



**NATURAL
RESOURCES
EXPLORATION**

**COMBINED REPORT:
YEAR 2 ANNUAL & FINAL**

**Eagles Nest
(EL 28278)**

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Summary

Section 94 of the *Mineral Titles Act* requires the submission of reports prepared by the titleholder for each Exploration Licence about the authorised activities conducted under the title and other matters relating to the title. The following report is a combined Annual and Final Report for EL28278, known to NRE as the 'Eagles Nest Prospect', prepared by Natural Resources Exploration ('NRE').

Natural Resources Exploration ('NRE') has carried out a detailed geological assessment of its Eagles Nest Prospect, Exploration Licence (EL) 28278. Based on the exploration activities conducted on EL28278, NRE made application to the Department to completely surrender the entire title for EL28278 under section 103 of the *Mineral Titles Act*. EL28058 was surrendered on 24 April 2013.

NRE's exploration rationale and objectives for its Eagles Nest Prospect considered the evaluation of potential gold and phosphate mineralisation. Investigations were intended to locate any outcropping of mineralisation and any indicators of any sub-surface mineralisation within the tenement. NRE carried out a preliminary helicopter program over EL28278, collected rock chip samples, conducted preliminary geological mapping across the tenure and carried out detailed desktop studies over the tenure and region generally. All these activities were conducted with the aim of delineating targets for base metal and phosphate mineralisation.

This combined Annual and Final Report for EL28278 offers a summary of the activities carried out over all of the title area up to the time when the title ceased to be in force, including any results produced by those activities.

NRE believes that there is no rehabilitation required in relation to EL28278 as no work involving land disturbance has been carried out during the term of the licence.

1. Introduction

Natural Resources Exploration ('NRE') has conducted extensive office-based studies and field work on Exploration Licence (EL) 28278, known to NRE as its Eagles Nest Prospect.

EL 28278 was granted to NRE on 3 May 2011, consisting of a total of 52 sub-blocks. EL 28278 is located within the Davenport / Georgina Basin region, the region of which has been identified as a major exploration target for deposits of sedimentary phosphate such as the Wonarah Phosphate deposit.

This combined Annual and Final Report for EL28278 offers a summary of the activities carried out over all of the title area up to the time when the title ceased to be in force, including any results produced by those activities.

2. Tenure

NRE's exploration licence (EL) 28278, is more commonly known by NRE as its 'Eagles Nest Prospect'. The Eagles Nest Prospect consists of 52 sub-located on the flat Mitchell grassed plains of the Barkly Tablelands. EL28278 was granted to NRE on 3 May 2011. **Table 1** lists the pertinent tenement details.

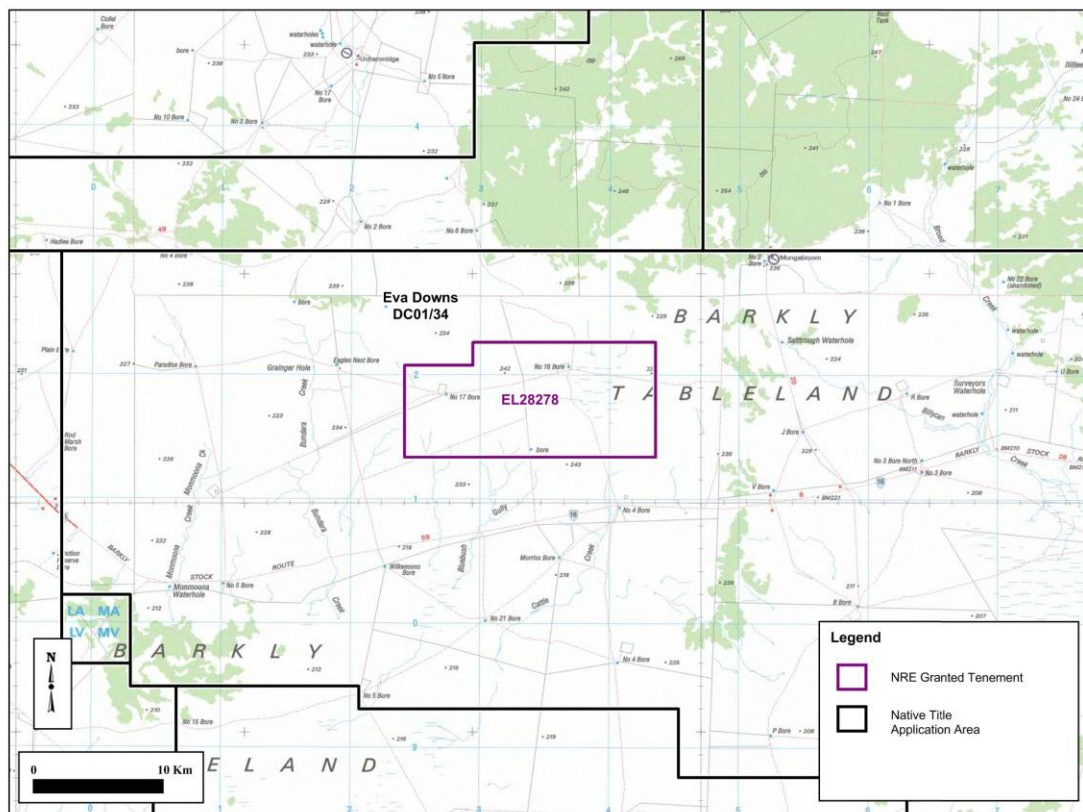
Table 1. Tenement Details

Project Name	Tenement Name	Title No. (EL)	Sub-blocks	Sq. Km	Status	Grant Date	Term (Yrs)	Surrender Date
Brunette Downs	Eagles Nest	28278	52	169.94	Surrendered	3 May 11	6	24 April 13

Native Title

There is currently one (1) Native Title Claim over the area, namely the Eva Downs Native Title Claim (Tribunal Number DC01/34). The Native Title Claim is identified in **Figure 1** below.

