



THUNDELARRA

EXPLORATION

FINAL ANNUAL REPORT

EXPLORATION LICENCE 28519

FOR THE PERIOD

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Element 92 Pty Ltd (Thundelarra Limited)

Map sheet: 1:250,000 Pine Creek SD52-08

Commodities: Gold, Uranium, Basemetals

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SUMMARY

EL 28519 is situated about 120 km SE of Darwin and approximately 55 km SE of Adelaide River township. It was granted on 26 October 2011 and was relinquished on 11/09/2013. The tenement covered an area of 60.12 km² (18 blocks).

The project area is located within central part of the Pine Creek Orogen, which is a folded sequence of Palaeoproterozoic pelitic and psammitic sediments with interlayered cherty tuff units. Mafic sills of the Zamu Dolerite (~1.87Ga) intruded the lower sequence of the package. These rocks have been intruded by the late-orogenic Palaeoproterozoic granites, causing wide spread contact/thermal aureole metamorphism, which contains most of the gold, uranium and base metals mineralisation in the Orogen. EL lies over an area of tightly folded meta-sedimentary rocks assigned to the Mt Bonnie Formation, Gerowie Tuff (South Alligator Group) and Burrell Creek Formation of the Finnis River Group. Much of the southwestern part of the project area is covered by the Prices Springs Granite. However, some parts of EL 28519 are covered by a layer of recent sedimentary cover which includes Quaternary alluvium (Qa) and Cainozoic material (Cz). The eastern part of the tenement contains north plunging anticline that contains Sn-Cu deposits and prospects which are located outside the tenement.

During the final reporting period a thorough review of open file data was carried out, in conjunction with geological traversing and rock chip sampling. A total of 18 Rock-chip samples were collected and assayed. The EL was relinquished as the potential to discover economic mineralisation was considered low.

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1.0 INTRODUCTION

Exploration Licence (EL) 28519 is located in the central part of Pine Creek Orogen (PCO), and covers part of Mt Wells area. Element 92 Pty Ltd, a wholly owned subsidiary of Thundelarra Exploration Ltd is exploring the region for gold, uranium and base metals mineralisation. This report documents the exploration activities undertaken in the final year up to relinquishment in 11/09/2013.

2.0 TENEMENT LOCATION

EL 28519 is situated about 120 km SE of Darwin and approximately 55 km SE of Adelaide River township (Figure 1). The tenement can be accessed via Stuart Highway and then by Grove Hill Road, which takes off about 30 km south of Hays Creek. It runs approximately east for about 5 km and then it turns towards north and join Fountain Head Road after a distance of approximately 8 km. From here, Fountain road turns towards northeast and runs through the southern part of the tenement after a distance of approximately 12 km. Alternative access to the tenement area from the Stuart Highway just north of Hayes Creek In, where a track takes off towards north and after a distance of about 14 km joins once again with the Fountain Head. Turning right on Fountain Head Road, will lead into the tenement area after a distance of 10 km. Within the tenement access is available via station track.

