ANNUAL TECHNICAL REPORT

FOR

EL28857 (SECOND CHANCE)

ALLAMBER PROJECT, NORTHERN TERRITORY

FOR THE PERIOD

24 FEBRUARY 2015 TO 23 FEBRUARY 2016

(Commodities – Copper, Gold, Uranium)

250K Map Sheet	**Pine Creek SD5208**
100K Map Sheet	**Pine Creek 5270**
Authors:	**Costica Vieru and Laura Petrella**
	March 2016
Distribution:	**NT Department of Mines and Energy** **Element 92 Pty Ltd (Thundelarra Ltd)**

Copyright Statement as per Regulation 126 of the Mineral Titles Act

SUMMARY

Exploration Licence (EL) 28857 is located about 180 km SSE of Darwin and approximately 50 km NE of Pine Creek. It consists in one block and is part of the Allamber Project and is being explored for copper, gold and uranium mineralisation. The Licence was granted to Element 92 Pty Ltd, a wholly owned subsidiary of Thundelarra Limited on 24 February 2012, it was renewed in 2015 for two years and then will expire on 23 February 2018.

The project area is located in the central part of the Pine Creek Orogen which is a folded sequence of Palaeoproterozoic pelitic and psammitic sediments, with interlayered cherty tuff units. These rocks have been intruded by the late-orogenic Palaeoproterozoic granites, causing wide-spread contact/thermal aureole which contains much of the gold and other mineralisation in the Orogen. The geology of the project area is dominated by the Palaeoproterozoic rocks of the Namoona Group, Mount Partridge Group and the members of the Cullen Batholith. Main lithologies are tightly folded dolomites, sandstones, ferruginous shales and quartz-andalusite schists which have intruded by the Allamber Springs Granite. This geological sequence has potential for gold, base metals and uranium mineralisation.

During the reporting period, three RC hole were drilled (TAL142RC, TAL143RC and TAL144RC, 510m deep) and High Powered Downhole Magnetic (HP DHTEM) was conducted on previously drilled TAL126RC. The best interval was intersected in TAL142RC from 165-172m returning 7m at 0.22% Cu. The HP DHTEM on TAL126RC identified two off-hole zones of interest and two drillholes are planned for next reporting period (2016) targeting these two zones. EL28857 continues to offer significant exploration potential which will be the subject of further work programs in 2016.

Contents

Figures

Tables

INTRODUCTION

Exploration Licences (EL) 28857 is located about 55 km north-east of Pine Creek and is part of Allamber Project, which is being explored for copper, gold and uranium mineralisation. The title is held by Element 92 Pty Ltd which is wholly owned subsidiary of Thundelarra Limited.

LOCATION AND ACCESS

The tenement is located about 175 km SSE of Darwin and approximately 55 km NE of Pine Creek (Figure 1). EL 28857 can be approached by road and tracks leading off the Kakadu Highway. The Licence can be accessed from the Mary River Homestead Road which leads off from the Kakadu Highway. EL 28857 is located in the west of EL24549 and access is also available via Mary River Homestead Road. Vehicle access within the tenements is possible by station tracks which may be impassable during wet season.

TENEMENT DETAILS

EL 28857 was granted on 24 February 2012 to Element 92 Pty Ltd for a period of two years, it was then renewed in 2014 and 2016 and will expire on 23 February 2018. The EL covers an area of one graticular block or approximately 3.36 km^2. EL28857 is located within pastoral lease PPL1134 held by Mary River Wildlife Ranch Pty Ltd (”Mary River Station”).

Table 1 Details of EL 28857

EL No	Project Name	Date Granted	Date Expiry	Area	Covenant
EL 28857	**Second Chance**	**24/02/2012**	**23/02/2018**	**1 Block**	**$11,000.00**

