ANNUAL EXPLORATION REPORT

EL 24966

‘Tennant Creek West’

FOR PERIOD ENDING 17th SEPTEMBER 2008

TENNANT CREEK  NT

Tennant Creek SE5314  1:250,000
Kelly 5658          1:100,000
Tennant Creek 5758  1:100,000

Titleholder: Territory Uranium Company Limited

Report No. 2008-006
Prepared for Territory Uranium Ltd
By A Chapman

October 2008
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1. SUMMARY

EL 24966 is roughly 20 kilometres west - south west of Tennant Creek. Territory Uranium Company Limited is primarily focussing on the potential for mineralisation associated with the coincident magnetic / gravity anomaly within EL24966 and will also evaluate the potential for other commodities such as uranium. The tenement was reduced by 50% in compliance with the 2nd year reduction requirements. Exploration on EL24966 for year 2 focused on the Blue bush analogy with Olympic dam. Geophysical processing by Frank Lindeman continued and a detailed ground gravity program was designed (to be completed early next period). Field reconnaissance was also undertaken as part of the Tennant Creek phosphate exploration program with 5 rock chip samples taken from calcrete, lateritic gravels and limestone. No significant results were returned.

Work during Year 3 will include a detailed ground gravity geophysical survey followed by review and interpretation of results. Follow up drilling is planned based on the targets from this survey.

2. LOCATION AND ACCESS

EL24966 is situated approximately 20km to the west of Tennant Creek, NT (Figure 1). The western boundary of the Licence runs approximately 20 kilometres west of the Stuart Highway. Access is west via dirt road 15kilometres to the south of Tennant Creek. Another dirt road bisects the tenement giving good access to central areas.

Topography is basically flat Cainozoic sand cover with several outcrops of calcrete and alluvium to the south west. Storms over the summer period can make the region impassable.

The area has arid, ‘tropical’ climate with long hot summers and short mild winters. Rainfall peaks over the summer period (December to February) with up to 100mm during January (mostly storm related). Temperatures can range from 10°C during the winter into the high 30s for extended periods during summer.
Figure 1: EL24966 Tenement Location
3. TENEMENT STATUS AND OWNERSHIP

EL 24966 was granted on 18th September 2006 and expires on 17th September 2012. The tenement comprises 91 graticular sub blocks (281 sq km) (Figure 3). There are no other current mining leases or mineral claims shown within the Licence boundaries.

Underlying cadastre is Perpetual Pastoral Lease, Landowner is as follows:

000 00494  Tennant Creek  Perpetual Pastoral Lease 1142
       Ford, Ken Gerard
       Ford, Joanne Suzanne
       Ford, Gregory Joseph
       Ford, Gordon
       Hughenden Station, Flinders Hwy, Hughenden, QLD 4821

Second year tenement reduction has been completed with 45 blocks dropped (Figure 6, blocks within red polygon were surrendered) leaving 46 blocks.
4. GEOLOGY

EL 24966 is situated in the south western quarter of the Tennant Creek SE 53-14 1:250,000 Geological Map Sheet. Descriptions of the most recent geological interpretation of the geology and stratigraphy of Tennant Creek region can be found in the 1:250,000 Tennant Creek Geological map series and explanatory notes (Donnellan, et al 1999) with further additions made from 1:500,000 Geological Mapping and Interpretation of basement geology (Donnellan and Johnstone, 2004; Donnellan 2004).

Mapped surface geology shows EL24966 within the Warramunga Province (both sedimentary and plutonic) with interfingered younger sedimentary (sandstone) Davenport province. A small portion of the south western corner of the tenement shows the boundary between the Davenport province and the overlying Cambrian Wiso Basin (predominantly limestone and shale).

The surface geology of EL24966 includes

- **Cainozoic** (Neogene) (Qa): Sand, silt, clay, gravel; alluvial
- **Cainozoic** (Cz): Sand, silt, clay, gravel, ferricrete, silcrete
- **Cainozoic** (Czk): Calcrete

Faulting is mostly in a north west and south east direction with two major faults cross the region.

Interpreted basement geology (Donnellan and Johnstone 2004) shows most of EL24966 overlying granites of the Tennant Creek Supersuite (1852 – 1837Ma) which are mainly unfractionated I-type granites not directly associated with Au and Cu mineralization (Wyborn 2002). The SW corner of the Licence has crosscutting faults through the Yungkulungu Formation (part of the Ooradidgee Group) which is a volcano-sedimentary succession. The southern boundary is interpreted to be the Junalki Formation; a lithic / volcanoclastic arenite with interbedded laminated siltstone, and some argillaceous banded iron formation and rhyodacitic lava. Johnstone (2001) noted that the Junalki Formation had age dating similar to the Warramunga Formation and has 'high exploration potential' for vein-hosted Au.