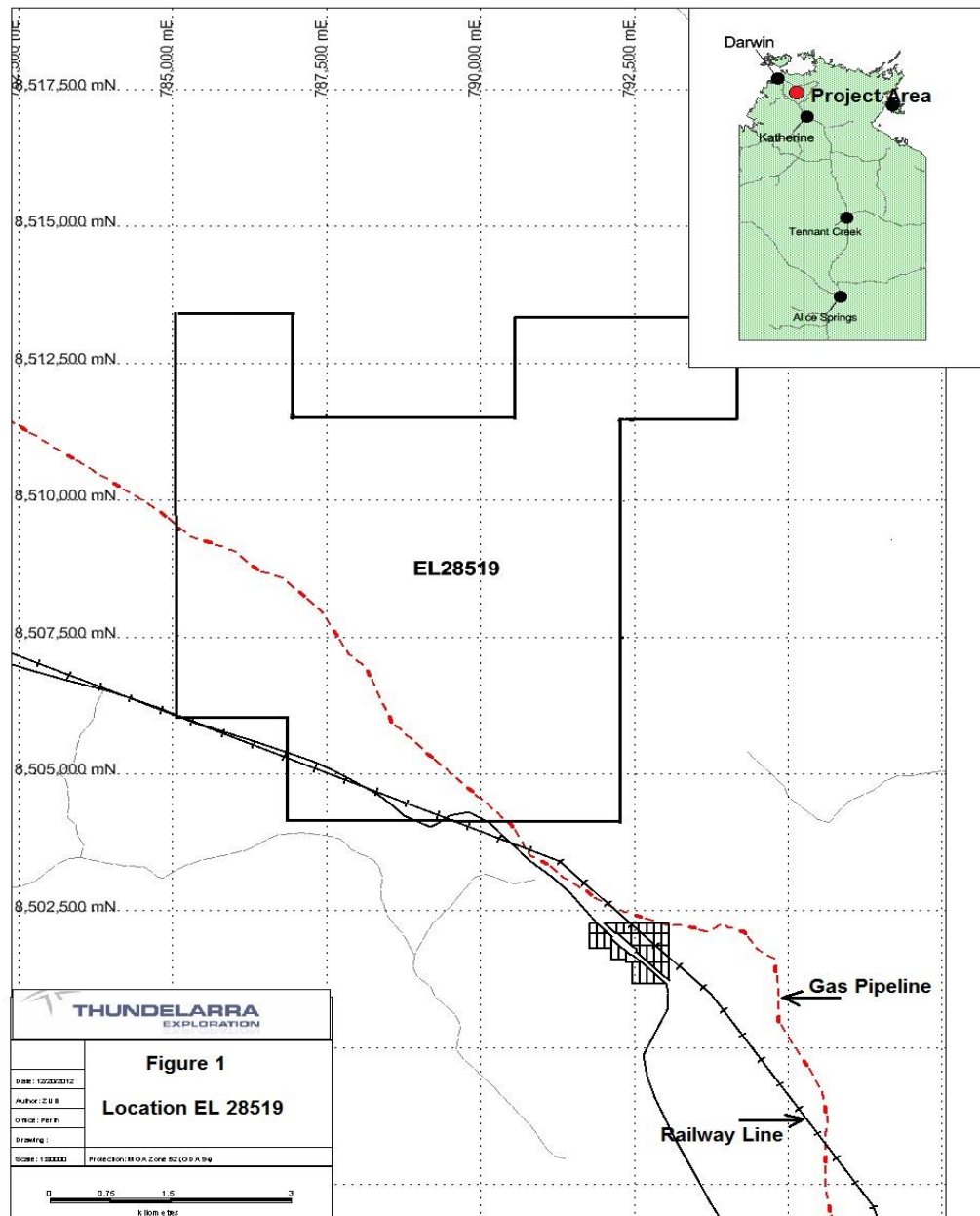
The climate is hot with periodic monsoonal rains between November and April, for the remainder of the year, it is warm to hot and largely dry. During wet season, access within the tenement is limited.

The underlying cadaster belongs to PPL 1111, PL 903, NTP 5079 CLT 1905 and Reserved Land 24350.

3.0 TENEMENT DETAILS

Element 92 Pty Ltd (wholly owned subsidiary of Thundelarra Exploration Limited) applied for EL 28519 on 20 December 2010 for a period of 6 year. It was granted on 26 October 2011 and will expire on 25 October 2017. The tenement covers an area of 60.12km² (18 blocks). The tenement was relinquished on 11/09/2013