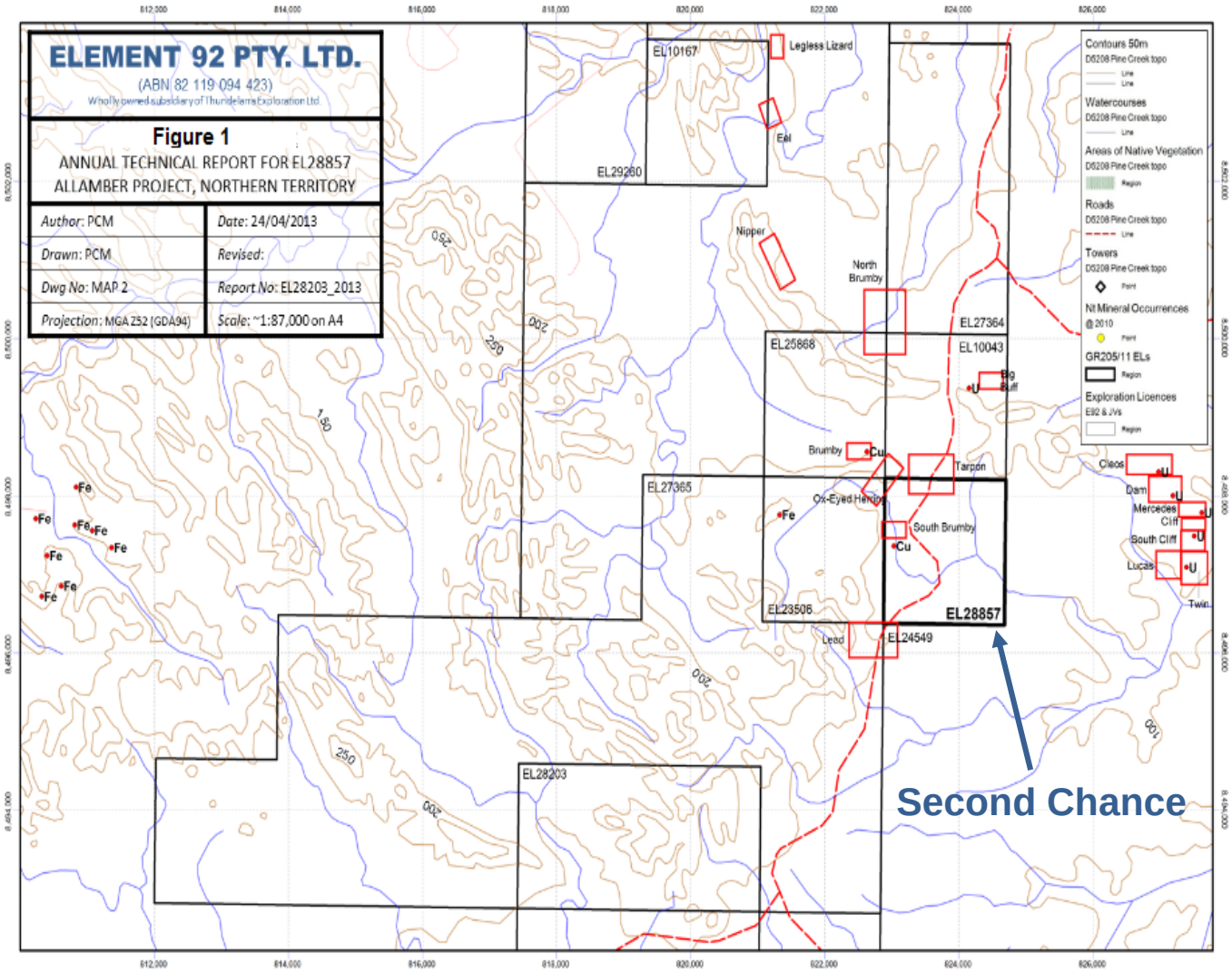

Figure 1 *Project Location.*

GEOLOGICAL SETTING

Regional Geology

The project area is located within the central part of the Pine Creek Orogen (PCO) which is a tightly folded sequence of Palaeoproterozoic rocks, 10 to 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 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 ~1.85-1.78 Ma. 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. During granite emplacement, magma experienced differentiation, fractionation and at the culminating stages, evolution of hydrothermal fluids, rich in a variety of metals (uranium, gold and base metals) took place. These granite bodies are thought to be responsible for a variety of mineral deposits in adjacent sediments (Bajwah, 1994).

Local Geology

Figure 2 shows local geology of the project area. The oldest formation exposed in the project area is the Masson Formation (Namoona Group) which occurs in a very small area in the NW corner of the title. It conformably underlies the Mundogie Sandstone (Mount Partridge Group). It predominantly contains greywacke, carbonaceous shale, sandstone and beds of dolomite with minor quartzite, massive ironstone and rare tremolite marble. They are commonly exposed as ferruginous rubble on low rises and occasionally in creek beds (Stuart-Smith et al. 1987). Due to thermal metamorphism, beds have been metamorphosed to carbonaceous chiastolite hornfels, spotted grey cordierite-andalusite-muscovite hornfels and biotite-muscovite-quartz hornfels.