Figure 1. Native Title Claim Map



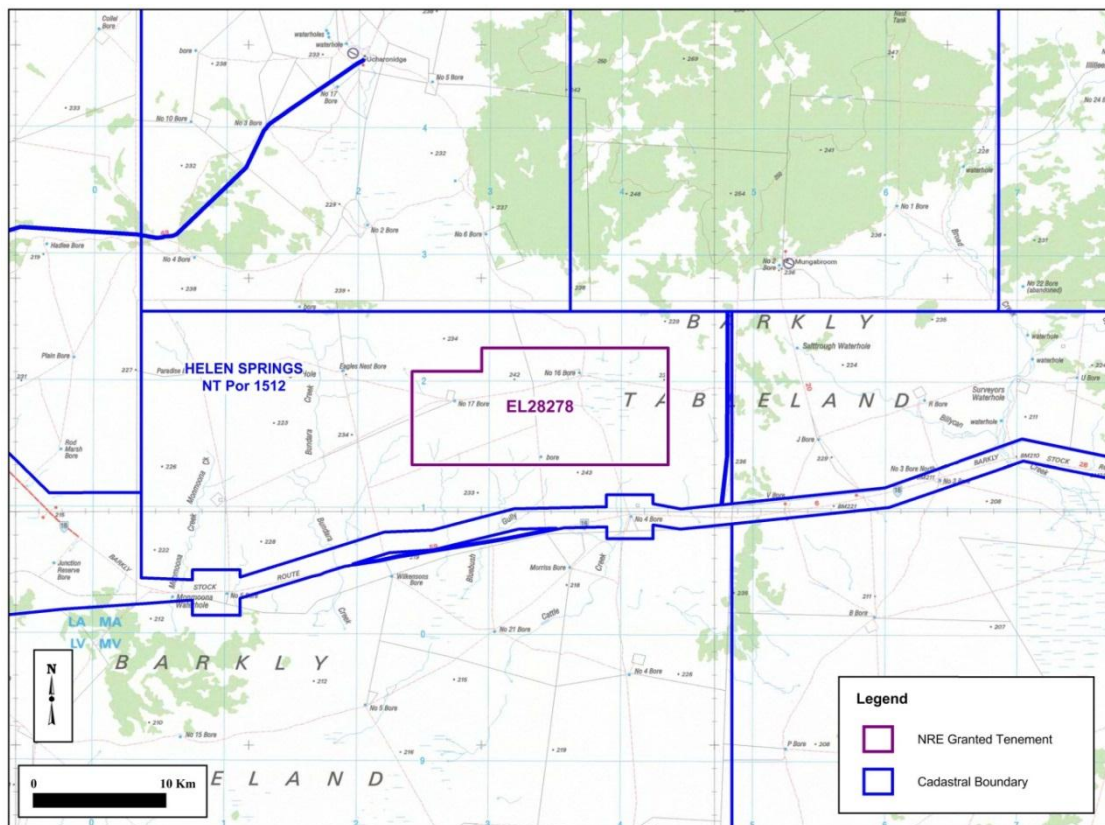
Recorded Sites

There are no Recorded Sites within the Eagles Nest Prospect.

Pastoral Leases

NRE's Eagles Nest Prospect overlies one (1) Pastoral Lease, namely NT Por 1512 'Helen Springs'. The Pastoral Lease is shown below in **Figure 2**.