Figure 1: Location of the project area



4.0 GEOLOGICAL SETTING

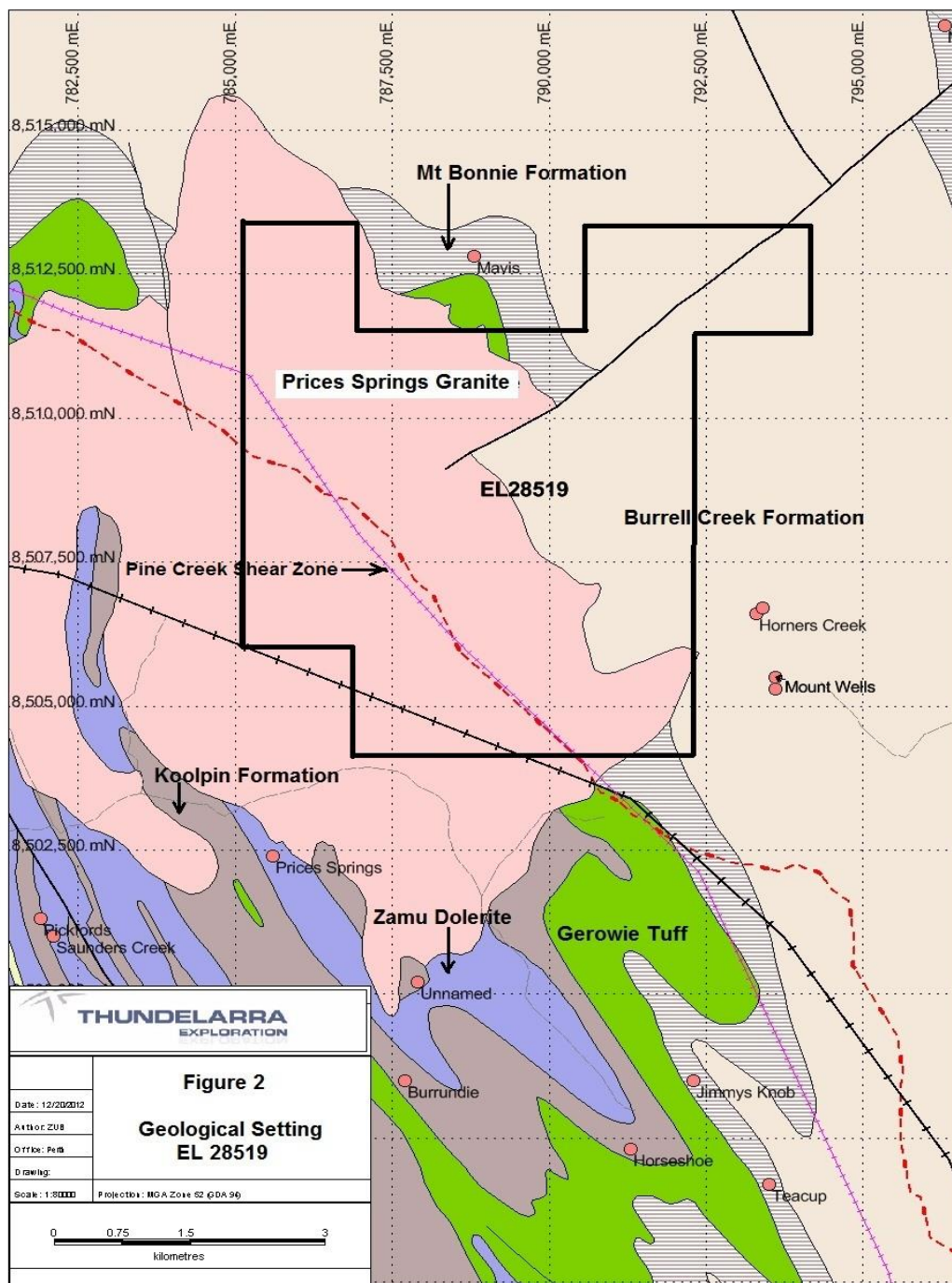
The project area is located within central part of the PCO. Regional geology of the PCO is outlined in many publications, notably Ahmad et al. (1994), Needham and Stuart-Smith (1984), and Needham et al. (1988). The PCO is a folded sequence of Palaeoproterozoic pelitic, psammitic, carbonate, and volcanic sediments with interlayered cherty tuffaceous units, unconformably overlying Neoarchaeon (ca 2670 – 2500 Ma) granitic and gneissic basement. The sequence experienced regional metamorphism and deformation of varying grades in various parts of the PCO in a period ca 1867 – 1850. Mafic sills of the Zamu Dolerite (~1.87Ga) intruded the lower sequence of the package. Syn- to post tectonic granites were emplaced at 1830 – 1800 Ma, causing wide spread contact/thermal aureole metamorphism, which contains most of the gold, uranium and base metals mineralisation in the Orogen (Bajwah, 1994). Less deformed Mesoproterozoic sedimentary and volcanic sequences unconformably overlie the Palaeoproterozoic rocks and is overlain by Cambrian-Ordovician lavas, sediments and Cretaceous strata. Cainozoic sediments, laterite and recent alluvium may obscure parts of the Orogen lithologies.

Local Geology

Figure 2 shows geology of the project area, where the EL lies over an area of tightly folded meta-sedimentary rocks assigned to the Mt Bonnie Formation, Gerowie Tuff (South Alligator Group) and Burrell Creek Formation of the Finnis River Group. Much of the southwestern part of the project area is covered by the Prices Springs Granite (Figure 2). However, some parts of EL 28519 are covered by a layer of recent sedimentary cover which includes Quaternary alluvium (Qa) and Cainozoic material (Cz). The eastern part of the tenement contains north plunging anticline that contains Sn-Cu deposits and prospects which are located outside the tenement.

The Gerowie Tuff is the oldest rock unit exposed in a small area in the northern part of the tenement, and is generally composed of siltstone, phyllite and tuff. Tuff constitutes about 25% of the formation and contains varying amounts of curved or angular crystal fragments of quartz, K-feldspar with minor sphene, biotite and zircon in devitrified matrix. Minor chert nodules similar to the Koolpin Formation are also present. Gold and uranium deposits have been hosted by this formation.

