



THUNDELARRA
EXPLORATION

Partial Relinquishment Report

ON

Exploration License 24931

“Burrundi”

Northern Territory

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

Author: Zia U. Bajwah

Distribution: NT Department of Resources
Element 92 Pty Ltd (Thundelarra Exploration Ltd)

SUMMARY

EL 24931 is located about 180 km SE of Darwin and granted on 18 July 2006 to Imperial Granites and Minerals Pty Ltd (IG&M) for a period of six years. On 17 December 2007 Thundelarra Exploration Ltd (Thundelarra) and its subsidiary Element 92 Pty Ltd entered into an agreement to purchase the license from IG&M and ownership was transferred. To meet NT Mining Act requirements, 9 blocks were surrendered on 25 July 2011.

Project area lies over tightly folded meta-sedimentary rocks assigned to the South Alligator Group (Koolpin Formation, Gerowie Tuff and Mt Bonnie Formation), intruded by broadly conformable sills of Zamu Dolerite. The Prices Springs Granite intrudes the sediments in the far NW of the EL. The Pine Creek Shear Zone is located NE of EL 24931 which hosts the bulk of gold mineralisation in the Pine Creek Goldfield. The Palaeoproterozoic sequence is folded into SE plunging anticlines which are characterised by magnetic ridges on TMI image. The Prices Springs Granite shows highly irregular and faulted contact with the met-sediments.

During the period under review, a technical review of the project area was undertaken which involved geological and geophysical information published by Northern Territory Geological Survey and Geoscience Australia. Geology of the project appears to be prospective where the Koolpin, Formation, Gerowie Tuff and Mt Bonnie Formations have been folded into anticlinal structures and intruded by I-type granites. This is a fertile geological setting for gold mineralisation in the PCO. An important feature is presence of extensive outcrops of the Zamu Dolerite which is also folded within the Palaeoproterozoic stratigraphy.

Rock chip sampling program was also undertaken and 3 rock chip samples were collected from the relinquished area. These samples were analysed for U, Au, and base metals. None of the assayed samples returned any significant metal contents which were worthy of further exploration. As a result of 9 blocks of the tenement were relinquished in order to meet NT Mining Act.

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1.0 INTRODUCTION

Exploration License (EL) 24931 “Burrundie” is located in the central part of the Pine Creek Orogen. Element 92 Pty Ltd a wholly owned subsidiary of Thundelarra Exploration Limited is exploring the project area for uranium, gold and base metal mineralisation. This report documents exploration activities within the relinquished blocks which were surrendered on 25 July 2011.

2.0 LOCATION AND ACCESS

EL 24931 is located about 20 km NE of Pine Creek and approximately 180 km SE of Darwin (Figure 1). Access by road from Darwin is via the Stuart Highway and about 180 km south of Darwin, Grove Hill - Mt Wells Road takes off towards east. It can also be approached from Pine Creek via Spring Hill Road. Vehicle access within the tenement is possible by station tracks, which may be impassable during wet season.