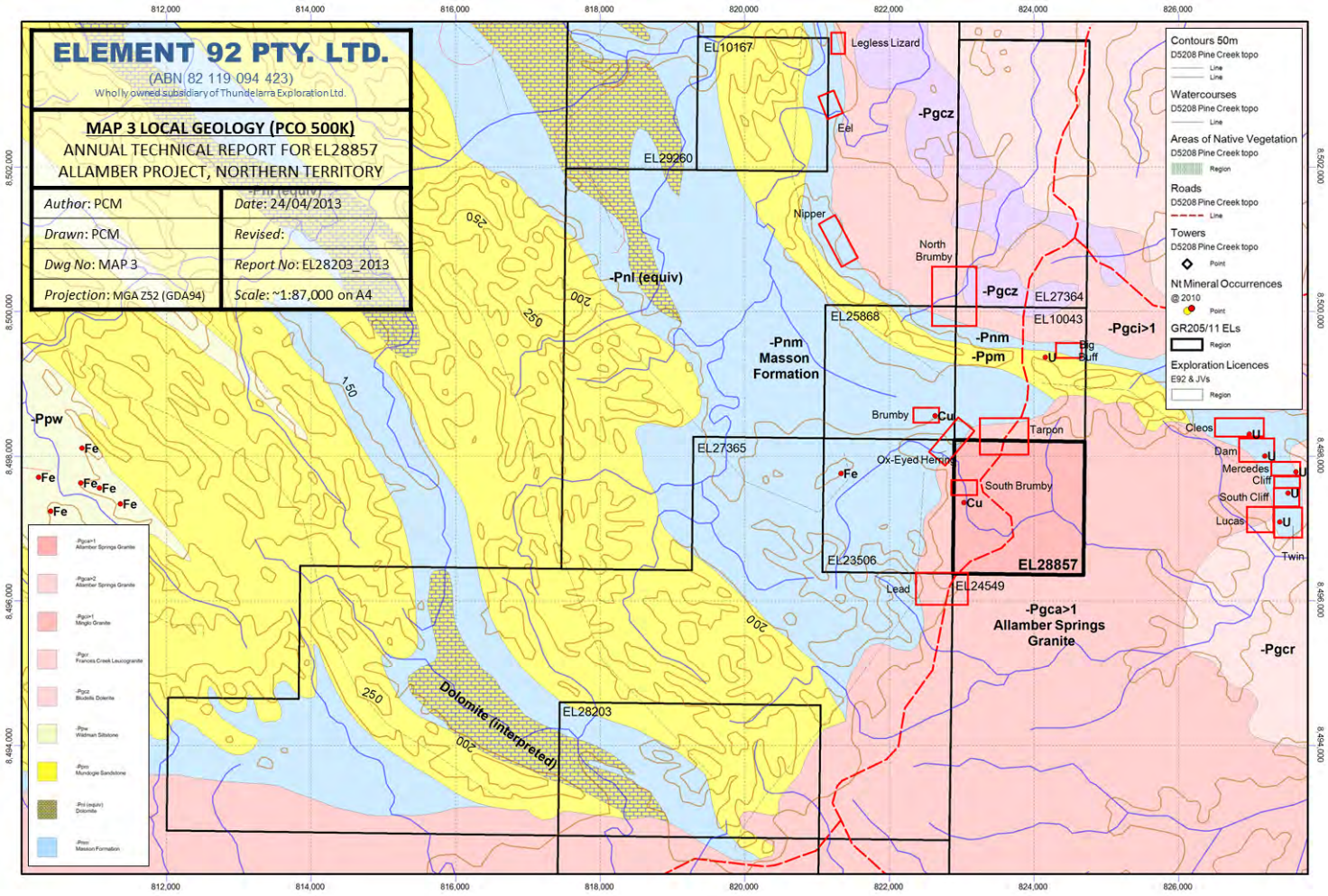

Figure 2 *Geological setting of the project area – EL 28857.*

Contact relation relationship between the Masson Formation and intruding Allamber Springs is mainly discordant (Stuart-Smith et al., 1987).

Within the title, the meta-sedimentary sequence is intruded by late-orogenic Palaeoproterozoic Allamber Springs Granite which accounts for about 95% of the project area. The granite body is a part of the Cullen Batholith, or Cullen Supersuite, and was emplaced during Top End Orogeny event (1870 – 1780 Ma). The members of the Cullen Supersuite are predominantly I-type (Chappell and White, 1974), but some may also have S-type characteristics.