Figure 2. Cadastral Map

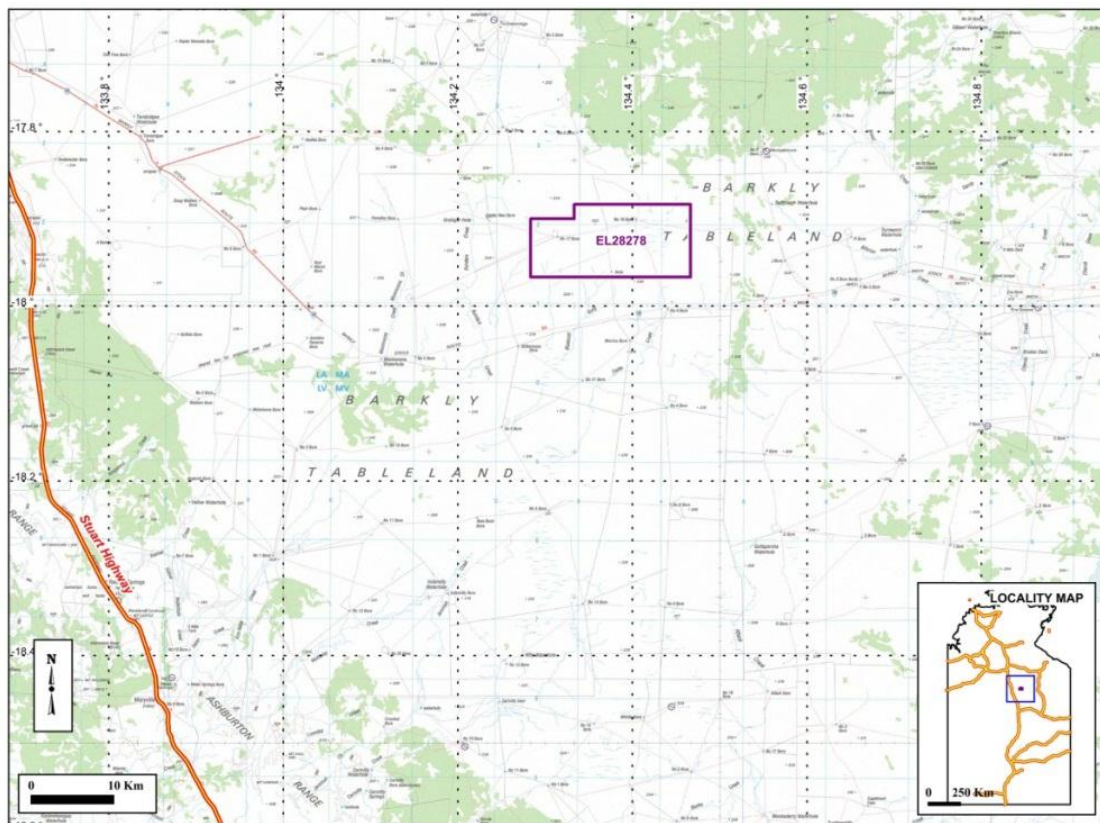


2.1 Location and Access

Location

The Eagles Nest Prospect is located approximately 610 kilometres north of Alice Springs. Access to the tenure via road is via either Helen Springs which is located off the Stuart Highway 144 kilometres north of Tennant Creek, or through Brunette Downs which is 10 kilometres west of the sealed Tablelands Highway and about 130 kilometres north of Barkly Roadhouse on the sealed Barkly Highway. **Figure 3** represents the location of EL28278.

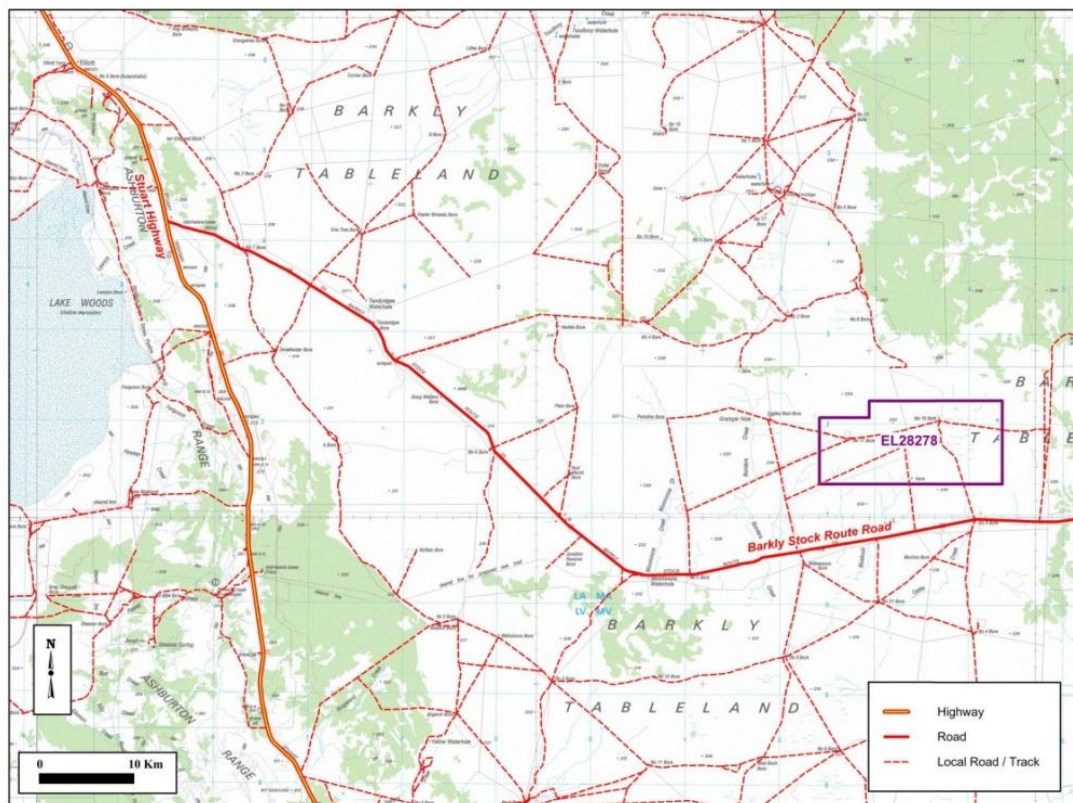
Figure 3. Location Map



Access

Tenement EL 28278 “Eagles Nest” is located approximately 650 kilometres north of Alice Springs. Access by road is via either Helen Springs which is located off the Stuart Highway 144 kilometres north of Tennant Creek, or through Brunette Downs which is 10 kilometres west of the sealed Tablelands Highway and about 130 kilometres north of Barkly Roadhouse on the Barkly Highway (sealed). Access to the tenures is identified in **Figure 4**.

Figure 4. Access Map



2.2 Topography and Drainage:

EL 28278 is located on the flat Mitchell grassed plains of the Barkly Tablelands. Occasional small hills of low outcrop, with gibber plains surrounding them, occur through the area. Grassland on black gilgai like soils and spinifex on hardpan laterite country are the dominant vegetation and land surfaces with some rarer areas of rocky subcrop and low scrubby mulga like trees.

Some sink holes are seen in dolostone and calcareous sediments, where those rock types predominate. There are several short unnamed streams that run through parts of the tenure or flow into the tenure from the south and a patch of wetlands in the east.

3. Geology

3.1 Regional Geology

Mapped geology in the part of the Georgina Basin where EL28278 is located, indicates outcrop and subcrop of Middle Cambrian age Anthony Lagoon Beds. Anthony Lagoon Beds are considered to be a lateral equivalent of Wonarah Formation sedimentary rocks that

contains phosphate mineralisation in other parts of the Georgina Basin. Depositional environments for the two units are very different: Anthony Lagoon Beds formed in a very shallow marine environment that was frequently exposed by tides and which had a significant sediment input from land as well as marine carbonate; Wonarah Formation formed in a slightly deeper water environment with less land-derived sediments and more carbonate.