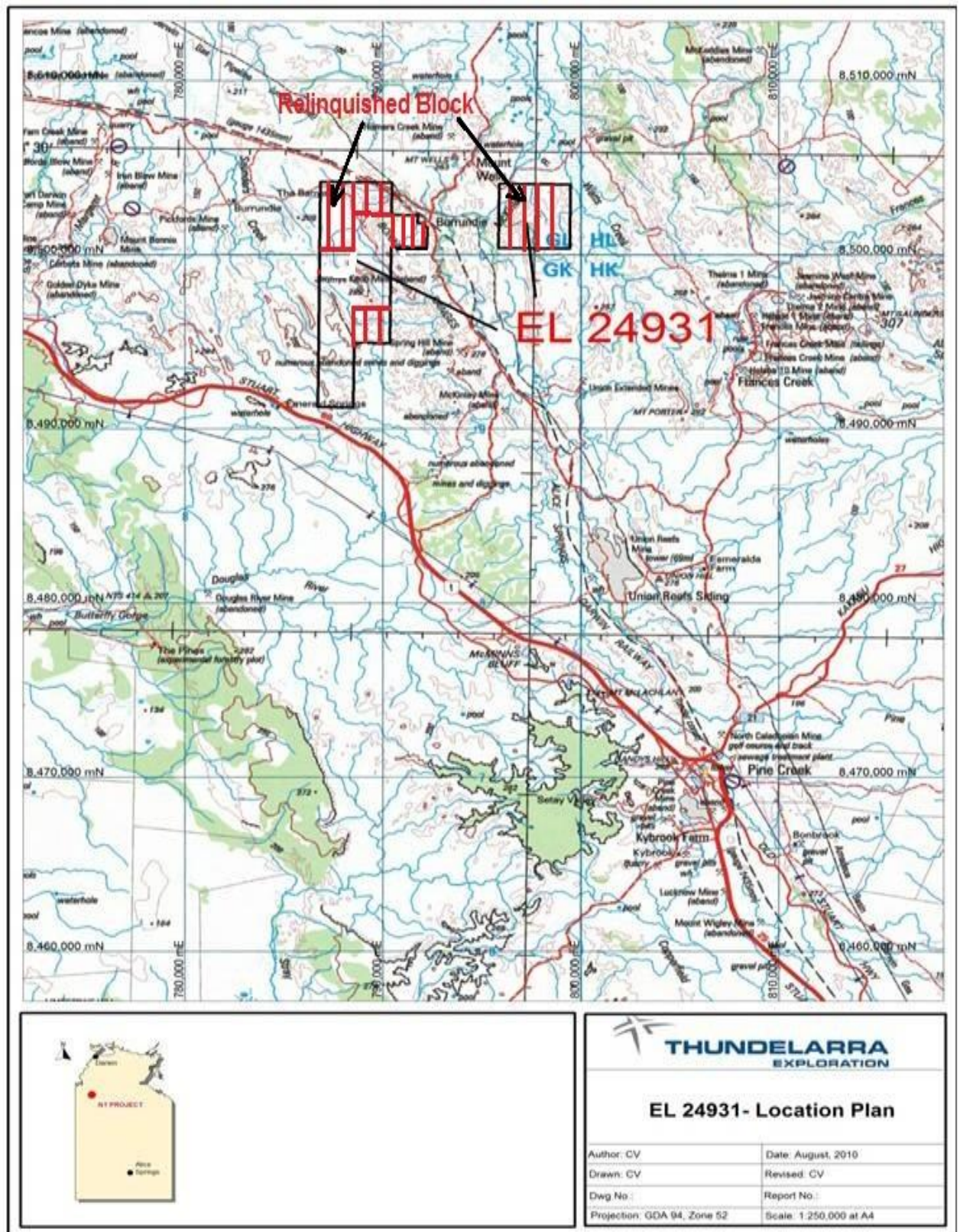
3.0 TENEMENT DETAILS

EL 24931 was granted on 18 July 2006 to Imperial Granites and Minerals Pty Ltd (IG&M) for a period of six years. On 17 December 2007 Thundelarra Exploration Ltd (Thundelarra) and its subsidiary Element 92 Pty Ltd entered into an optional agreement to purchase the license from IG&M and ownership was transferred to Element 92 Pty Ltd.

The original EL covered an area of 34 graticule blocks or approximately 112.4 km². Since then the EL has been subjected to 2 reductions and now it has only 8 blocks which covers 26.71 km². The last reduction of the tenement became effective on 25 July 2001 and as a result of that 9 blocks (SD521364K, SD521365F, SD521365K, SD521366F, SD521364P, SD521365M, SD521365P, SD521366L, SD521437A) were surrendered (Figure 1).

