COMBINED ANNUAL EXPLORATION REPORT
CR111
EL25297, EL24984, EL 25176, EL25195
FOR PERIOD ENDING 8TH November 2010
LITCHFIELD PROJECT NT

Cape Scott SD5207 1:250,000
Darwin SD5204 1:250,000
Pine Creek SD5208 1:250,000
Port Keats SD5211 1:250,000
Fergusson River SD5212 1:250,000
Anson SD4971 1:100,000
Bynoe SD5072 1:100,000
Daly River SD5070 1:100,000
Greenwood SD4970 1:100,000
Moyle SD4969 1:100,000
Reynolds River SD5071 1:100,000
Wingate Mountains SD5069 1:100,000

Titleholder: Territory Uranium Company Limited

Report No. 2010-015
Prepared for Territory Uranium Ltd
By A. Chapman
Territory Uranium Co Ltd
1. SUMMARY

The project area is approximately 100km SW of Darwin and consists of four tenements: EL24984, EL25176, EL25195 and EL25297. In year 4 the sale of EL24984 and EL25297 to Anhui was completed. Also Territory Uranium intended to complete a radiometric survey over EL25195 and EL25176 tenement in year 4 but due to budgeting restraints was unable to complete the survey. The tenement was subsequently relinquished due to Territory Uranium being unlikely to meet expenditure commitments in year 5 and 6.

2. LOCATION AND ACCESS

The project area is approximately 100km SW of Darwin (Figure 1) and consists of four tenements: EL24984, EL25176, EL25195 and EL25297.

EL24984 is accessed via the sealed Litchfield Park road. The Labelle Station turnoff is 6km past Wangi Falls, and access to Labelle Station from Litchfield National Park is along the well-graded Channel Point Road. Labelle Station is in the NE corner of EL24984.

EL 25176 is accessed to the south of the Licence from Dorat Rd (old Stuart Highway, out of Adelaide River) then via the Daly River Road, then west and southwest along various tracks that truncate the Licence. Access is limited outside of the dry season.

EL25195 is accessed from Dorat Rd (old Stuart Highway, out of Adelaide River) then via the Daly River Road, then northwest along a road that links Litchfield Station to Welltree Station. This northwest road transects the eastern portion of the Licence. Station tracks veer off this road to access western portions of the tenement, including the river gauging station near the Daly River mouth.

EL25297 is situated approximately 55km SSE of Darwin, NT, and 40km W of Batchelor (Figure 1). The eastern boundary of the Licence runs parallel to the Litchfield National Park. Burton Creek runs through the centre of the tenement. The northern boundary is close to the Finniss River. Access would be via the Mandorah Road onto the Litchfield National Park road and then on to local tracks or exploration tracks.

Topography for most of the ground is low relief, with some floodplains and pastoral ground. Vegetation is sharply variable, with topographic highs covered in thick palms
and undergrowth, and other open areas have pockets of eucalyptus woodland and melaleuca woodland. Much of the area is covered by Oryza tall closed tussock grasslands which overlie dark grey/black cracking clays.

Figure 1: CR111 Location Map
3. TENEMENT STATUS AND OWNERSHIP

Tenement Status and Landowners are summarised in the table below:

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<tr>
<th>Tenement</th>
<th>Blocks</th>
<th>Grant Date</th>
<th>Year</th>
<th>Anniversary</th>
<th>Covenant</th>
<th>Cadastre</th>
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Table 1 Tenement Status and Landowners

During year 3, TUC agreed to sell tenements EL24984 and EL25297 as part of a package, to Anhui Geology and Mining Investment Ltd. The tenements were transferred on 25/2/10.

During the year the following tenements required 50% reduction:
- EL25176 4th year reduction: Tenement Dropped.
- EL25195 4th year reduction: Tenement Dropped.

4. GEOLOGY

The tenement group is located partly over the Litchfield province and partly over the western margin of the Pine Creek Orogen. Exploration potential exists for Uranium, base metals, mineral sands and tin.