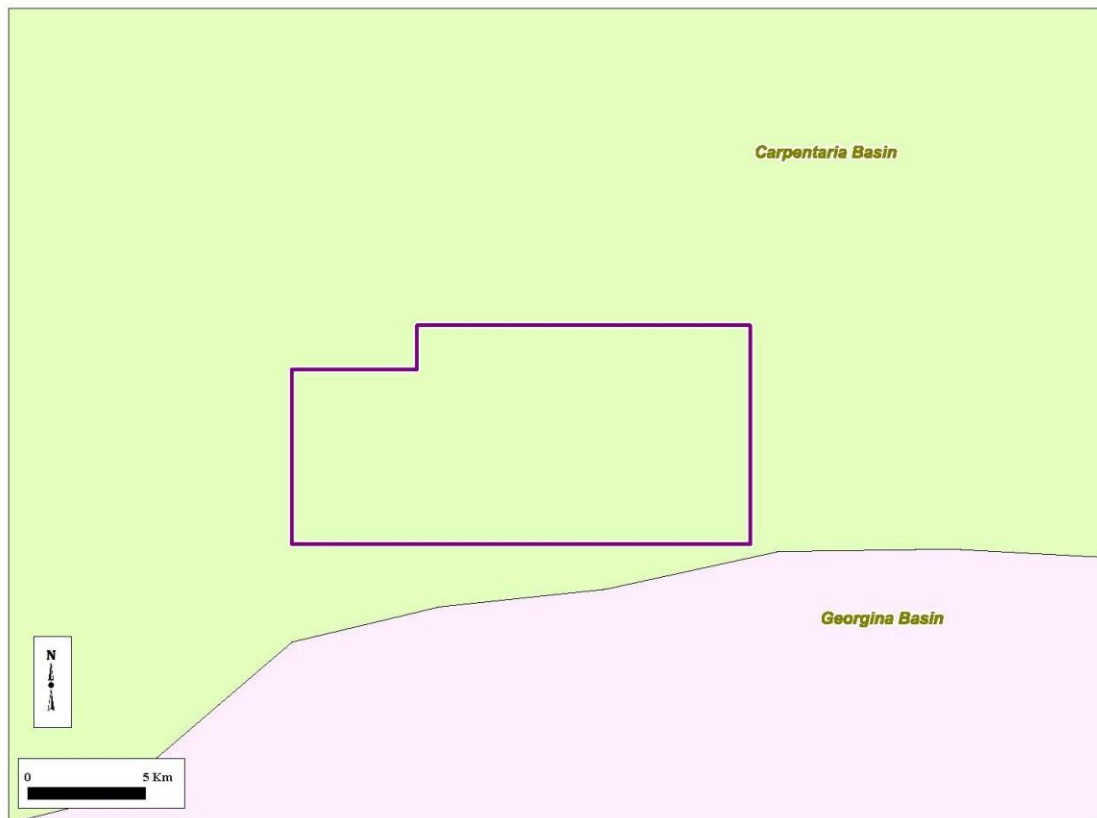
Known phosphate deposits in the Georgina Basin occur at its eastern margin near Mt Isa and along a northeast-trending basement high that passes through Wonarah. Phosphate deposition occurred on the margins of basement highs and identification of such a structure in the area would increase the prospectivity for phosphate.

EL28278 is located entirely within the Neoproterozoic-Palaeozoic Georgina Basin, with a thin veneer of Carpentaria Basin rocks (Jurassic-Cretaceous) overlaying the Georgina Basin rocks.

The Georgina Basin is a broad, northwest-southwest trending intracratonic depression which underlies an area of some 325,000 square kilometres of the Northern Territory and Queensland. Approximately 60 percent of the basin area lies within the Northern Territory. In the northern and western parts of the Basin, the Georgina Basin is underlain by continental flood basalts of the Helen Springs Volcanics. These flood basalts are up to 500m thick and overlie the older Neoproterozoic Renner Group rocks.

The Kalkarindji continental flood basalt province is the new stratigraphic name (Glass and Philips, 2006) for a number of scattered basalt suites across northern and central Australia, including the sub-aerial Antrim Plateau Volcanics (minimum volume of 0.15×10^6 cubic kilometres) and intrusive Milliwindi dolerite dyke in the north, and the stratigraphically correlated Nutwood Downs, Helen Springs, Peaker Piker and Colless Volcanics in the east (Dunn, 1963; Bultitude, 1976; Hanley and Wingate, 2000). The Regional Geology is depicted in **Figure 5**.

Figure 5. Regional Geology Map



3.2 Permit Geology

EL28278 straddles the northern boundary of the Georgina Basin and southern boundary of the Dunmarra Basin. It is located within a region that has been under explored and has potential for phosphates, potash, uranium and possibly diamonds.

The Georgina Basin contains Cambrian and Ordovician, predominantly marine carbonate and clastic sediments, Devonian continental sediments and, in places, Neoproterozoic clastics. After an initial period of rift filling, sediments were deposited in a series of subtidal to supratidal environments over part of an extensive epicontinental shelf. The Palaeozoic sequence progressively thickens in a south-southeasterly direction, rarely exceeding 400 metres in the northern half of the basin, and reaching about 5000 metres in the southeast of the basin. The sedimentary sequence has been neither metamorphosed nor intruded by igneous rocks.

The basin has been deformed by minor to moderate folding and faulting, especially in the south and east, with moderate to severe folding and faulting and extensive overthrusting along the southern and southwestern margin. Most of the structural deformation occurred during the Late Devonian to Early Carboniferous Alice Springs Orogeny. The northern part

of the Georgina Basin sequence is gently undulating with no pronounced folding recognised other than supratenuous (drape) folding.

The Eagles Nest area is predominantly overlain by Quaternary cover; grey – black sandy clay soils commonly containing carbonate nodules with significant areas of alluvium and lake deposits, there are several outcrops of Lower Cretaceous sandstones, siltstones and claystone of the Mullaman Beds.