The EL covers parts of pastoral leases PL1111 (Ban Ban Springs), PL903 (Douglas) and PL805 (Mary River West). The project area was subject to Native Title Claim which expired on 13 June 2006.

Figure 1: Location of EL 24931



4.0 GEOLOGICAL SETTING

The project area is located in the central part of the Pine Creek Orogen (PCO) which is a tightly folded sequence of Palaeoproterozoic rocks, 10km - 14km in thickness, laid down on a rifted granitic Archaean basement during the interval ~2.2-1.87Ga (Ahmad et al. 1993). The sequence is dominated by pelitic and psammitic (continental shelf shallow marine) sediments with minor inter-layered tuff units. Pre-orogenic mafic sills of the Zamu Dolerite intruded the sequence prior to regional metamorphism and deformation.

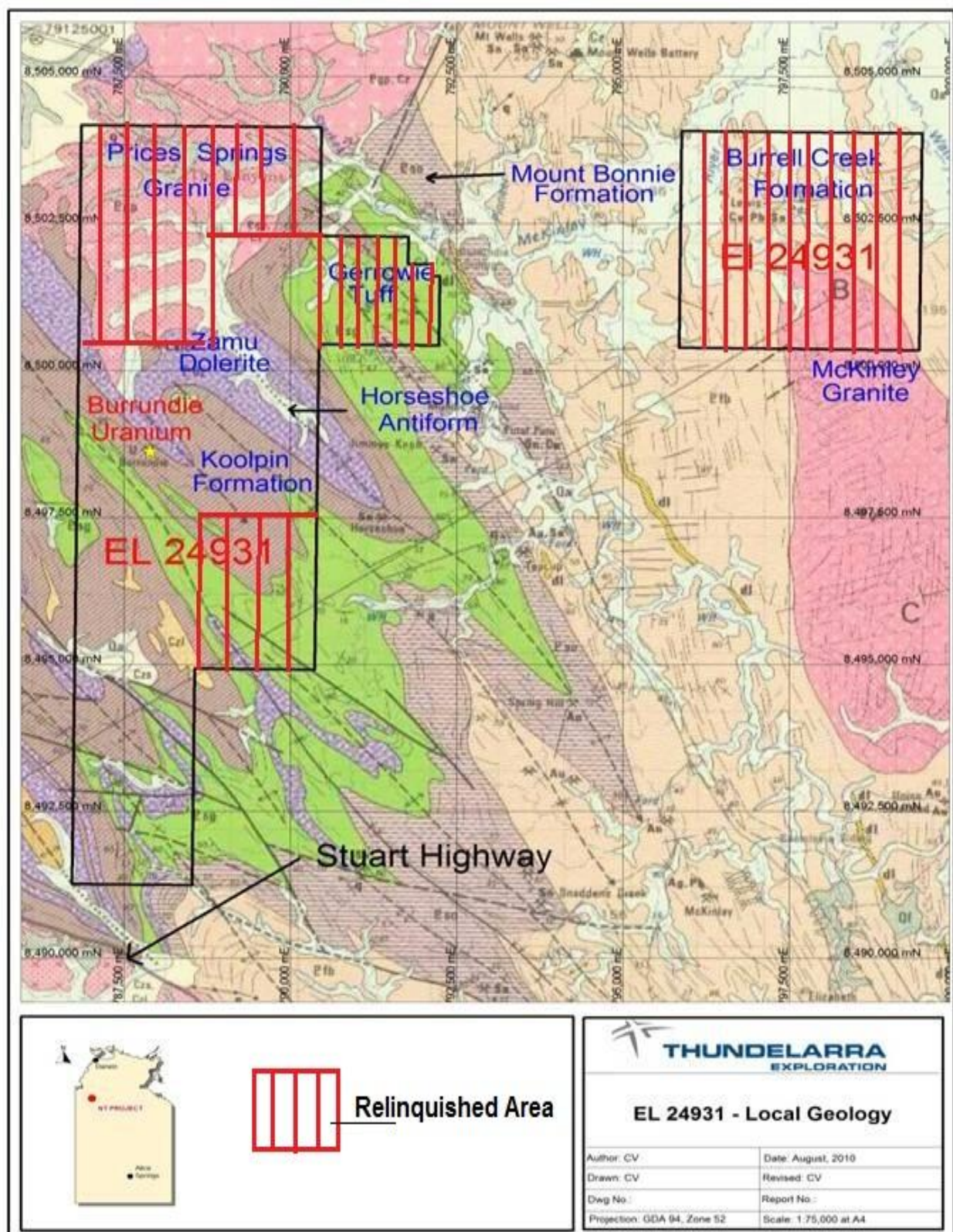
During the Top End Orogeny (1870 – 1780 Ma) the sequence in the central was tightly folded and pervasively altered with metamorphic grade averaging greenschist facies to phyllite. The Cullen intrusive event introduced a suite of fractionated calc-alkaline granitic magma into the sequence in the period ~1.85-1.78Ma. These high temperature I-type intrusives induced strong contact metamorphic aureoles ranging up to (garnet) amphibolite facies to more extensive biotite and andalusite hornfels facies.