There are no recorded MODAT occurrences within EL24966, however roughly seven to ten kilometres to the east of the tenement several mines, prospects and mineral occurrences occur within the sedimentary Warramunga Province.
Figure 2: EL24966 1:500,000 NTGS Geology and MODAT Occurences
Figure 3: EL24966 1:250,000 NTGS Geology and MODAT occurrences
Figure 4: EL24966 1:250,000 NTGS Geology Legend
Figure 5: EL24966 1:500,000 NTGS Geology

**Legend:**

- **Ph:** High magnetic tuffaceous turbidite rocks with volcanic arc andesite and wacke subequal or subordinate to siltstone; shale including laminated argillaceous arenite (transgressive shale).
- **Pg:** Granite biotite-bearing seriate porphyritic to equigranular; rapakivi texture; blue-veined quartz; locally abundant enclaves, minor xenoliths, foliated, sheared in part, and locally gneissic.
- **Pgg:** Granite biotite-bearing; seriate porphyritic to equigranular; capokel texture; minor metasandstone xenoliths; foliated, sheared in part, and locally gneissic.
- **PgH:** Undifferentiated granite and leucogranite.
- **PdHu:** Undifferentiated granite porphyroclast felsic-microgranite.
- **PdH:** Undifferentiated felsic: amphibibole, rhyolite, andesite, andesite to dacite; rhyolite; andesite andesite lava and andesite: volcanic arc.
- **Pd:** Lithic volcaniclastic arenite with interbedded laminated siltstone and mudstone; rhyodacitic lava, ignimbrite, crystal tuff and lapilli tuff; chart, rhyolite and andesite: volcanic arc.
- **Pv:** Minor dacitic to andesitic lava (Pv).

**Map:**

[Map illustration showing geological layers and formations with corresponding legend entries]
Figure 6: EL24966 Graticular blocks
5. PREVIOUS EXPLORATION

Part of the work done on EL24966 for the first year includes a literature review and data compilation and the results are in the section below. Figure 3 shows the graticular block numbers within EL 24966, and Appendix 1 contains the list of previous tenure, plus the graticular blocks within EL 24966, and significant reports from previous tenure and a summary of previous exploration. Use Figure 3 and blocks in Appendix 1 to see the extent of previous tenure within EL 24966.
6. EXPLORATION DURING YEAR 2

Exploration on EL24966 for year 2 focused on the Blue bush analogy with Olympic dam. Geophysical processing by Frank Lindeman continued and a detailed ground gravity program was designed (to be completed early next period). Field reconnaissance was also undertaken as part of the Tennant Creek phosphate exploration program with 5 rock chip samples taken from calcrete, lateritic gravels and limestone. No significant results were returned.

Blue Bush Anomaly

EL24966 covers the ‘Bluebush’ anomaly; an as yet unexplained, coincident magnetic/gravity anomaly located in an area of covered terrain. This geophysical anomaly bears resemblance to Olympic Dam in size, geophysical response and geological setting and presents an excellent opportunity as an Iron Oxide Cu-Au style target. BHP previously undertook a joint venture with Giants Reef Mining in the early 2000s under this exploration theory, but work focussed further south of the current TUC tenement boundary and main geophysical feature.

Continued success in the high grade Tennant Creek gold field, comparison with the Olympic Dam ore body and recent success by companies exploring the Rover Field immediately to the southwest of TUC’s ground, has highlighted the importance of this target in the Company’s portfolio.

During the year TUC have reviewed and modelled the Bluebush geophysical data. Drilling database compilation is in progress. Figure 7 shows geophysical modelling highlighting magnetic and gravity based targets typical of features which have been successfully explored in the Tennant Creek and Rover fields.
Figure 7  Bluebush drill targets illustrated on black and white magnetic underlay and coloured Bouger gravity overlay on plan (with structural interpretation) and cross section.
7. PLANNED EXPLORATION FOR YEAR 3

Currently, the exact target depth of these gravity features is unknown due to the current spacing of ground gravity data limiting the 3D modelling effort. As a result of this, the Company has planned (and completed – at the time of writing this report, but after the reporting period) a detailed ground gravity survey to provide information towards more accurate drill targeting for the 2009 field season (Figure 8). Results of this survey are expected in early November 2008.