Beneath the surface is the Neoproterozoic-Palaeozoic Georgina Basin predominantly marine carbonate and clastic sediments, Devonian continental sediments and, in places, Neoproterozoic clastics. The Georgina Basin is underlain by continental flood basalts of the Helen Springs Volcanics.

The permit geology is illustrated in **Figure 6** and the changes in the interpreted stratigraphic succession over time are shown in **Table 2**.

Figure 6. Permit Geology Map

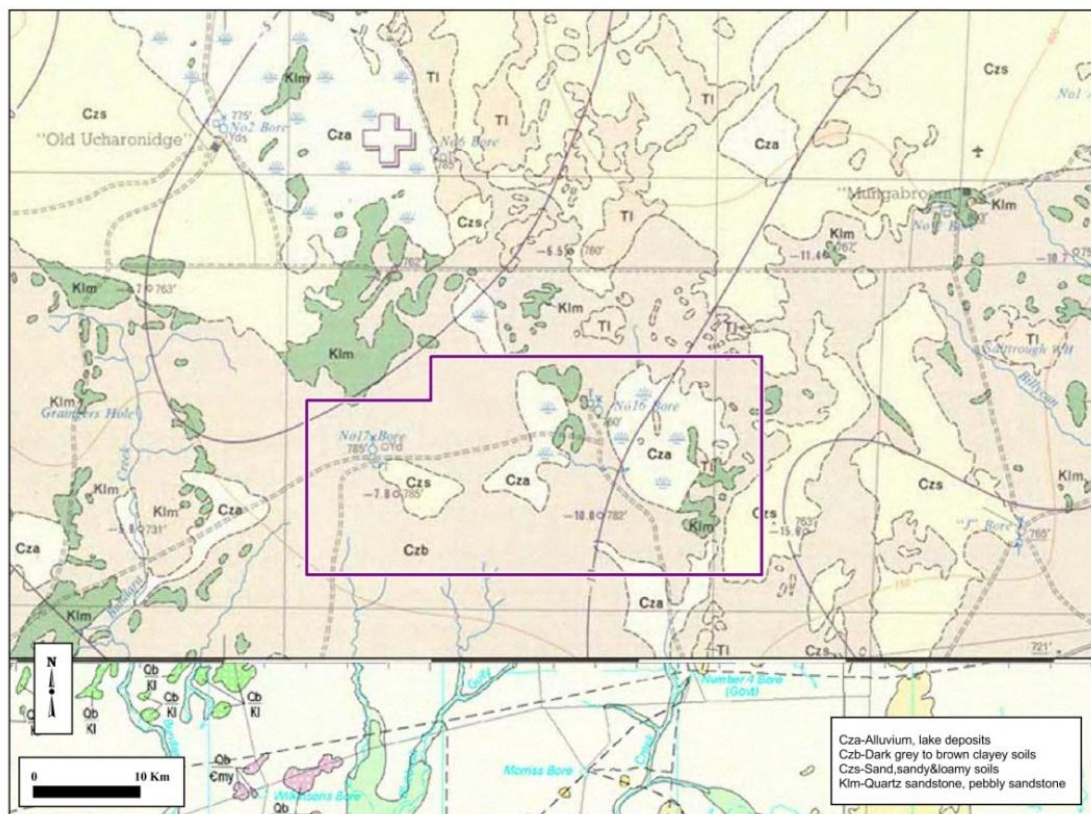
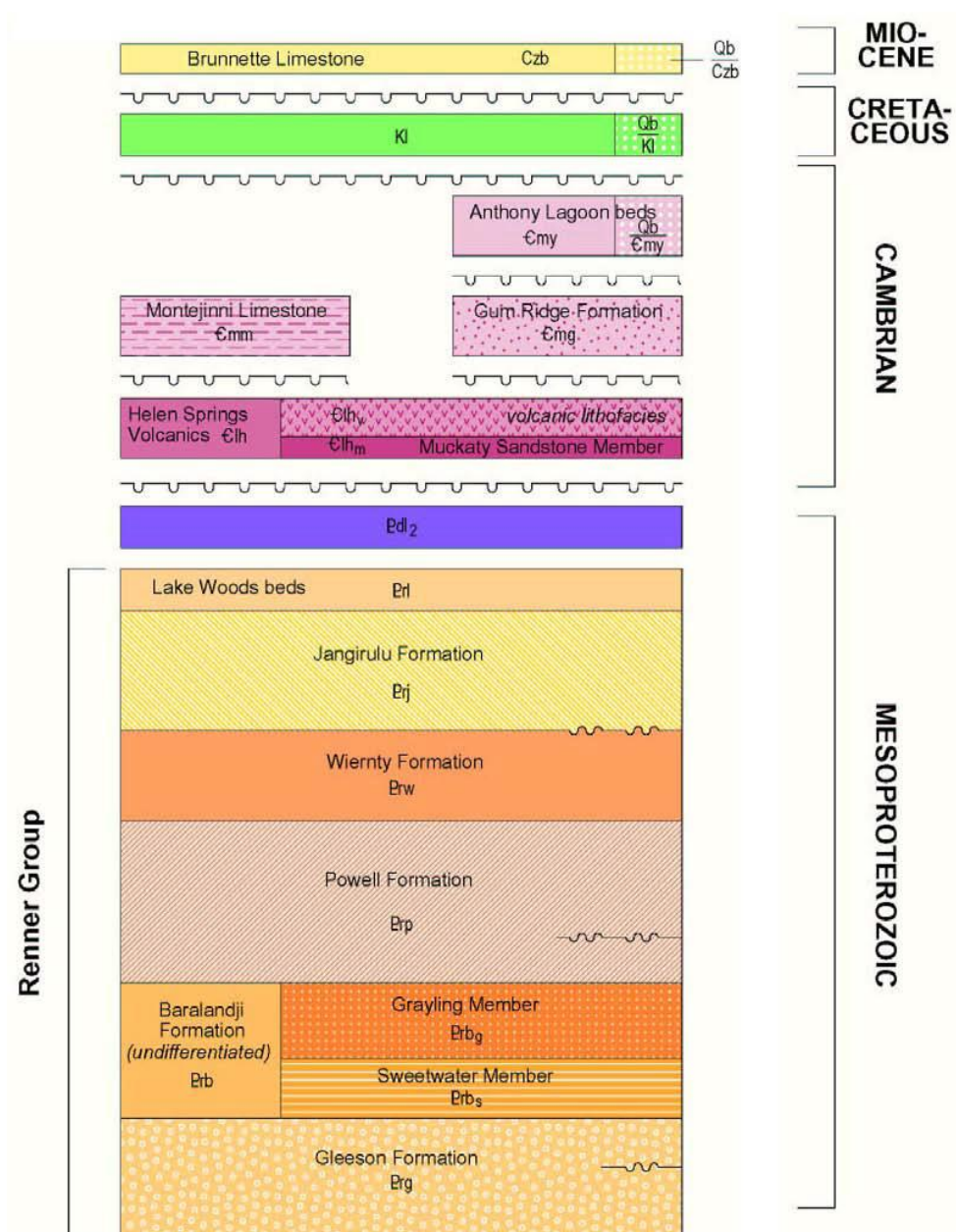


