United Uranium Limited

Partial Relinquishment Report on

Pine Creek Project EL24815

For Period 18 April 2006 to 17 April 2012

Title Holder: United Uranium Limited
Tenements: Exploration Licence 24815
Project Name: Pine Creek
Report Type: Partial Relinquishment Report
Mineral Field: Pine Creek Mineral Field
Location: Pine Creek SD5208 1:250 000
Pine Creek SD5208 1:100 000
Datum / Zone GDA 94 / Zone 52
Commodities: Uranium and Base Metals
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Distribution:
1 Northern Territory Department of Minerals & Energy
2 United Uranium Limited
ABSTRACT

Location: The Pine Creek Project area is located approximately 25 kilometres north west of Pine Creek in the Northern Territory.

Geology: The project lies within the western portion of the Pine Creek Geosyncline, an Early Proterozoic meta sedimentary sequence underlain by gneissic and granitic Archaean basement. The sedimentary sequence consists of mudstones, siltstones, greywackes, sandstones, tuffs and limestones that have been metamorphosed to amphibolite facies. The sequence is intruded by dolerite dykes and sills and granitoid plutons. The project is considered prospective for unconformity-related and vein hosted uranium deposits.

Work done: Exploration activities on the relinquished portion of EL24815 consisted of a review of existing exploration data, high level targeting utilising reinterpreted regional geophysical data, compilation of public domain geological, geophysical and other digital data, geological mapping and reconnaissance, soil sampling and flying of an airborne electromagnetic survey in conjunction with Geoscience Australia.

Results: The work completed defined two radiometric anomalies within the relinquished portion of EL24815, one in the western portion (The Pines) and one in the eastern portion (Cullen Batholith South). Four rock chip and 79 soil samples from The Pines and six rock chip samples from Cullen Batholith South did not return any significant assay results. No additional targets were identified within the relinquished portion of EL24815 from the airborne radiometric survey.

Conclusion: Exploration completed on the relinquished portion of EL24815 downgraded the prospectivity of the area with no significant geophysical or geochemical anomalies identified, therefore no further exploration activity is recommended.
1 SUMMARY

This is a partial relinquishment report for tenement EL24815, United Uranium Limited’s Pine Creek Project. The report provides a summary of the exploration history of the surrendered portion of EL24815 for the period 18 April 2006 until relinquishment on 17 April 2012, plus a brief description of exploration by other operators prior to 18 April 2006. A brief description of the regional and local geology is also included in the report.

EL24815 is located approximately 25 kilometres north west of the township of Pine Creek within the Pine Creek Mineral Field of the Northern Territory.

Exploration on the relinquished portion of tenement EL24815 consisted of a review of existing exploration data, high level targeting utilising reinterpreted regional geophysical data, compilation of public domain geological, geophysical and other digital data, geological mapping and reconnaissance, soil sampling and flying of an airborne electromagnetic survey in conjunction with Geoscience Australia. Results of the work completed downgraded the prospectivity of the relinquished portion of EL24815 with no significant geophysical or geochemical anomalies identified within the area. The ten rock chip samples and 79 soil samples collected within the relinquished portion of EL24815 returned no significant results.

The project is located within the western portion of the Pine Creek Geosyncline, an Early Proterozoic meta sedimentary sequence underlain by gneissic and granitic Archaean basement. The sedimentary sequence consists of mudstones, siltstones, greywackes, sandstones, tuffs and limestones that have been metamorphosed to amphibolite facies. The sequence is intruded by dolerite dykes and sills and granitoid plutons.
2 INTRODUCTION

This report details exploration carried out on the relinquished portion of the Pine Creek Project, EL24815, during the period 18/4/2006 to 17/4/2012. United Uranium Limited is the operator and holds an 80% interest in the tenement.

The project area is located approximately 25 kilometres north west of Pine Creek within the Pine Creek Mineral Field of the Northern Territory (Figure 1). Access to the relinquished portion of the tenement is via the Stuart Highway in the north and via station tracks from the “Pines” homestead in the west. Access within the tenement is limited to minor station tracks.