![Figure 8 Ground gravity 500m line by 100m station pattern gravity survey proposed at Tennant Creek Bluebush Cu Au Target in early October 2008; avoidance of known sacred sites shown as yellow circular exclusion zones.](image)

Exploration for next period will include:

- Detailed Ground Gravity survey over the Blue Bush anomaly.
- Processing of results by Frank Lindeman – Geophysicist.
- Drilling of targets based on the results from the Gravity Survey.

Proposed expenditure is expected to be at least $38,800. This figure is dependent upon drilling; if the Bluebush anomaly is tested then the figure will be much higher as this is a deep target.
8. EXPENDITURE

Expenditure for 2008 (as supplied by Territory Uranium in the expenditure report):

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<th>Description</th>
<th>Amount</th>
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<td>Reconnaissance</td>
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<tr>
<td>Rock Chip Samples</td>
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<td><strong>TOTAL</strong></td>
<td><strong>$15,649.94</strong></td>
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9. REFERENCES


Appendix 1
Summary of Exploration History
List of Company Reports from Previous Tenure
EL9309 covers the northern portion of EL24966. Giants Reef Mining conducted general vehicle reconnaissance. The region was covered by a detailed aeromagnetic survey. Gold and copper ore bodies were targeted.

EL 8883 (still current) covered the SW portion of EL24966. This area has a coincident magnetic / gravity anomaly named ‘Bluebush’. Giants Reef Mining drilled a series of holes just south of EL24966; with the deepest hole (BBRD002) intersecting a series of mafic rocks with volcanoclastics and graphitic sediments with elevated but uneconomic Au. The exploration was funded via a strategic alliance with Billiton and after the results of the drillhole (which was not typical of a Fe oxide Cu-Au target) Billiton withdrew from the JV.

SEL8339 covered one block of EL24966. Roebuck Resources and North Flinders Mines explored the region in the mid 1990s. 37 drill collars have been noted in the Explorer 3 database from within EL24966. Two of these are inclined RAB holes (NCIB0001 and NCIB0002) which were samples for Au, Cu and Bi and returned no significant results, these holes were drilled to test ‘anomalous mercury vapour zones’. The other 35 are Vacuum holes from the Chinese Shrike prospect (NAV0189, 0190, 0538-0560, 0563-0571). The maximum result was from NAV553 at 6ppb gold.

Chinese target 93-3 covers the EL24966 region.

Scintillometer and magnetic susceptibility readings were taken at the bottom of drill holes. The scintillometer was used to measure gamma radiation corresponding to Uranium, Thorium, Potassium and Total Counts per second. Images were prepared on a prospect scale but are difficult to georeference because of the local grid used.

Large (1975) documented an association between uranium and gold, copper and bismuth mineralisation. Muscovite/sericite alteration is spatially and genetically associated to mineralisation that is high potassium.

Several ground magnetometer surveys where undertaken over the lease and are difficult to georeference because of the local grid used.

EL7691 covers the central portion of EL24966. Several drilling programmes covered EL7691 and were taken by Poseidon Gold in search of Tennant Creek style Au-Cu-Bi deposits. Of these 34 vacuum drilling holes were located within EL24966 and were part of the Moscow prospect where no significant mineralisation was intersected. Airborne and ground magnetics identified several prospective structures. EL7691
was known to have outcropping ironstones and BIFs. Two magnetic highs were selected for regionally spaced vacuum drilling.

Westcow had disappointing results and was relinquished. Some 156 vacuum drillholes (MWV1001 to 1156) were drilled for 954m. The grid conceals granite in the west and sediment (siltstones) in the east intruded by granite apophyses. Anomalism in the sediments occurs best closest to the granite sediment contact with highs in copper (286 ppm) and zinc (124 ppm).

Eastcow had five areas selected for infill vacuum drilling (MW1, MW2, MW3, N20, N33). The region includes old prospects N19, N20 and N33 (ADL). Appraisal of the bedrock drilling suggests that the region conceals granites with quartz porphyry lenses and rafts of Warramunga Group sediments (schistose siltstones and sandstones) with a higher grade than those to the north. Also in the south of the grid a BIF (5 to 10 metres) exists surrounded by quartz feldspar porphyry. This is anomalous in copper and bismuth. Copper, zinc and Molybdenum anomalies correspond with palaeodrainages draining northwest and north east of N20 magnetic anomaly (which is a small outcrop of ironstone that is enveloped by hematite +/- talc alteration to the east. CR19940468 describes extensively the work done on these regions during the second year of tenure.