Figure 2 shows geology of the project area where EL 24931 lies over an area of tightly folded meta-sedimentary rocks assigned to the South Alligator Group (Koolpin Formation, Gerowie Tuff and Mt Bonnie Formation) intruded by broadly conformable sills of Zamu Dolerite. The Prices Springs Granite intrudes the sediments in the far NW of the EL. The Pine Creek Shear Zone is located NE of EL 24931 which hosts the bulk of gold mineralisation in the Pine Creek Goldfield. The Palaeoproterozoic sequence is folded into SE plunging anticlines, which host many gold deposits in the PCO.

Much of the central part of EL 24931 is covered by the Koolpin Formation which is the oldest unit within the South Alligator Group. It predominantly contains carbonaceous and ferruginous siltstone, shale, phyllite with chert bands. At places, ironstone or banded iron formation may also be present. A characteristic feature is the presence of quartz/chert nodules ranging in size from a few to tens of centimetres. Upper part of the formation generally contains abundant pyrite and pyrrhotite. Gold, uranium and base metals deposits are hosted by the Koolpin Formation in the Orogen.

The Gerowie Tuff is exposed in the SE part of EL 24931. It comprises siltstone, phyllite and tuff. Tuff constitutes about 25% of the formation and contains varying amounts of angular crystal fragments of quartz and K-feldspar. Minor sphene, biotite and zircon are also present in a matrix of devitrified glass shards and recrystallised K-feldspar, sericite, chlorite, iron oxide and carbonates. Minor chert nodules similar to that of the Koolpin Formation are also present at places. In the Orogen, Gerowie Tuff hosts uranium and gold mineralisation.

Figure 2: Geological setting of the Project area



Within EL 24931, the Mt Bonnie Formation occurs in a SW corner in a small area. It generally constitutes a sequence of interbedded slate, mudstone, phyllite, siltstone (carbonaceous) and feldspathic gneiss. It also contains minor tuffaceous chert, vitric crystal tuff, lithic crystal tuff, argillites and rare banded iron formations and dolomites. Gold and base metals are generally hosted by this formation in the Orogen. The Burrell Creek Formation (Finniss River Group) forms a thick sequence towards north and east of the project area. It comprises interbedded shale, slate, phyllite, siltstone, sandy siltstone, greywacke and rare volcanolithic conglomerate. In the Pine Creek Orogen, a variety of mineral deposits such as gold, uranium, base metals and tin are hosted by the formation.