Allamber Springs Granite occurs towards the south of the local area and is a significant plutonic body. It is genetically related to gold, uranium and base metals mineralisation in the adjacent contact zone. The

pluton is mainly massive and largely homogenous and even-grained, although porphyritic marginal variants occur in several restricted localities. Mafic inclusions in low abundances occur particularly towards the margin of the pluton. It crops out as expanses of bare rock, boulders and tors separated by alluvial flats. The marginal fine-grained porphyritic variety is light grey and characterised by the presence of quartz and/or K-feldspar phenocrysts. It is mainly composed of quartz (25-35%), K-feldspar (30-35%), plagioclase (20-25%), biotite (5-8%) and accessories such as magnetite, allanite and sphene. Hornblende (>10%) is generally confined to medium to coarse grained varieties which form greater part of the pluton and shows a progressive increase in grain size from the marginal to the core of the granite body. In coarse-grained variety K-feldspar could be up to 50%. The Allamber Springs show weak pervasive hydrothermal alteration (sericitisation, chloritisation) throughout but greisenisation of the granitic rock may occurs towards the margins. The Allamber Springs Granite is characterised by a variable SiO_2 range (66.10-78.10 wt.%), K_2O contents range from 4.20-7.0 wt.% and are predominant over Na_2O. In terms of trace elements, the granite body has high concentrations of Th (2-90 ppm), U (3-30ppm) and Rb (141-336ppm).

PREVIOUS EXPLORATION ACTIVITY

The area of EL28857 was previously explored for a variety of commodities by a number of companies. In the late 1960's to early 1970's Australian Geophysical P.L. carried out airborne magnetic surveys over the tenement area and carried out limited follow-up. In the mid to late 1970's CRA Ltd carried out regional soil traverses for base-metals. During the 1980's Total Mining (Australia) Ltd carried out uranium exploration over the EL area. This consisted of ground radiometric traversing and limited rock-chip sampling. During the early 1990's Aztec Mining carried out base-metal exploration in the wider area. Exploration on the EL consisted mainly of grid soil sampling.

From 1995 to 2002 Earthrowl & Teelow explored the area for a number of commodities, including gold, barite and base-metals. This exploration included RAB drilling, rock-chip and soil sampling. A small barite occurrence was located just south of the EL.

During the previous reporting period, Thundelarra exploration activities included technical review, geological mapping and ground-truthing. High resolution geophysical data was used to identify several targets which showed significant potential during soil sampling and drilling. Appraisal of geological, geochemical and geophysical data indicates that the Masson Formation is prospective for gold, uranium and base metal mineralisation, particularly where it is intruded by the Allamber Springs Granite. Greisenised part of the Allamber Springs Granite is indicative of generation of hydrothermal system responsible for mineralisation in the adjacent sediments.

EXPLORATION YEAR ENDING 23 FEBRUARY 2016

During the reporting period, three drill holes (TAL142RC, TAL143RC and TAL144RC) were drilled for a total of 510 meters to follow up a conductive feature which extends to the SW of the current tenure. Sulphide rich-zone associated with brecciation was intersected in TAL 142RC with 7m @ 0.22% Cu.

A high powered down-hole magnetic survey (HP DHTEM/MAG) of previously drilled TAL126RC was acquired at intervals of 2-10 metres stations, which delineated a strong, inhole/offhole anomaly at 145-147m.

Drilling

Three RC holes were drilled during the reporting period by Element 92 to follow up a conductive feature which extends to the SW of the current tenure. Details regarding these holes are displayed in Table 2 and complete information can be found in Appendix A. Drill holes location is illustrated in **Error! Reference source not found.**.

Table 2 Drill holes details.

HOLE	EAST	NORTH	RL	DEPTH	DIP	AZIMUTH
TAL142RC	822949	8497900	132	184m	-60	275
TAL143RC	823083	8497947	144	165m	-60	140
TAL144RC	823029	8498007	146	161m	-60	140

TAL142RC was drilled to follow up on a breccia zone carrying mineralisation intersected previously in TAL126RC (previous Annual Report). In TAL142RC, chalcopyrite was also identified associated with brecciation from 159m to 176m down-hole. This zone is very rich in sulphides, mainly pyrite and abundant pyrrhotite with minor chalcopyrite. The main lithology is a coarse-grained granite with K-feldspars phenocrysts cross-cut by a dyke of aplite. The interval from 165-172m was significantly anomalous in copper, returning 7m at 0.22% Cu.