The tenement lies within the western portion of the Pine Creek Geosyncline and is considered prospective for unconformity-related and vein hosted uranium deposits. Regionally the project is located within the Pine Creek Uranium field and several uranium mineral fields including Rum Jungle, South Alligator Valley, and Edith River/Woolgni are located within 150km of the tenement area. The Ranger, Jabiluka, Koongarra, and Nabarlek deposits are considered suitable models for the style of uranium mineralisation targeted.

Several clusters of first and second order radiometric anomalies defined from the Northern Territory Geological Survey (NTGS) airborne radiometric data have been identified within the project area.

The tenement was subject to partial relinquishment on 17 April 2012. This report details exploration activity completed on the relinquished portion of the tenement from grant on 18 April 2006 until relinquishment on 17 April 2012. It also provides a brief summary of the geology and previous exploration activity of the project area. Exploration activities include a review of existing exploration data, high level targeting utilising reinterpreted regional geophysical data, compilation of public domain geological, geophysical and other digital data, geological mapping and reconnaissance, soil sampling and flying of an airborne electromagnetic survey in conjunction with Geoscience Australia.
3 TENURE

The Pine Creek Project consists of a single granted exploration licence held in a joint venture between United Uranium Limited (80% interest and manager) and United Mining Resources Pty Ltd (20%). The project is located 25km north west of the township of Pine Creek in the Northern Territory.

EL24815 was granted on 18 April 2006 and originally covered an area of 125 sub-blocks (approximately 400 sq km). The tenement was subject to its third partial relinquishment on 17 April 2012. Refer to Figure 2 for location of the relinquished portion of the tenement.

4 GEOLOGY

4.1 Regional Geology

The Pine Creek Project is located in the western part of the Pine Creek Geosyncline (PCG), an Early Proterozoic intracratonic sedimentary basin which forms part of the North Australian Orogenic Province (Plumb et al 1981). The PCG comprises a sequence of metasediments which unconformably overlay an Archaean gneissic and granitic basement. The sequence is up to 14km thick and is considered to be deposited in an ensialic structure formed as a result of rifting of Archaean basement (Plumb et al 1981). The sequence is dominated by shallow marine to fluvatile facies sediments including pelitic and psammitic sediments, tuffs, minor volcanics, and carbonates.

Following sedimentation the PCG was subject to folding and metamorphism during the Top End Orogeny (1870-1800Ma). Two major phases of deformation have been recognised. The earliest phase (D1) comprises bedding-concordant structures and breccias zones. The second phase of deformation (D2) produced the north to north-west trending folds that dominate throughout the district. Folding ranges from tight lower greenschist facies strata in the centre, grading to isoclinally to recumbent folded amphibolite facies strata to the west and east.

Stratigraphically, the sediments in the Early Proterozoic sequence have been simplified by Nicholson, Ormsby, and Farrar (1994) into the Batchelor,
Frances Creek, and Finness River Groups. The Batchelor group consists of shallow water coarse clastics and carbonates that are unconformably overlain by the Frances Creek Group. The Frances Creek Group is sub divided into the Whites Formation, Acacia Gap Quartzite, Mundogie Sandstone, Koolpin Formation, Gerowie Tuff, and Mount Bonnie Formation.

Granitoid intrusions and associated contact metamorphism followed the deformation and regional metamorphism. Towards the west, in the Litchfield Province, the granitoids are predominantly S-type whereas I-type granitoids prevail in the central part of the PCG (Ahmad et al, NTGS 1993).

The PCG is unconformably overlain by the Middle Proterozoic McArthur Basin to the east and by the Middle Proterozoic Victoria Basin to the west and south west (Ahmad et al, NTGS 1993). The Middle to Late Proterozoic sequence includes the Depot Creek Sandstone and Stray Creek Formation. These are in turn overlain by the Cambro-Ordovician and Mesozoic sequences (Daly and Bonaparte Gulf Basins) including the Tindall Limestone and Jinduckin Formations to the west and south west. Much of the area is covered with unconsolidated sand, silt and clay of Tertiary age (Ahmad et al, NTGS 1993).

