Chilling Project
EL 28433

Year 1 and Final Surrender Report
28 October 2011 to 14 March 2013

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SUMMARY

EL28433 was granted on 28 October 2011 for a period of 6 years. The tenement consists of 32 blocks, an area of 77 km$^2$.

No on-ground exploration was conducted during tenure of the licence.
1 Introduction

1.1 Background

The Chilling area was initially selected because of the presence of a ‘Primary Hub’, which was identified using confidential data supplied by Paradigm Geoscience, (now Global Geoscience Limited). The aim of the technology is to identify targets for mineral exploration with the same signatures as major mineral deposits. The method offers a means to identify important mineral resources without the need to acquire title to broader areas, with the resultant demanding access and land use challenges. Because of the restricted areas selected, more intensive exploration than would be normal in greenfields exploration can be focused on the limited area by even junior mineral explorers such as the holders. The Hubs have responded to the selection process in a similar fashion to major mineral deposits. It is to be expected that in most cases the target deposits do not outcrop, or they would already have been discovered, so it will be necessary to penetrate the overburden to make discoveries. The selection technique does not necessarily permit identification of target commodities, and these must be determined by consideration of regional metallogenic factors and field reconnaissance.

1.2 The Target Area

The Chilling Target Area as identified by Paradigm Geoscience was centred on the now surrendered EL 23682. The region is situated at or close to a locus of important geological features including the Litchfield Province, the Fitzmaurice Mobile Zone, the Pine Creek Geosyncline and the Daly Basin. Some important intersecting bounding structural features are also present as are an unusual diversity of intrusive rocks, as demonstrated by the airborne radiometrics and magnetics.

The principal focus is on the paleoproterozoic basement and the unconformably overlying Mesoproterozoic platform cover, a combination which extends throughout much of the project licences and covers a considerable strike length. The additional licence acquisitions, which now make up the Chilling Project, are considered highly prospective for the classic basement-hosted, unconformity-related uranium deposits and also structurally controlled deposits within or adjacent to granites.
1.3 Exploration Rationale

The geological setting of the Chilling project suggests that a wide variety of deposit styles could be present. The greater region has historically produced base metals, gold and tin-tantalum. Gold mineralisation occurs at the historical Fletcher’s Gully Mine, located in EL 25076; incomplete historical records indicate that 70 kg or 2250 oz gold were produced here. Tin, as alluvial concentrations and lode deposits is known from Buldiva, Muldiva and Collia in ELs 25076 and 22738. There is an intimate relationship to granites e.g. the Soldiers Creek and Alia granites, and to associated pegmatite swarms, which have invaded the lower Proterozoic Burrell Creek formation. Base metals deposits have been prospected / mined in a structurally prepared meta-sediment/volcanic environment assigned to the basal Burrell Creek formation at Daly River, and also in the carbonate rocks of the Daly Basin. Basic intrusives in the region could have a potential to host nickel-copper or platinoid mineralisation.

2 Location and General Description

The licences comprising the Chilling Project are located in the Daly River region, and are centred approximately 145 km south of Darwin. The group of tenements form an almost continuous, approximately north-south trending swathe of variable width running from the southern part of Lichfield Park in the north to the Wingate Plateau in the south.

The nearest settlement is Daly River, which comprises an aboriginal community (Nauiyu), police station and hotel. The region has several tourist facilities.

3 Tenure

As of 31 December 2012 the Chilling Project consisted of ELs 28433, 22738, 24557, 25076, and 25077. All EL’s are amalgamated into group report GR 085/09 except for EL 28433.

EL28433 was granted on 28 October 2011 for a period of 6 years. The tenement consisted of 32 blocks, an area of 77 km$^2$. On 14 March 2013 EL 28433 was surrendered.
Figure 1. Location Map of Chilling Project Licences (as of 30 November 2011)
4 Previous Exploration Activities

The annual report for the Chilling project (Eupene and Buskas 2007) covers in detail all previous historical work carried out within or immediately adjacent to the project tenements since the early 1970s. This information is contained within Sections 2.6 and 2.7 of that report.

5 Geology

The Chilling Project tenements are covered by three 1:100,000 scale maps, which from north to south are the Reynolds River, Daly River and Wingate Mountains sheets. Details as follows:

- NTGS 1:100,000 Wingate Mountains Sheet, published with explanatory notes, in 1989 (Edgoose et al., 1989).
- NTGS 1:100,000 Daly River Sheet, published with explanatory notes in 1987 (Dundas et al., 1987).

The geology of the project area is illustrated in Figure 2. The figure was constructed from the 1:250,000 scale geological map of the Northern Territory (Ahmad and Scrimgeour, NTGS 2006).

In summary, the rock units present within the company’s licences range in age from Paleoproterozoic to Cretaceous with development of Tertiary and Quaternary deposits in places. The dominant mapped stratigraphic units are

- The Paleoproterozoic Finnis River Group metasediments, consisting of greywacke (lithic quartz arenite), phyllite and minor conglomerate with locally developed andalusite schist and carbonaceous/graphitic schist. The Chilling Sandstone is present in the southern part of the tenement package and contains some interbedded volcanics. These rocks form the basement throughout much of the region.

- The middle Proterozoic Tolmer Group, present as remnants of regionally extensive platform cover rocks. Dominant lithologies within the tenements are quartz arenites These grade upwards into carbonate dominant sequences. The basal unit, the Depot Creek sandstone, is seen to be unconformably overlying the paleoproterozoic and various granites.

- Cambrian volcanics, limestone and minor sandstone. Remnants are present within some tenements. Best exposures are in ELs 25076 and 24557, which fringe the western extremity of the Daly Basin and in EL 22738.

- Cretaceous sediments. Mostly confined to the Wingate Mountains in the
south, overlying the Tolmer Group.

- Various intrusives. Soldiers Creek, Allia, Reynolds River Granite, basic rocks etc.

Previous company reports give some detail on the geological framework of each tenement. Please refer to the most recent annual report (Buskas et al 2012) for these details.

**Figure 2. Project Area Regional Geology**
6 Year 1 Conclusions and Recommendations

No on-ground exploration was conducted during the term of the licence.

Crossland failed to submit an annual report within the required period. On 5 February 2013 The Department of Mines and Energy issued a Notice of Intention to Cancel EL 28433 to Crossland.

Given Crossland’s current financial position and delays in obtaining clearance from the AAPA; EL 28433 was surrendered.
7 Bibliography


Eupene, G., 2005, Annual Report for Chilling Project EL23682., Crossland Mines Pty Ltd. NTGS.

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