Table 2. Stratigraphic column for rock units on Helen Springs 1:250K sheet



4. NRE’s Exploration Activities during the Reporting Period

NRE’s exploration program over EL28278 consisted of historic review of previous exploration over the tenure, a preliminary helicopter activity and rock chip sampling associated with a geological mapping program over the area.

4.1 Exploration Studies

Historic exploration in the southern part of the Eagles Nest Region has largely been for Tanami style Cu, Au deposits from 1988 to present, with aeromagnetics being the primary tool used to define exploration targets. Historically, these targets were generally followed up with some combination of soil, rock chip and or RAB drilling.

Most companies have focussed only on soil sampling with only limited drilling on magnetic anomalies. Previous exploration has been based on models of magnetic ironstones at Tennant Creek goldfield, or in the mafic-hosted qz-Au veins at Kurinelli. There have also been previous attempts to identify Uranium mineralisation in the region. Previous explorers' have found 110 ppm of Uranium within the tenement however no significant areas of possible mineralisation have been identified by NRE using aeromagnetic RGB mapping.

A review of all previous exploration within EL28278 and the surrounding Brunette Downs project area has been completed. NRE has conducted an extensive review of historic exploration over its Eagles Nest Prospect including:

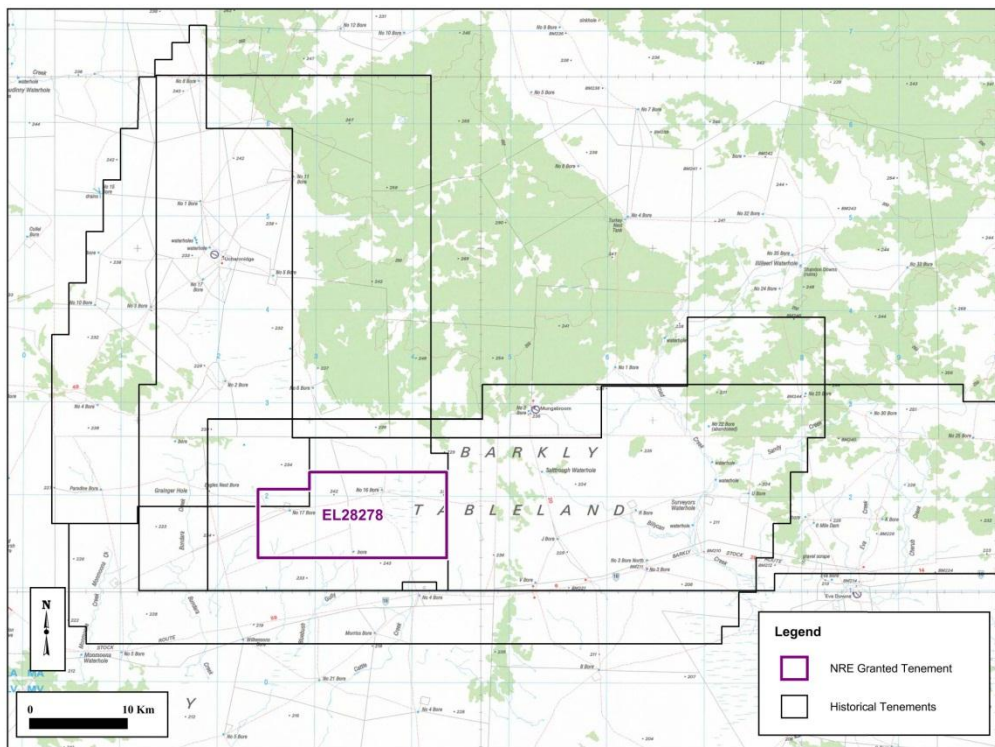
- Review of previous exploration data from NTGS open file company reports; and
- Review of aeromagnetics, of radiometrics and gravity survey provided by NTGS; and
- Review of satellite imagery, of ASTER imagery, Google Earth Imagery.

Previous exploration has been summarised in **Table 3** and location of historic tenements is shown in **Figure 7**.