TAL143RC was drilled to investigate a greisen type alteration observed in outcrop and an inferred north-east trending structure towards the Tarpon mineralised area. No mineralisation or greisen alteration was identified within a coarse-grained granite cross-cut by aplitic dykes. A brecciated zone was intersected but void of any associated sulphides.

TAL144RC targeted the same inferred structure assumed to link the conductor with the magnetic / mineralised Tarpon area. Although a deeper weathering profile within the granitic rocks was identified,

the hole only intersected a coarse granite containing small xenoliths of hornfelsed sediments and cross-cut by aplitic dykes, without any associated mineralisation.

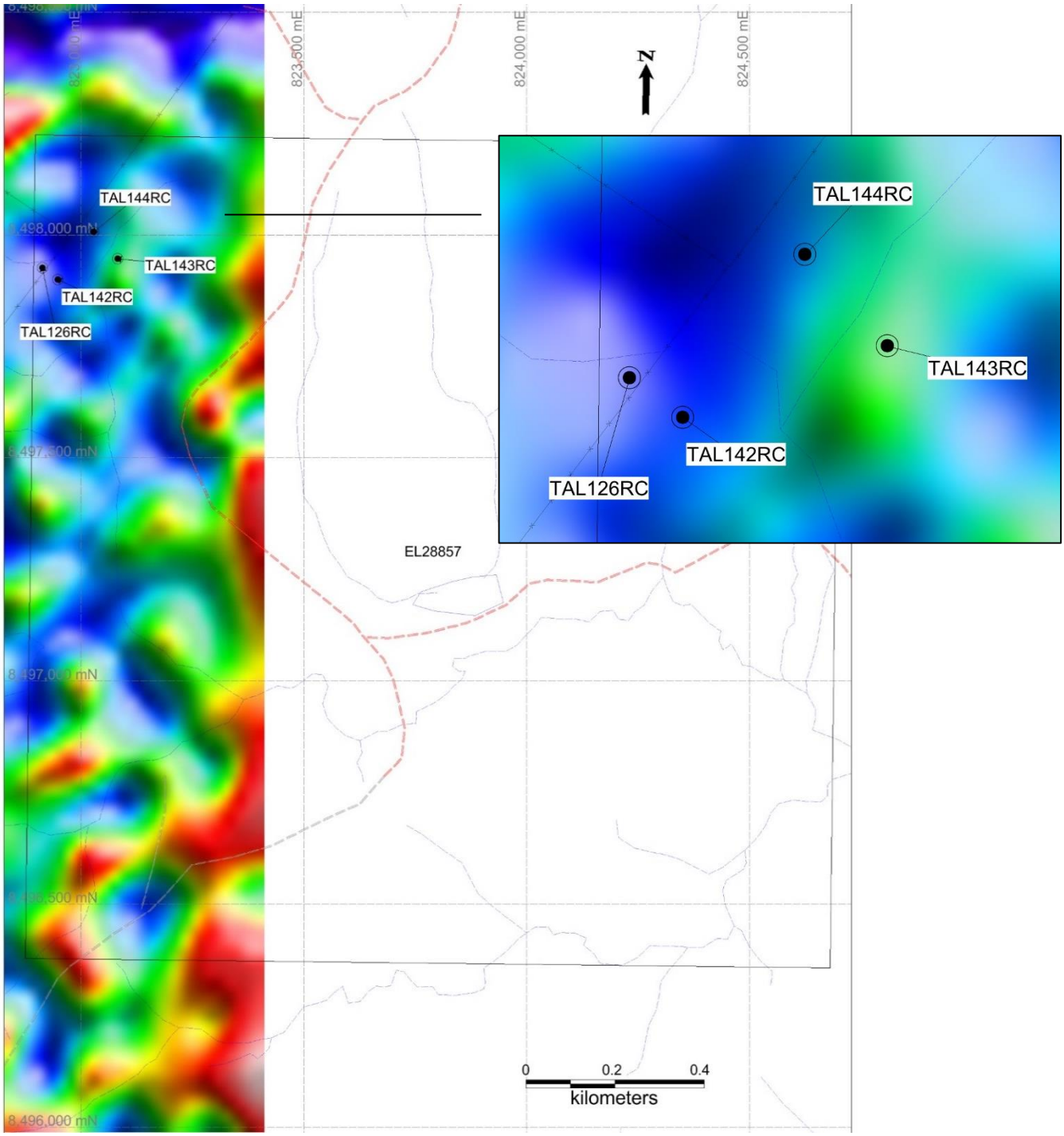

Figure 3 Recent drill holes shown on the ground gravity image over the area. TAL126RC was drilled during last reporting period.

