SQUARE POST PROJECT

CHARTERS TOWERS
NORTH QUEENSLAND
AUSTRALIA
The Square Post exploration permit (EPM 18510) contains two styles of mineralisation:

- breccia hosted at *Breccia Knob* (TOHB), and
- quartz vein hosted in the *Blue Doe – June Ellen* area.

Large areas of the EPM remain untested by modern exploration.

Historical gold production within the tenement area has had grades of 33.76g/t Au (1887-1910) to 331.4g/t Au (1934-40).

Assays in more recent years have confirmed the strong presence of gold in the system, including rock chip samples of 29.6 g/t Au at *Breccia Knob* and 79.3 g/t Au at *Blue Doe*.

Remarkably the *Breccia Knob* gold-silver prospect has not yet been drilled despite >1 M. oz breccia-hosted gold producers being present in the district. These intrusion related breccias are typically zoned from high silver near surface to high gold at depth.

*Breccia Knob* was mapped and sampled, establishing the high silver : gold ratio mineralisation with associated anomalous Zn, Pb, As, Bi, and Te. This confirms that the outcropping mineralisation is near the top of an intrusion-related system and suggests the potential for mineable gold ore at depth. Five drill holes are planned in this area – to a depth of 400m.

The narrow mesothermal gold-silver veins are lower priority targets.
Square Post is located 5km north of the township of Mingela on the Flinders Highway and 50km south west of Townsville, in North Queensland.

The Company’s Ukalunda Project is also identified further to the south west.

Each of the projects are located within the Charters Towers Gold Province which has produced more than 20 million ounces of gold.
Regional Geology

The area is mostly underlain by the ~481Ma Middle Ordovician Ravenswood Granodiorite Complex of granodiorite, tonalite and minor mafics, and some younger 420 my (Late Silurian) granites.

The Crimea Granite is reversely polarised suggesting Permo-Carboniferous age although it is currently listed as Ordovician.

The best developed outcropping mineralisation is in the Mount Square Post area which hosts the Blue Doe, June Ellen, North Reef and Breccia Knob gold-silver prospects.

North Queensland Breccia-hosted Gold Deposits

Hydrothermal / magmatic breccia pipe deposits have produced over 9 M.oz of gold at four major gold mines in North Queensland.

Although the largest deposits occur in breccia pipes ~1km in diameter, the Mt Wright (200m diameter) and Welcome (50x20m) breccias are relatively narrow.

The pipes typically extend to great depths (~1km). Metal zonation is typically from high level silver-zinc-lead rich to gold-copper at depth.
**Blue Doe – June Ellen Area**

Previous exploration has focussed on the Mount Square Post area which hosts the Blue Doe, June Ellen, North Reef and Breccia Knob (TOHB) area.

The veins at Blue Doe – June Ellen are narrow and contain sporadic high Gold, Silver and base metals. There is good possibility that the veins are part of a bigger system at depth.

Notable Gold rock chip assay samples in this area include 79.3 g/t Au, 33.8 g/t Au, 29.6 g/t Au, 23 g/t Au, 22.3 g/t Au, 19.65 g/t Au, 18.55 g/t Au, 16.4 g/t Au, 13.3 g/t Au, 11.7 g/t Au, 8.37 g/t Au, 7.2 g/t Au, 6.97 g/t Au, 6.49 g/t Au, 6.47 g/t Au, 6.33 g/t Au, 6.23 g/t Au, 5.95 g/t Au, 5.81 g/t Au, 5.39 g/t Au, 4.82 g/t Au, 4.78 g/t Au, 4.19 g/t Au, 3.77 g/t Au, 3.3 g/t Au, 3.2 g/t Au, 3.18 g/t Au, 3.04 g/t Au.
The mineralisation in this area has a general northeast trend of individual veins, however, the resistant ridge that is crossed by the veins trends north-south.

This suggests that there may be en-echelon mineralised vein development parallel to this ridge that may control gold shoot development.

The en-echelon concept opens up the potential of a larger penetrative siliceous zone parallel to the north-south ridge that interconnects and aggregates the narrow quartz veins.

If this were the case, the orientation of the drill target would be oblique to the strike of the outcropping veins.

Only shallow exploratory drill holes have been drilled to date.
Breccia Knob (TOHB)

The *Breccia Knob* granitic breccia lies 1 km west of the *Blue Doe – June Ellen* prospects. It may be of different age, and crustal emplacement depth to the *Blue Doe* vein system. Dating of galena from *Breccia Knob* by Pb isotope analysis could resolve this.

Although the main breccia-hosted gold deposits in the region are broadly Permo-Carboniferous in age, recent work by Clapin found that the *Welcome* breccia, 16 km to the west, occurred between 470 and 417 Ma and the sericite alteration around 445 Ma. Although the *Welcome* mineralisation has not been dated it is likely that it formed ~100 Ma before the other breccia deposits. *Breccia Knob* may well be of similar age.

Detailed mapping at *Breccia Knob* has shown the surface outcrop of the breccia to be approx. 40m across, extending approx. 120m to the ESE.

Although the previous highest assays of up to 29 g/t Au & 47 g/t Ag were from quartz veins in the breccia, recent 5m spaced outcrop sampling and the presence of relict iron oxides after sulphides shows that mineralisation is also within the breccia. It is silver rich with anomalous zinc, arsenic, lead, tellurium and bismuth. The average of 13 samples greater >0.1 g/t Au was 5.8 g/t Ag. The gold and silver occur together with an associated zinc halo.

The geochemistry strongly suggests it represents the upper high-silver zone of an intrusion-related system, with the main gold zone being likely to lie deeper in the breccia. The potential of the deposit requires drill testing to at least 400m below the outcrop.
Breccia Knob (TOHB)

The Breccia Knob - Top of Hill Breccia (TOHB) is a high quality gold target.

It has similarities with other intrusive related breccia systems in Northeast Queensland: e.g. Mt Leyshon, Mt Wright, Kidston, Seventy Mile Mount, and Mathews Pinnacle. The first three examples in this list are multi ounce gold bearing systems.

These other systems often contain the causitive, generally porphyritic rhyolite intrusive bodies within the breccia complex. This has not been identified to date at TOHB.

It is possible that the breccia system is present and that a potentially mineralised porphyry and associated breccia is embedded within the brecciated granite carapace.

Reconnaissance also located a breccia dyke 300m southeast of and sub-parallel to the ESE trending Breccia Knob. If these breccias are linked there is a possibility of a larger breccia body at depth.
**Exploration Focus**

- Drill test the gold potential of *Breccia Knob* with systematic cross sectional core drilling to 400m below the summit.
- Complete the stream sediment coverage and associated reconnaissance of the central and eastern sections of the EPM.
- Evaluate through-cover soil and auger drill geochemistry in the *Square Post South* area on a 400 x 200m spacing to test the weak BCL Au soil anomalies for covered mineralisation.
- Continue geological mapping, and geochemical sampling of the *Breccia Knob – Pelican – Blue Doe* area.