Table 3. Historic Tenures and Previous Companies' Exploration Reports

Tenure	Period	Company Reports	Company
EL 26370	2008	CR2008-0928	Independence Group NL
EL 7593	1991-1992	CR1993-0155	CRA Exploration Pty Ltd
EL 26371	2008	CR2008-0929	Independence Group NL
EL 4339	1983-1989	CR1985-0017,CR1986-0089	AOG Minerals Limited

Figure 7. Historic tenements over the Eagles Nest Prospect



4.2 Preliminary Helicopter Activity

To delineate prospective areas and define the next phase of exploration, NRE, aided by Terra Search Pty Ltd, carried out a preliminary helicopter activity of its Eagles Nest Prospect in conjunction with the helicopter program being conducted on its neighbouring group project known as the 'Brunette Downs Project'. NRE assessed a number of field targets across the tenement and carried out geological mapping of the tenement.

The field targets within the Eagles Nest Prospect that required ground truthing or evaluation, were identified based on desk top research of regional geological and geophysical data, augmented with compilation and assessment of all previous exploration reports.

Field assessment of the targets involved an initial fly over to obtain a regional perspective of the geological, physiographic and botanical setting, followed by a ground assessment where appropriate. Detailed geological characteristics were recorded at each site and bulk surface samples were collected.

Geological ground truthing has produced a multitude of new information regarding surface characteristics across the region. It was discovered that elevated tin up to a value of 52 ppm Sn occurs in outcropping Devil Suite granite which warrants follow up. The highest phosphate that was returned from NRE's sampling was 1.55% P2O5 which was from from ferruginous chert breccia in a prospective part of the Cambrian stratigraphy, close to the

Proterozoic shoreline, and in the area where previous explorers had located phosphate and uranium.

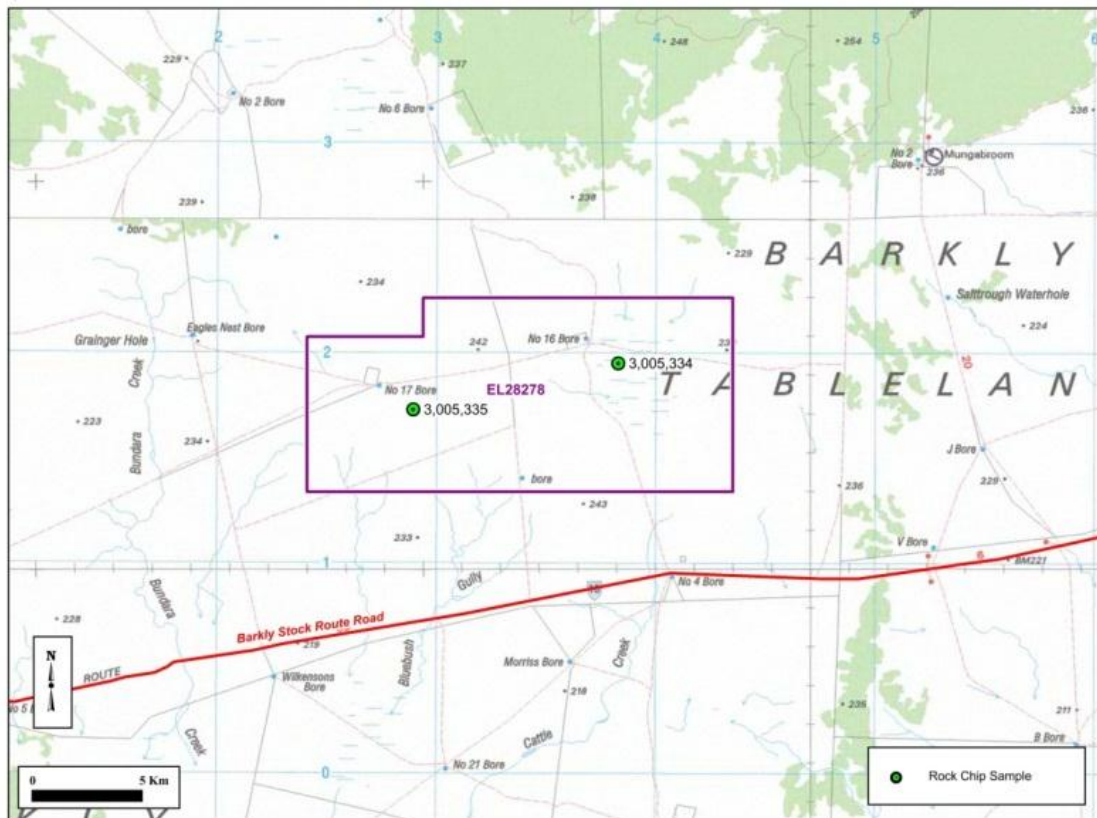
Phosphate in the surface environment is probably leached and therefore reporting low. While reporting was low, this is likely to be a result of weathering and NRE believes that a phosphate horizon may exist below surface. Radioactively anomalous Devils Suite weathered felsic granite is similar to the granites that drive Au-Cu mineralisation in the Tennant Creek district. Previous explorers have pursued these ideas and drill tested a few magnetic features in the surrounding contact aureole. Observations have been made at all target sites detailing the actual setting to ensure follow up work is carried out with optimal effectiveness.

Geological observations were recorded and two samples were collected from EL28278. Those targets were assessed at the peak sites of discrete potassium anomalies. Both sites were identified as being within low lying zones subject to annual flooding, having grey-black sandy clay soil cover and an abundance of vegetation in comparison to the surrounds. The field trip proved successful in evaluating the tenement in the most effective and timely manner possible.

4.3 Rock Chip Sampling

Geological observations were recorded and a total of two (2) Rock Chip samples were collected from EL28278. The locations of rock chip samples are plotted in **Figure 8**. The Rock Chip samples were taken across all the areas of the outcrop of ironstone found during the course of the preliminary helicopter activity. The Rock Chip samples were sent to ALS Laboratories for mineral analysis.

Figure 8. Rock Chip Sample Locations



While previous explorers have found 110 ppm uranium, NRE tested the Rock Chip samples at only 20 ppm showing some indication for low level uranium.