The Prices Granite intrudes the met-sedimentary sequence with highly irregular and faulted contact towards north. Margins are poorly exposed but towards the centre it forms bouldery hills and pavements. The pluton is dominated by two textural types, 1) the marginal fine-grained type which contains occasional K-feldspar phenocrysts along with quartz, and grades into type 2 variety; it is predominantly medium-grained equigranular rocks towards centre. The main composition minerals are quartz (35%), K-feldspar (30%), plagioclase, biotite and rare hornblende. Accessory minerals are apatite, zircon, sphene, and rare magnetite and allanite. Bajwah (1994) suggested that during ascent and emplacement a significant reaction with the surrounding meta-sediments occurred which enabled fluids to transport tin and was responsible for the formation of tin deposits in the adjacent meta-sediments.

5.0 PREVIOUS EXPLORATION ACTIVITY

Several small historical Tin, Copper and Gold workings lie within EL24931, although they are held on separate mining claims excised from the EL. The presence of these workings indicates significant but largely unreported historical prospecting for Sn, Cu and Au.

The Burrundie U occurrence was discovered through prospecting by the BMR during 1954. A single diamond drill-hole was subsequently drilled at the U occurrence by the BMR. This appears to be the only drill-hole to be recorded in open file data as having been drilled on EL24931.

Modern company exploration appears to have commenced in the early 1980's. A number of companies including Geopeko, Anaconda, CSR, Zapopan, Western Gulf Oil, Northern Gold, Billiton, Acacia, North Exploration and AngloGold have carried out low level exploration activities over the EL area. This work consists mostly of stream sediment sampling programs, geophysical surveys, mapping and soil sampling surveys. The most consistent and

comprehensive exploration effort was carried out during the late 1990's to 2002 by Acacia Resources and its successor AngloGold. These companies carried out programs of detailed stream-sediment sampling, soil sampling and detailed airborne geophysical surveys and geological interpretations over those parts of EL24931 held by them. However, the latter companies were purely focussed on gold exploration and do not seem to have seriously considered the potential for other commodities.

Previous company exploration has failed to discover significant mineralisation of any kind on EL24931.

From 2008-2010, Thundelarra Exploration Limited/ Element 92 Pty Ltd carried out a program of geological and radiometric prospecting and rock chip sampling. A total of nine rock chip samples were collected from various lithological units, which crop out over the tenement. Two of these were collected from the eastern part of the tenement consisting of four graticular blocks covering the northern margin of the McKinley Granite. TK 653128 was taken from chloritised hornblende/biotite-bearing granite and has no anomalous geochemistry. TK 653129 has returned anomalous gold, arsenic, copper and lead and is located within the proximity of the poly-metallic Cu-Pb-Zn-Au Lewis Prospect. A narrow shear zone hosted by the Burrell Creek metasediments is located close to the granitic contact and trends north/north-westerly.

6.0 Exploration Activity during the Period under Review

During the period under review, a technical review of the project area was undertaken which involved geological and geophysical information published by Northern Territory Geological Survey and Geoscience Australia.

Geology of the project area appears to be prospective where the Koolpin, Formation, Gerowie Tuff and Mt Bonnie Formations have been folded into anticlinal structures and intruded by I-type granites. This is a fertile geological setting for gold mineralisation in the PCO. An important feature is the presence of extensive outcrops of the Zamu Dolerite which is also folded within the Palaeoproterozoic stratigraphy (Figure 2).

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Table 1: Assay result from Relinquished part of EL 24931

Sample No	Au (ppb)	Ag (ppm)	AS (ppm)	Bi (ppm)	Co (ppm)	Cu (ppm)
Method	FA-GEN	G422M	G422M	G422M	G422M	G422M
TK653125	7	<1	10	1	2	35
TK653126	<1	<1	60	<1	28	470
TK653127	25	<1	150	23	8	420
TK653129	136	3	1520	18	2	130

8.0 REFERENCES

- Ahmad, M., Wygralak, A.S., Ferenczi, P.A., and Bajwah, Z.U. 1993. Explanatory Notes and Mineral Deposit Data Sheets. 1:250,000 Metallogenic Map Series, Department of Mines and Energy, Northern Territory Geological Survey.
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