4.2 Local Geology

4.2.1 Lithologies and Stratigraphy

The relinquished portion of EL24815 is divided in to eastern and western portions.

The eastern portion is dominated by the Cullen Batholith which is one of the Early Proterozoic Granitoids (1848-1800 Ma) in the region. The various granitoids comprising the Cullen Batholith are pre-dominantly calc-alkaline I-type granitoids, with the phase present in the relinquished portion of the tenement being the Tabletop Granite as mapped by the NTGS.

Limestone and siltstone of the Daly River Formation and the Jindare Sandstone, both of the Daly River Group, dominate the western portion of the relinquished area of EL24815, with the Depot Creek Sandstone forming a major north west trending ridge and topographical high along the eastern edge of this area.
4.2.2 Regolith

Regolith-landform features are variable throughout the relinquished portion of the tenement. The regolith over the Depot Creek Sandstone is typically shallow scree cover between areas of outcrop. Shallow soil cover with minor lateritic pisoliths typically occurs on top of the ridge. Shallow granitic soils and granitic subcrop occur over the Cullen Batholiths.

4.2.3 Structure

Two major phases of deformation have been recognised in the PCG. The earliest phase (D1) comprises bedding-concordant structures and breccia zones. The second phase of deformation (D2) produced the north to north-west trending folds that dominate throughout the district. Folding ranged from tight lower greenschist facies strata in the centre, grading to isoclinally to recumbent folded amphibolite facies strata to the west and east.

The granites of the Cullen Batholith are generally massive. However, a number of minor faults, often brecciated, with narrow quartz veins have been identified. Several of these, particularly those with the more significant quartz veining, are visible on Landsat imagery. These generally have a 020° strike and dip steeply to the west.

4.2.4 Mineralisation

There is no gazetted mineral occurrence as determined from the NTGS MODAT minerals database within the relinquished portion of EL24815, although tin occurrences have been noted from work undertaken by previous explorers.
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Pine Creek Project
EL24815
Surrender Report
Geology

Stuart Highway

EL24815
Surrender

EL24815
Retained

THE PINES

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Surrender Report
Geology

01 0 2 0 kilometres

Arkosic Arenite
Quartz Dolerite
Granite - Undifferentiated
Phyllite
Siltstone
Phyllite
Siltstone
Phyllite
Granite - Undifferentiated
5 PREVIOUS EXPLORATION

There have been a modest number of tenements that either partially or fully covered the relinquished portion of EL24815, however not all of these historical tenements have open file reports available. Previous exploration conducted both within and proximal to the relinquished portion of EL24815 includes:

**AP 2518 1972 CRA (CR1972-0019)**

CRA undertook a regionally extensive field mapping and reconnaissance sampling program within and proximal to the relinquished portion of EL24815. Field work also included collection of radiometric data over the radiometric hotspots within the Cullen Batholith using a handheld scintillometer (BGS-IS Scintrex).

The work undertaken included stream sediment and rock chip sample analysis for Pb, Zn, Cu, Ni, Co, Ag, and U. Conclusions were that the Cullen Batholith is a massive homogenous granite and has little potential for hosting an economic uranium deposit.

**EL 1566 1979 John Ikstrums (CR1979 0080)**

John Ikstrums undertook a geological mapping and ironstone / soil sampling program for CRA to the north of the western portion of EL24815 subject to partial relinquishment. The focus of exploration was for base metals. Two third order soil anomalies were delineated, which were not considered significant.


The historical exploration license EL5297 covers the central part of the relinquished portion of EL24815. Shell undertook limited surface geochemistry for gold and base metals including rock chip sampling of the faulted haematitic contact between the Daly River and Tolmer Group sediments, stream sediment samples, and pan concentrate samples. There were no significant results and the ground was subsequently surrendered.

**EL 22457 2005 SD Moffit (CR2005-0132)**

Area overlies eastern half of EL24815. Gold and tin targeted. No work reported
6 EXPLORATION ACTIVITIES

Exploration activity completed on the relinquished portion of EL24815 from grant on 18 April 2006 until relinquishment on 17 April 2012 consisted of a review of existing exploration data, high level targeting utilising reinterpreted regional geophysical data, compilation of public domain geological, geophysical and other digital data, geological mapping and rock chip sampling of targets identified, soil sampling and flying of an airborne electromagnetic survey in conjunction with Geoscience Australia.