The Litchfield Province was defined as the western part of the Pine Creek Geosyncline, with large parts of the Litchfield Province interpreted as 'granitoid, garnetiferous, gneissic, with metasediments varying in metamorphic grade from
greenschist to upper amphibolite / granulite grade (Berkman 1980). The lack of outcrop in much of the area has limited exploration on the western portions. Recent work by the NTGS has reviewed the Litchfield Province, with geochronology tentatively correlating the Litchfield Province with the Halls Creek Orogen to the southwest, but notes that the field evidence indicates a complex tectonic relationship (Carson et al., 2006; Glass, 2007).
Figure 2: Geology of CR111 NT 500K map
EL 24984 is situated within the Litchfield Province. Most of the Licence has limited outcrop and swampy muds covering the underlying geology. Stratigraphic drilling on the western coast of EL24984 intersected Permian Kulshill Formation sediments that form part of the Bonaparte Basin, overlying Proterozoic Wagait Granite.

Along the northern boundary of EL24984, Wagait Granite crops out on low ridges and hills (Figure 2). The Tom Turners fault transects the central portion of the Licence, with several fault splays hosting ferruginous quartz stockworks. The Tom Turners Fault is a significant structure; on the western side lays the Proterozoic Wagait Granite and Murrenja Dolerite, and the Proterozoic Moyle River Formation is on the eastern side of the Fault. The Wagait Granite is an I-type granite of the Kalkadoon Association (Wyborn 2002) with little fractionation and no association with significant mineralisation. The Murrenja Dolerite is in faulted contact with the Proterozoic Moyle River Formation quartzites along the northern boundary of EL24984, and Moyle River Formation sandstones form ‘Bobs Knob’ along the Tom Turners fault further south in the Licence. The eastern part of the Licence around Labelle Station is underlain by schists and gneisses of the Welltree Metamorphics. Cambrian sediments have been intersected in drilling by previous explorers in the SE of EL24984.

An ultramafic rock that may be associated with the Murrenja Dolerite has been intersected in drilling in the central portion of EL24984. Carson et al., (2006) reassessed the prospectivity of the Murrenja Dolerite based on examination of drill core and geophysics within EL24984. NTGS assayed drill core within EL24984 with results of 2000-3000ppm Cr, up to 1000ppm Ni, 13ppb Pd and 20ppb Pt. Carson et al., (2006) noted the moderate abundance of PGE’s may indicate an early S-saturation event did not occur, enhancing the prospectivity for PGE and Ni mineralisation within the Murrenja Dolerite. Geophysical interpretation by Carson (2006) indicated the Murrenja Dolerite may be extensive under colluvial sediments west of the Tom Turner’s fault.

There are no recorded MODAT occurrences within EL24984.

EL 25176 partially covers the Litchfield Province and the Pine Creek Orogen. The Giants Reef Fault transects the eastern edge of EL 25195, which is interpreted as the boundary between the two (Berkman 1980). The mapped lithology within the tenement is largely obscured by Cainozoic eluvial soils. Floodplain alluvium masks the geology of the northern blocks. The central portion has small outcrops of granites from the Allia Suite (Litchfield Granite, Fish River Billabong Adamellite) which is an S-type granite (Wyborn 2002). Further south, metabasite rocks of the
Hermit Creek Metamorphics are mapped in areas adjacent to Murra-Kamangee Granodiorite. The eastern 5 blocks that are truncated by the Giants Reef Fault are mapped as Proterozoic Chilling Sandstone overlying Proterozoic Burrell Creek Formation sediments. Much of the tenement is underlain by the Allia Suite Granites (Litchfield and Murra-Kumangee Granodiorite) with areas of Hermit Creek Metamorphics sandwiched between the granites.

**EL 25195** is also transacted by the Giants Reef Fault in the SE corner of the tenement. The lack of outcrop in much of the area has limited exploration on the western portions. It is possible that the Murrenja Dolerite that crops out along the Tom Turners Fault further north may occur under cover within EL 25195.