HPDHTEM/MAG Survey

TAL126RC was already surveyed for downhole TEM during last reporting period but another downhole survey was conducted by Element 92 during this reporting period using a more powerful transmitter (High Powered Downhole TEM). High Powered Downhole TEM (HP DHTEM) logging of TAL126RC was completed in September 2015 by Outer Rim Exploration Services Pty. Ltd. (ORE) and processed by Southern Geoscience Consultants (SGC) on behalf of Thundelarra Limited. Raw data and report are attached in Appendix B.

The transmitter loops utilised during this HP DHTEM campaign have been powered by an ORE HPTX new generation high powered transmitter working at ~80-100A (single turn loops). All planned transmitter loop positions were aimed at coupling well with the overall expected dip/plunge of the target geological sequences in the local project area.

TAL126RC (822914E, 8497926N, 134RL, ~156m EOH) was surveyed from 10-150m at 2-10m stations. Noise levels in the three component data were low averaging <0.15nT/s in Z data and <0.3nT/s in XY data. The 1.67Hz base frequency utilized for this DHTEM survey was clearly suitable for the local environment with overburden / background conductivity conditions being low and background being reached by ~CH20-25 (~1.9-4.5msec delay).

Resultant TAL126RC DHTEM data highlighted the presence of a dominant inhole/offhole anomaly centred at ~145-147m DH which is clearly coincident with intersected copper mineralisation and an additional upper offhole anomaly centred at ~135m DH.

In late channels strong offhole anomalism is apparent and clearly consists of two/multiple offhole conductors, an upper conductor at ~135m DH (TAL126RC_1) where the associated conductive source margin is situated ~25m above and right of the drillhole (WNW of the hole). The lower offhole conductor at ~146m DH (TAL126RC_2) is situated/centred immediately below and left of the drillhole (below/south of the hole).

Maxwell modelling of the observed HP DHTEM anomalism has confirmed the initial manual interpretation with localised strongly conductive sources (~6000-14000S) situated above/WNW and below/south of the hole (Figure 4). The upper conductor has limited areal size (~15x25m+), but could well extend strike/plunge wise toward SW. This conductive source appears to have shallow east dip/geometry and

is highly conductive at >10000S (time constant/tau >25msec). Drill targeting is recommended as the conductive unit may well be consistent with high grade Cu mineralisation:

TAL126RC_1 follow-up - 822839E, 8497912N, ~134RL, 80dip > 000az, ~110-140m target depth, ~175m EOH.

The lower conductor has reasonable areal extent (~25x>100m) and demonstrates steep east/sub-vertical geometry and strong conductance levels at ~6000S (time constant/tau >25msec). It should be noted that this conductive source has not been coupled optimally with the loop utilised at this stage, meaning there may be additional complexity/additional conductors in the vicinity of the hole. Nonetheless drill targeting is recommended as the conductive unit may well be consistent with high grade Cu mineralisation:

TAL126RC_2 follow-up - 822940E, 8497905N, ~134RL, 65dip > 270az, ~150-200m target depth, ~225m EOH.