The high level targeting utilising reinterpreted regional geophysical data identified two first order radiometric anomalies within the relinquished portion of EL24815; one in the west (Anomaly 3) and one in the east (Anomaly 5). Geological mapping and rock chip sampling was completed across these anomalies in August 2007. Ten rock chip samples were assayed for nine elements (Au, As, Co, Cu, Mn, Ni, Pd, Pt and U).

Anomaly 3 (The Pines) is a 1.6km by 1.2km radiometric anomaly near the contact between the Jindare Formation sandstones and the Tindall Limestone. A scintillometer survey was completed on three east-west traverses, with data points every 100m along the lines. CPS readings ranged from background levels of 45 CPS up to 367 CPS proximal to a manganiferous ironstone cherty ridge. Elevated CPS readings are directly related to the ironstone ridge. Four rock chip samples (94204 - 94207) were collected in the area of Anomaly 3. No significant results were returned from these samples, with only weakly elevated manganese (up to 5,312ppm) and uranium (up to 25.27ppm) within samples from the ironstone ridge.

Anomaly 5 (Cullen Batholith South) is a 5.6km by 4.5km radiometric anomaly overlying an area of subcropping Douglas and Tabletop Granite and shallow cover. A scintillometer survey was completed on two east-west traverses, with data points every 100m along the lines. CPS readings ranged from background levels of 41 CPS up to 750 CPS proximal to the granite outcrops. Over the areas of granite outcrop, CPS readings were typically 4 times higher than background. Six rock chip samples (94212 - 94217) were collected in the area of Anomaly 5. No significant results were returned from these samples.
A soil sampling program was completed at The Pines anomaly in December 2007, consisting of 79 samples collected on 5 traverses 500m apart. Samples were taken every 100m along the traverses and were assayed for Au, Pt, Pd, U, As, Th, Mo, Se, Sb, Sr, Pb, Ag, Cu, Mn, Ni, Co, Zn, Ba and P. There were no significant results returned from these samples (see Appendix 2).

United Uranium, in conjunction with Geoscience Australia, flew an airborne electromagnetic survey over the relinquished portion of EL24815 as part of a large regional survey called the Rum Jungle Project. The airborne electromagnetic survey was conducted using Fugro Airborne Surveys TEMPEST system and consisted of east west flight lines on 555m spacing. The survey was designed to assist in the identification of additional unconformity and vein style uranium mineralisation targets.

The flying of the Rum Jungle Project area survey was delayed and subsequently completed over two periods, 7 October 2008 to 6 December 2008 and 15 April 2009 to 24 May 2009. Geoscience Australia released the airborne electromagnetic survey data to United Uranium in August 2009.

Geophysical consultants Mapitt Geosolutions processed and interpreted the airborne electromagnetic survey data with the aim of defining targets for further exploration. This work defined a low level anomaly to the south of The Pines. Consultant geophysicist Graham Elliott also interpreted the survey data, identifying targets in the area of The Pines anomaly and a target associated with granite in the eastern portion of the relinquished area of EL24815. Previous surface sampling and mapping downgraded the prospectivity of these anomalies. The digital data from the airborne electromagnetic survey has been provided to the Northern Territory Department of Minerals and Energy.

7 CONCLUSION

Exploration completed by United Uranium has downgraded the prospectivity of the relinquished portion of EL24815 with no significant geophysical or geochemical anomalies identified within the area. No further exploration activity is recommended for the relinquished portion of EL24815.
8 REFERENCES


APPENDIX 1

ROCK CHIP SAMPLING

DIGITAL DATA FILE

(August 2007)

PIC_200708_Rock Chip Samples 2012 Relinquished Area.xlsx
APPENDIX 2

SOIL SAMPLING

DIGITAL DATA FILE

(December 2007)

PIC_071210_Soil Samples 2012 Relinquished Area.xlsx