Figure 2: Geological setting of the project area



In a small area towards northeast, the Mt Bonnie Formation is exposed. The Mt Bonnie Formation is also present in southeastern corner of the project area. It is the upper unit of the South Alligator Group, and rest conformably on the other members - the Gerowie Tuff and Koolpin Formation. Constituent lithologies are slates, mudstone, phyllite, siltstone and greywacke along with minor beds of chert and tuff. Rare beds of iron formation and dolomite may also be present. The Mt Bonnie Formation hosts a number of gold, base metals and tin deposits. The banded iron formation hosts Au-base metals deposits such as Iron Blow and Mt Bonnie. Recent discovery of high grade uranium mineralisation at Thunderball within the Mt Bonnie Formation further highlights its metallogenic significance.

The Burrell Creek Formation is exposed in the eastern part of EL 28519 (Figure 2), and is a flysch sequence that contains feldspathic greywacke, siltstone, shale and phyllite. It is generally brown to grey-green, thickly bedded to massive. Generally, rock formation is fine to coarse-grained with graded bedding in places, and minor lenses of volcanilithic pebble conglomerate. The Burrell Creek Formation is host to gold and uranium, tin and base metal mineralisation in the PCO.

This meta-sedimentary sequence is intruded by the Prices Springs Granite towards southwest and, in turn, has been intersected by the Pine Creek Shear Zone (Figure 2). It has irregular and faulted contact with adjacent meta-sediments. Two textural varieties are common, 1) the marginal variety is comprised of fine-grained rocks which may contain K-feldspar megacrysts; 2) medium to coarse-grained variety mainly occurring in the central part of the pluton. The main constituent minerals are quartz, K-feldspar, plagioclase, biotite along with rare hornblende. The accessory minerals are apatite, zircon, sphene and rare magnetite and allanite.

Magnetite susceptibility measurements on Prices Springs Granite range from $6.45 - 12.10 \times 10^{-4}$ emu/g, thus defining magnetite-series character of the granite body (Bajwah, 1994). It is moderately fractionated with a narrow SiO_2 range (67.90 wt% - 73.98 wt%). Rb also shows a narrow range from 232 ppm to 302 ppm together with negative europium anomaly. Geochemical and petrographic data are consistent with those for an I-type granite. However, in case of the Prices Springs Granite, it appears that a significant reaction with the surrounding meta-sediments has occurred during ascent and crystallisation. As a result if that reducing conditions enabled fluids to carry and transport Sn which led to the deposition of Mt Wells and other tin deposits/prospects in the adjacent meta-sediment.

5.0 PREVIOUS EXPLORATION ACTIVITY

A full analysis of previous exploration is presented in Appendix 1.

During the first year of tenure Element 92 Pty Ltd activities were restricted to desk top reviews and compilation of open file data, with limited field reconnaissance visits.

6.0 Exploration During the Final Reporting period

The main activities during the final reporting period have been a thorough tenement review including reconnaissance field visits, a review of historical exploration data and rock chip sampling. A report outlining all the work carried out on EL28519 during the final reporting period is attached as Appendix 1.

A total of 18 Rock chip samples were collected. Rockchips were generally of 1-3kg sample weight. Samples were submitted to North Australian Assay Laboratories for analysis of Au by Fire Assay, Cu, Pb, Zn, As, Bi, Fe, Mn by ICP-Optical Emission Spectroscopy, and Sn, U, W and Mo by ICP-Mass Spectrometry.

A number of these samples returned anomalous assays for gold (to 0.18ppm), Uranium (to 139ppm), basemetals (to 468ppm Cu, 435ppm Pb, 988ppm Pb). Most samples were of narrow quartz veins or ferruginous zones of limited extent, and are so considered to have only minor economical potential. Rock chip sampling has confirmed that a small strong radiometric anomaly at 787306mE, 8505056mN is caused by uranium mineralization.

A sample location plan is presented in Figure 4 of appendix 1.

7.0 Conclusions

EL 28519 is located in the central part of the Pine Creek Orogen, known for gold, base metals and uranium mineralisation. Fieldwork by Element 92 Pty Ltd has confirmed the presence of weak gold, base-metal and uranium mineralisation, however none of the styles of mineralisation observed appears to have the potential to form economical deposits, and the license has therefor been relinquished.

Further investigation of an uranium occurrence at 787306mE, 8505056mN would be warranted under different market conditions.

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