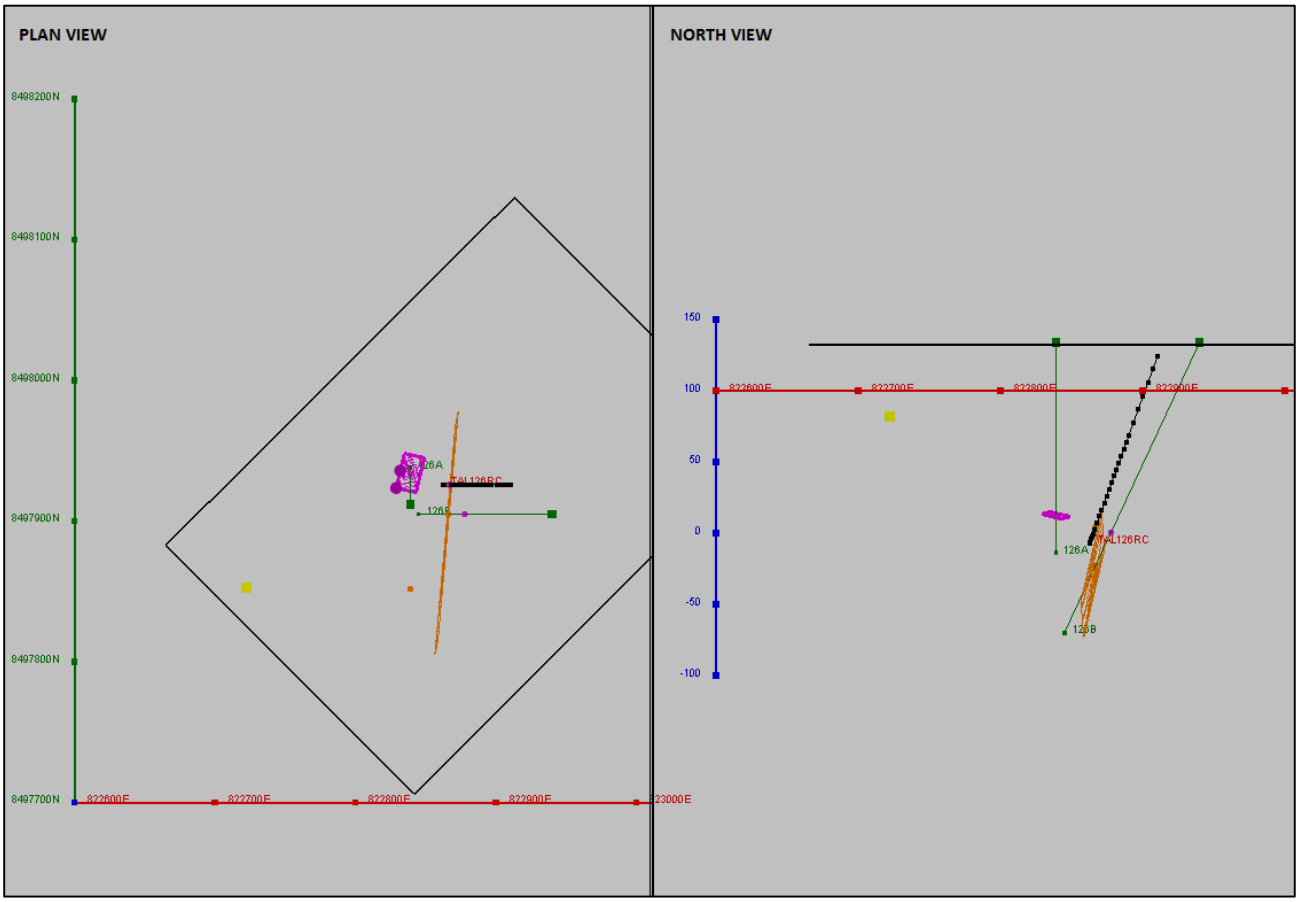

Figure 4 Ox-Eyed Herring West DHTEM Model Results / Proposed Drill Targeting - TAL126RC.

CONCLUSIONS AND RECOMMENDATIONS

During the reporting period, three RC hole were drilled (TAL142RC, TAL143RC and TAL144RC, 510m deep) and High Powered Downhole Magnetic (HP DHTEM) was conducted on previously drilled TAL126RC. The best interval was intersected in TAL142RC from 165-172m returning 7m at 0.22% Cu. The HP DHTEM on TAL126RC identified two off-hole zones of interest and two drillholes are planned for next reporting period (2016) targeting these two zones. EL28857 continues to offer significant exploration potential which will be the subject of further work programs in 2016.

Element 92 geological interpretation of the project area has shown that the Allamber Springs Granite and surrounding rocks has potential for hosting copper and gold mineralisation at the contact with the granite body and the adjacent meta-sediments and also within brecciated structures crosscutting the granitic bodies. The source of mineralisation is related to the emplacement of late-stage granitic intrusions which generated hydrothermal fluids responsible for mineralisation. It is likely that additional mineralisation with economically viable grades may be discovered with further drilling.

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.

Bajwah, Z.U., 1994. A contribution of geology, petrology and geochemistry to the Cullen Batholith and related hydrothermal activity responsible for mineralisation, Pine Creek Geosyncline, Northern Territory Geological Survey Report 8.

Bajwah, Z.U., and De Kever, N., 2011a. Annual Report on EL 27364 (Nellie Creek), Pine Creek NT, for the Period 12 January 2010 to 11 January 2011. Thundelarra Exploration Limited: Annual Report to Northern Territory Department of Resources, Darwin.