4.6 Water Bore Cuttings Analysis

NRE attended the Northern Territory Department of Resources' ('the Department') Alice Springs Core Facility and conducted XRF Assaying of water bore chips available for EL28278's surrounding tenements in the Brunette Downs project area.

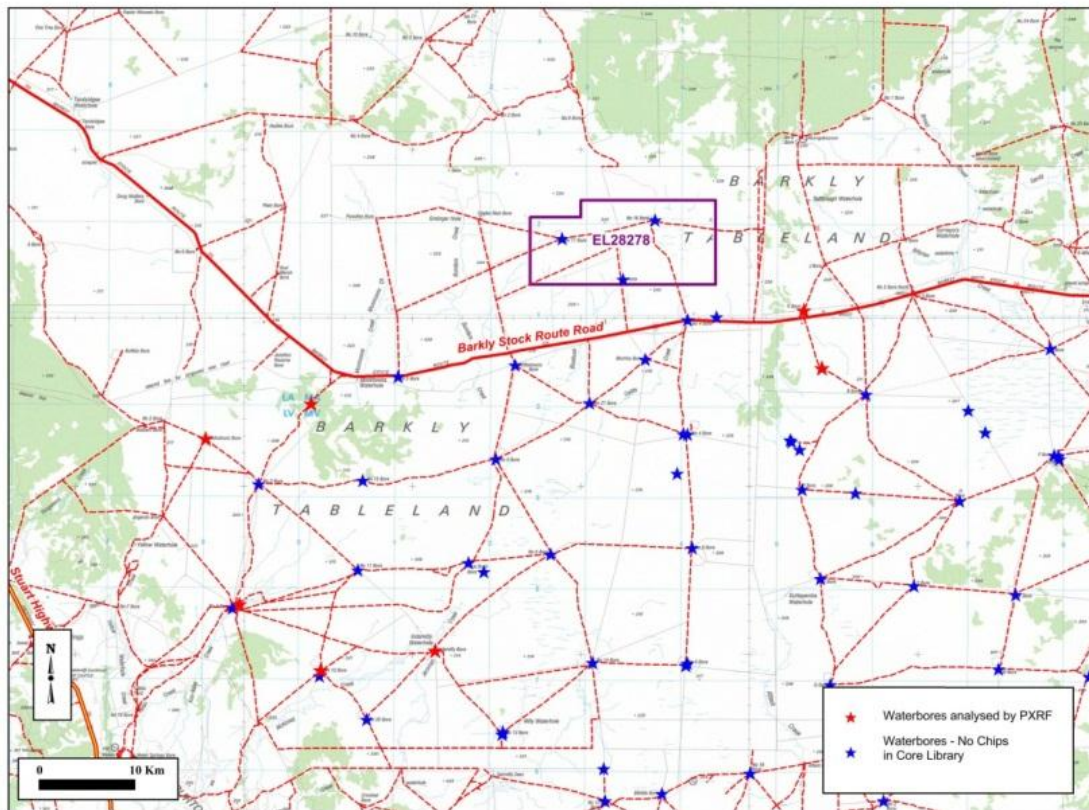
This exploration activity was completed in order to define mineral potential within EL28278 and the surrounding Brunette Downs project area. The XRF Assaying of water bore chips at the Alice Springs Core Facility involved:

- Delineation of all water bores drilling in EL28278 and the surrounding Brunette Downs project area;
- Compilation and data entry of all relevant information recorded at the time of drilling, including geology intersected and water chemistry;
- Determination of water bore chips available for XRF analysis held at the Alice Springs Core Facility;

- Assessment and correlation of XRF results and geological data within each hole and across EL28278 and the surrounding Brunette Downs project area.

The location of the water bores within or near NRE’s Eagles Nest Prospect are depicted in **Figure 9**.

Figure 9. Water Bore Location Map



The Department kindly allowed NRE to set-up in the Alice Springs Core Facility where NRE’s geologists undertook analysis of the water bore cuttings using a hand-held XRF device. NRE was able to test the water bore cuttings surrounding its Eagles Nest Prospect but unfortunately the water bore chips within EL28278 itself were not held at the Core library.

Although NRE was unable to test any water bore chips within EL28278, the XRF Analysis of water bore chips of the surrounding Brunette Downs project area has proved to be valuable to NRE in determining the mineral prospectivity of each of its project areas and specifically, in respect of each tenement. After compilation and detailed interrogation of all currently available data within the tenement with the XRF results, NRE was provided with valuable insight into the mineral potential of each of its tenements.

NRE lodged an Exploration Report with the Northern Territory Department of Resources’ Geoscience Division on 12 September, 2011. This report was required in respect of the XRF

and ALS Assaying of Water Bore Chips at the Alice Springs Core Facility. The Exploration Report was titled '*XRF & ALS Assaying of Water Bore Chips – Core Facility: Alice Springs*'.

5. Reports lodged during the reporting period

NRE believes that no other reports were required to be lodged during this reporting period.

6. Conclusions

Natural Resources Exploration's exploration activities over its Eagles Nest Prospect (EL 28278), were focussed on evaluating the potential base metal and phosphate mineralisation within the licence area. Investigations were intended to locate any outcropping of mineralisation and any indicators of any sub-surface mineralisation within the tenement.

NRE believes that this tenure holds low mineral prospectivity and no further exploration is warranted at this time. NRE made application to the Department to completely surrender the entire title for EL28274 under section 103 of the *Mineral Titles Act*. EL28274 was surrendered on 24 April 2013.

NRE believes that there is no rehabilitation required in relation to EL28274 as no work involving land disturbance has been carried out during the term of the licence.

7. Bibliography

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Note these (and many more) references are also located in the References section of the Mt Drummond 1:250,000 geological map series explanatory notes.