**EL 25297** is situated within the Pine Creek Orogen. The tenement area covers the “Two Sisters Granite” predominantly. This is a palaeoproterozoic S-type granitoid which intrudes the Burrell Creek Formation and is unconformably overlain by Depot Creek Sandstone and Antrim Plateau Volcanics. The Two Sisters Granite is described as granite, adamellite, granodiorite and in places pegmatitic with accessory garnet and tourmaline. The NTGS believes the granite to be prospective for Pegmatite and Placer Tin deposits. Hickey (1990) state that the contact aureole with the Burrell Creek Formation is well known for its Pegmatite outcrops. The Burrell Creek Formation is located on the eastern most side of the tenement. These metasediments are brown to grey-green, thickly bedded to massive, fine to coarse feldspathic metagreywacke with graded bedding in places and minor lenses of volcanolithic pebble conglomerate; brown to grey, laminated phyllite, slate and mudstone; minor quartz-mica schist; porphyroblastic quartz-mica hornfels near granite. The NTGS sees this unit as prospective for Vein Au, Vein Sn, Polymetallic Cu, Pb, Zn, Ag veins and vein-type U.

The regionally metamorphosed Welltree Metamorphics are predominant in the south of the tenement. These metasediments are described as Quartz-feldspar-biotite gneiss ± garnet ± sillimanite ± andalusite, quartzitic gneiss, quartzite, minor quartz-feldspar-muscovite gneiss.

The Sweets member of the Welltree Metamorphics is present in the southern portion of the tenement as a north - south trending unit. They are described as Marble in places graphitic, para-amphibolite, calc-silicate gneiss, quartz-feldspar-biotite gneiss. There are no recorded MODAT occurrences within the tenement although it is felt that the region is part of the “Bynoe Tin Tantalum mineral field.” Tin mineral occurrences occur around the Licence.
Horn (2002) states that the tin/tantalite mineralisation is associated with the Meso to Neo Proterozoic pegmatite intrusions related to the Two Sisters granite. The pegmatites are variable but mostly form lenticular bodies that have intruded along foliations and bedding planes. They can occur as narrow veins or dykes up to 60 metres across and a kilometre in strike length. Sill like and blind complex intrusions are also noted by Horn (2002). Hickey (1990) describes the general strike of the veins and pegmatites as 045 degrees (grid) and outcropping sporadically throughout the licence. The pegmatites are marked by cream to green weathered feldspar and grey coarse mica. The contact between the granite and the metamorphosed pelites has been found to be covered by sediment but NTGS drilling has determined the contact to lie approximately along the course of the Burton Creek some two to three kilometres east and parallel to the Burrell Creek Formation Plateau marked by Mount Farrington, Mount Marie and the 146 feature (Hickey 1990). The northern portion of the licence is marked by a north east trending fault south of Porters Creek (Hickey 1990).

The pegmatites are described by Horn (2002) as:
1. Showing fractional zoning during emplacement (can affect mineralisation distribution).
2. Having wall rock enriched in mica and cores with kaolinite rich zones (weathered feldspars) +/- barren milky quartz.
3. Having the best grades within the kaolinitic rich zones.
4. Mineralisation can be fine to very coarse grained tantalite, cassiterite and columbite. There is no consistent distribution pattern of the minerals.

Alluvial and elluvial tin, tantalum, tungsten and gold were mined from the nearby Finniss River mineral field. Pickets, Annie, Lucy and numerous other mines and diggings of the Finniss River type deposits exist approximately 10 kilometres north east of the EL area.

5. PREVIOUS EXPLORATION

5.1 Exploration by Other Companies

Previous exploration from the 1960’s to the present has been reviewed and summarised in previous annual reports for these tenements. Exploration ranged from airborne geophysics to diamond drilling exploration for phosphate, mineral sands, bauxite, basemetal, diamonds, uranium and nickel. Of note was the drilling
on EL24984 in 2003, which intersected ultramafic rocks within the Litchfield province and also RAB and aircore drilling for basemetal and mineral sands.