Bajwah, Z.U., and De Kever, N., 2011b. Annual Report on EL 27365, Pine Creek NT, for the Period 12 January 2010 to 11 January 2011. Thundelarra Exploration Limited: Annual Report to Northern Territory Department of Resources, Darwin.

Bajwah, Z.U., and Vieru, C., 2012. Annual Combined Report (GE204/11) on EL25868, EL27364 and EL27365 for the Year Ending 11 January 2012. Thundelarra Exploration Limited: Annual Report to Northern Territory Department of Resources, Darwin.

Cameron, E.M., and Hatori, K., 1987, Oxygen fugacity of Archean felsic magma: relationship to gold mineralisation. Economic Geology, 82, 117-1191

Chappell, B.W., and White, A.J.R.W., 1974, Two contrasting granite types, Pacific Geology, 8, 173-174

Corporate Development Pty Ltd, 1998, Exploration Licence 9369, Frances Creek East, Annual Report
Cotton, RE., Hartley, J.S., and Legge, G.F., 1973, Annual Report, Mary River uranium, Northern Territory. Annual Report to Department of Mines and Energy, CR1973-0149

Earthrowl, J.A., 1996, EL 9104, Mary River NT, First Annual Report to 04-06-1996. Annual Report to Department of Primary Industry, Fisheries and Mines, CR1996-0563

Earthrowl, J.A., 2002, Final report for EL 9104 period 5 June 1995 to March 2002. Annual Report to Department of Primary Industry, Fisheries and Mines, CR2002-0108

Heyworth, D.S., 1986, Annual report year ending 11-01-1987 Pine Creek, NT. CSR Limited Annual Report to Department of Mines and Energy, CR1987-0142

Heyworth, D.S., 1987, Annual report year ending 11-01-1986 Pine Creek, NT. CSR Limited Annual Report to Department of Mines and Energy, CR1986-0148.

Ikstrums, J.P., 1979, Final report on exploration, Francis Creek. CRA Exploration Pty Ltd Annual Exploration Report to Department of Primary Industry, Fisheries and Mines, CR1998-0474

Maude, G., Mortimer, R., Memorandum, Southern Geoscience Consultants, Report No SGC2895.

Mees, H., 2008. Annual Report for EL25868 (Mary River), Pine Creek NT, for the Year ending 27 September 2008. Thundelarra Exploration Limited: Annual Report to Northern Territory Department of Primary Industry, Fisheries and Mines, Darwin.

Mill. P.C., Mees, H., 2013. Annual technical report for EL 28857 (Second Chance), Allamber Project, Northern Territory, for the period 24 February 2012 to 23 February 2013. Thundelarra Exploration Limited, Annual Report to Northern Territory Department of Mines and Energy, Darwin.

Needham, R.S and Stuart-Smith, P.G., 1984. Geology of the Pine Creek Geosyncline, Northern of the Pine Creek Inlier, Northern Territory. Precambrian Research 40/41, pp 543-564.

Ohmotosho, S., 1998, EL 9436 - Allamber Springs annual report 15/5/97 - 14/5/98. Homestake Gold of Australia annual Exploration Report to Department of Primary Industry, Fisheries and Mines, CR1998-0474.

Richardson, B., 2010. Annual Report for EL25868 (Mary River), Pine Creek NT, for the Year ending 27 September 2010. Thundelarra Exploration Limited: Annual Report to Northern Territory Department of Primary Industry, Fisheries and Mines, Darwin.

Stuart-Smith, PG., Needham, RS., and Wallace, DA., 1987, Pine Creek, Northern Territory, 1:100 000 geological map and explanatory notes. Bureau of Mineral Resources, Australia and Northern Territory Geological Survey.

Vieru, C., 2009. Annual Report for EL25868 (Mary River), Pine Creek NT, for the Year ending 27 September 2009. Thundelarra Exploration Limited: Annual Report to Northern Territory Department of Primary Industry, Fisheries and Mines, Darwin.

APPENDICES

Appendix A Drilling Data

EL28857_2016_A_01_DrillCollars

EL28857_2016_A_02_Lithology

EL28857_2016_A_03_DHAssay

EL28857_2016_A_04_Surv

EL28857_2016_A_06_Magsusc

EL28857_2016_A_09_MetaData

Appendix B Geophysics Data

TAL126 RC (HPDHTEM1015_ASEG-GDF2)