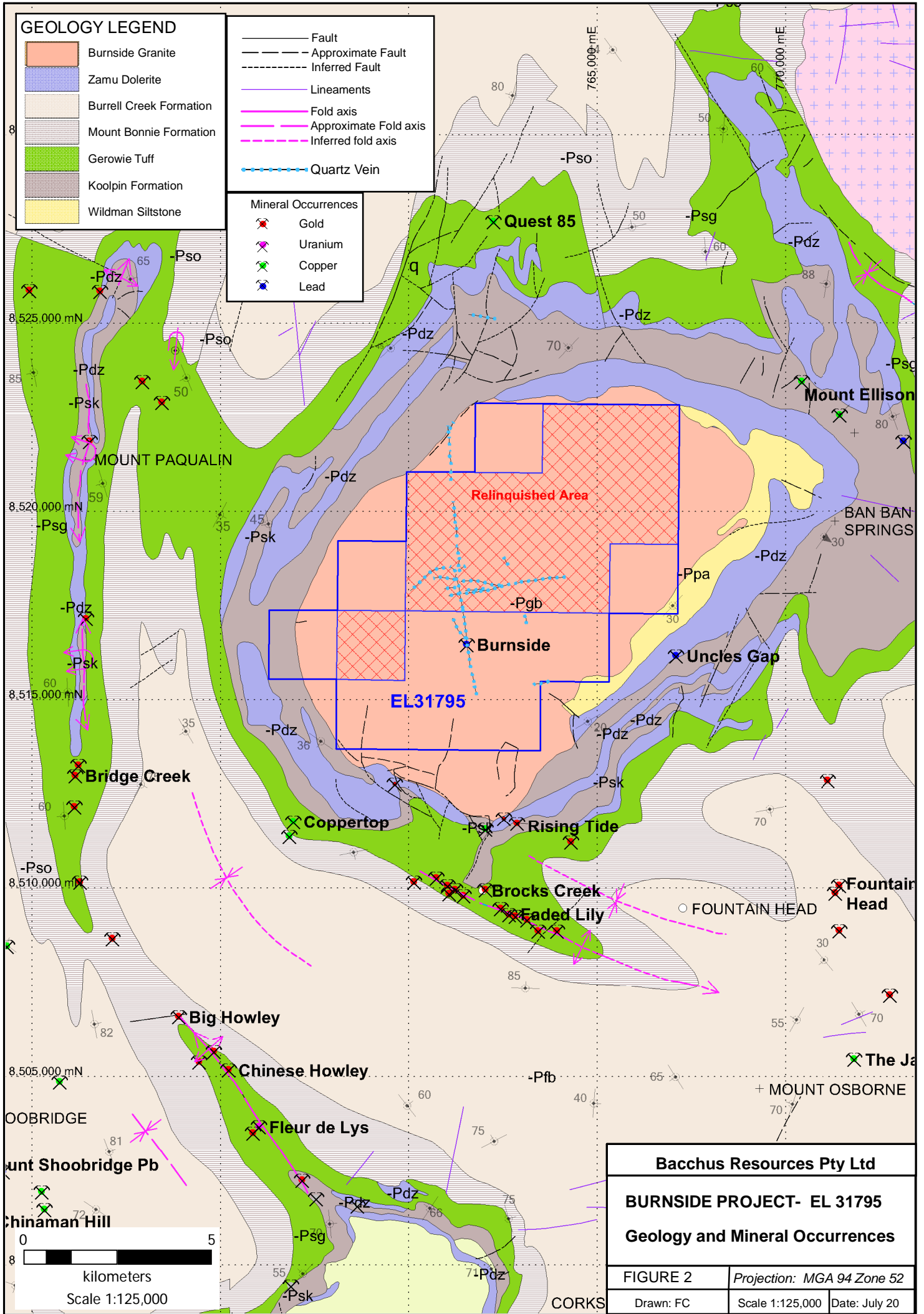
The Wildman Siltstone is found along the western margin of EL31795, and consists of white-grey medium-coarse grained quartz sandstones, quartzites, micaceous schists, carbonaceous and haematitic metasiltstones.

The Koolpin Formation occurs as haematitic metasiltstone and phyllite with chert bands, lenses and nodules, graphitic phyllite and slate, silicified dolomudstone and minor quartz metagreywacke along the eastern margins of the project area.

The main structural event within the Burnside project area, was the intrusion of the Burnside Granite into the sediments, which caused the sediments to dome around the granite.

2.3 Mineral Deposits in Burnside Project Area

Historically, gold has been mined from a number of workings surrounding the tenement, including the Cosmo-Howley, Big Howley and Chinese Howley, Brocks Creek, Woolwonga, Faded Lily and Zapopan mines. Within the tenement, there are some small lead workings, located within Burnside Lead Prospect area (shown in figure 2), associated with the wide quartz vein which cuts through the Burnside Granite.



GEOLOGY LEGEND

- Burnside Granite
- Zamu Dolerite
- Burrell Creek Formation
- Mount Bonnie Formation
- Gerowie Tuff
- Koolpin Formation
- Wildman Siltstone

- Fault
- Approximate Fault
- Inferred Fault
- Lineaments
- Fold axis
- Approximate Fold axis
- Inferred fold axis
- Quartz Vein

- Mineral Occurrences**
- Gold
 - Uranium
 - Copper
 - Lead

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BURNSIDE PROJECT- EL 31795		
Geology and Mineral Occurrences		
FIGURE 2	Projection: MGA 94 Zone 52	
Drawn: FC	Scale 1:125,000	Date: July 20

3 WORK COMPLETED

During the reporting period, no on-ground work was carried out, due to available resources being concentrated on the nearby Brocks Creek licence.

4 CONCLUSIONS

Previous exploration has not fully tested the potential for economic gold and base metal mineralisation.

An auger rig has been reserved for September-October of this year in order to complete a reconnaissance soil sampling program over Bacchus's NT exploration licences, with two lines of soil sampling to be completed within the southern area of the licence.

5 REFERENCES

Ahmad M and Hollis JA, 2013. Chapter 5: Pine Creek Orogen: in Ahmad M and Munson TJ (compilers). *'Geology and mineral resources of the Northern Territory'*. Northern Territory Geological Survey, Special Publication 5.

Hollis J. A., Glass L. M., Carson C. J., Armstrong R., Yaxley G., Kemp A.S., Scherten A. & Phillips D., (2011). *The Geological Evolution of the Pine Creek Orogen: New Pieces in the Puzzle on orogen and Craton Scale*.

Sener A. K., (2004). *Characteristics, Distribution and Timing of Gold Mineralisation in the Pine Creek Orogen, Northern Territory, Australia. PhD Thesis, University of Western Australia, Crawley, Perth WA 6009*