5.2 Exploration by Territory Uranium

i. EXPLORATION DURING YEARS 1 -3

EL24984

Work during Year 1 consisted of;

a) data compilation and review of previous data, with the aim of highlighting radiometric, geological and geochemical anomalies that require further work
b) sampling of De Beers drill core to determine whether Ni and PGE data obtained by the NTGS occurred over a larger interval
c) sending thin-sections for SEM analysis
d) obtaining helimag survey data by Normandy for modelling of magnetic anomalies
e) geophysical data compilation (helimag data and regional data); data levelling of helimag data and 3D modelling using Potent software to highlight magnetic anomalies that are shallow and with a strong response
f) vehicle reconnaissance and rock chip sampling around the Tom Turners fault and outcropping Murrenja Dolerite on the northern boundary of EL24984
g) Helicopter reconnaissance of magnetic anomalies to determine access, topography, vegetation and regolith – and to plan for further exploration.

Work during Year 2 consisted of;

a) diamond drilling, Ground magnometer traverses and 3D geophysical modelling
b) An airborne Electromagnetic survey (Geotech VTEM), flown to explore for high sulphide style mineralised systems (Sally Malay or Voisey Bay Style) associated with ultramafic rocks intersected in diamond drilling in late 2007. A test flight of 80 kms was flown to assess the technical risk associated with flying EM methods in coastal terrains where saltwater tables can interfere with the penetration of electrical currents. Figure 3 shows the lines flown and the survey area.
Work during Year 1 consisted of:

a) checking NTGS datasets, such as COREDAT, MODAT, Explorer 3
b) checking of some open file company reports submitted for previous tenure covering the tenements
c) georeferencing relevant maps and plans into MapInfo to obtain locations of samples and mapped geology
d) Independent Geologist review
e) Geophysical modelling of magnetic anomalies (EL25176), reviews of geophysics by consultant (EL25195),

Work during Year 2 on these tenements was restricted as efforts focussed on EL24984. Work consisted of:

a) compilation of historical data
b) review and prioritization of uranium targets (EL25176, 25195) and tin targets (EL25297)
c) planning of helicopter and geochemical reconnaissance for identified priority targets

**EL25176, EL25195, EL25297**

Figure 3: Areas flown with VTEM in 2008 over NT 2500k Geology
Work during Year 3 consisted of;

**Helicopter Recon EL24984; EL25195, EL25176**

During Year 3, reconnaissance, ground geophysical and geochemical sampling of radiometric anomalies (uranium focused) was undertaken at eight sites across EL24984, EL25195 and EL25176. The Results, when compared with radiometrics, were not immediately encouraging. However, when analysed in the correct geological context, 2 areas were selected for follow up work. The ground covering these two areas were retained for further exploration (on EL24176 and EL25195), the remaining ground was either sold (EL24984 and EL25297) or relinquished.

**Review of 2008 VTEM Data; EL24984**

The data acquired by the VTEM airborne electromagnetic survey flown during Year 2 on EL24984 (reported on and included as Appendix 1 in the 2008 CR111 Annual Report) was reviewed by independent consultants Newexco Pty. Mining and Exploration Services, to determine the success of such a survey in the terrain. The results of the report are summarised as Appendix 1 in the 2009 CR111 Annual Report; the conclusion being that due to the extremely conductive overburden in the locality, only very shallow targets can be revealed by such a method.

**Sale of Tenements**

During Year 3, TUC agreed to sell tenements EL24984 and EL25297 as part of a package, to Anhui Geology and Mining Investment Ltd. Anhui is a major Chinese exploration and mining entity and it is hoped that this deal will allow Anhui to establish itself in the exploration industry in the Northern Territory. This sale deal was established as a direct result of attending the Ministers delegation to China in 2008.
**ii. EXPLORATION YEAR 4**

**EL24984, EL25176**

No exploration was completed on EL25176 or EL24984 as the tenements had been sold to Anhui during year 3. The final transfer of the tenement was completed on 25/2/10. Any further reporting requirements for the remainder of year 4 will be completed by Anhui.

**EL25195, EL25176**

Territory Uranium intended to complete a radiometric survey over EL25195 and EL25176 tenement in year 4 but due to budgeting restraints was unable to complete the survey. The tenement was subsequently relinquished due to Territory Uranium being unlikely to meet expenditure commitments in year 5 and 6.
8. REFERENCES


Glass, L., 2007. Geochemistry of mafic rocks in the Litchfield Province, western Pine Creek Orogen: Evidence for a Paleoproterozoic arc-related setting and links to the Halls Creek Orogen.