During the third year of tenure (CR1995-0431) a further vacuum drilling programme of 81 holes (513m) was undertaken to infill targets in the Eastcow grid. MW2 showed a copper anomaly and 34ppb Au, MW3 showed copper anomalism with 10ppb Au and 3760ppm Manganese. N20 (north) peak anomalism is 48 ppm copper and 7 ppm bismuth and associated with interfingered quartz feldspar porphyries. N20 (west) shows spot highs of 37ppm Cu and 36ppm Bi close to sediment porphyry contact.

A RAB drilling programme of three holes at three anomalies (MW2 [3m @ 0.09ppm Au and 15m @ 221ppm Cu], MW3 [no geochem or alteration], and N20 (west) [altered sediment corresponds with 18m @ 144ppm Cu and 6m @63ppm Bi ] ) was undertaken. All drill holes intersected sericite rich schist indicative of higher metamorphic grade Warramunga Group. No significant mineralisation was intersected.

Other work completed included rockchip sampling and historic core reassessment of N33 – a BIF and its surrounding chloritic altered sediments. Some 43 rockchip samples were taken around the N33 anomaly with discouraging results. DDH 367 and DDH 373 drilled by ADL in 1970 were reassayed, 88 samples were taken with disappointing results.
The ‘Navigator fault’ was tested with 131 vacuum drillholes holes for 890m. Predominantly granite and minor porphyry was intersected and minor Warramunga Group. This group of samples included uranium the suite of element assayed. A maximum of 5.1ppm U was found.

During the fourth and final year of tenure Poseidon Gold carried out a five Rab drillhole programme (MWRB010-014) for 375m. This programme encountered saprolitic Warramunga Group. Gold, copper and bismuth were below detection limit. The highest assay were Iron 3.85%, Co 38ppm and Mn 734ppm.

A vacuum drilling programme was abandoned after 15 holes because of difficult drilling conditions (water, silcrete and caprock). The programme was replaced by a shallow RAB drilling programme. 31 holes were completed for 383m. No alteration was encountered in the mainly siltstones and mica schists that were overlain by silcretes. Maximum results included Fe 12.18%, Au 0.02ppm, 24ppm Cu and Bismuth was below detection.

EL7536 is part of SEL8339 previously commented upon. Orientation survey undertaken using a inhouse method which is apparently successful.

EL5255 covers six graticular sub blocks on the western most edge of EL24966. Previous work by Aquitaine in 1973 recognised radiometric anomalies near inferred granitic margins. Magnetic data was acquired from the BMR and Geopeko. Scintillometer readings were made on traverses across the lease using available tracks. From this survey it was determined that background radioactivity over inferred granite was low at 40 - 60 cps. Inferred sediments / metasediments were found to be 50 – 60 cps and outcropping metasediments gave variable readings up to 100cps. Pisolitic laterites exposed on the slopes of low quartz ridges were found to be slightly anomalous at 90 – 130 cps and mostly due to thorium. Areas highlighted to target were radioactive laterite zones that corresponded with magnetic dipoles and inferred granite margins.

The prospects (Windgap prospect, Black Rock and White Ridge) mentioned in the IRMS data base are located some 35 kilometres to the north within EL4895. Ground water samples taken from the Warrego granite included TC 21 (Windgap) and White Ridge (TC 22) with 1800ppb U and 640 ppb U respectively.

During the second and final year of tenure a groundwater survey and rock chip sampling programme were undertaken. The report covers sampling from surrounding tenements as well. CEGBEA sampled groundwater across the region taking 33 two litre samples from exploration holes, station bores and mine shafts.
Four ground water samples were taken within EL24966 but only the data for one sample (TC8) was available. TC8 was collected near an abandoned water bore on a sandplain near hematite-quartzite outcrop.

Groundwater sample results for TC8 -

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<th>Value</th>
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<td>pH</td>
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</tr>
<tr>
<td>conductivity</td>
<td>4.0mg/l</td>
</tr>
<tr>
<td>temperature</td>
<td>29.6 °C</td>
</tr>
<tr>
<td>dissolved oxygen</td>
<td>1.9mS/cm</td>
</tr>
<tr>
<td>ferrous iron</td>
<td>&lt;1.0mg/L</td>
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<tr>
<td>uranium*</td>
<td>6mg/l</td>
</tr>
</tbody>
</table>

*(determined by CSIRO Harvey Mann analyser)

Six rockchip samples were taken just to the north east of EL24966.

9746, 9747, 9750 – slightly radioactive pisolitic laterite
9748, 9749 – partially opaline, white calcrite
9742 – weathered porphyry (taken from old RAB hole)

See CR19890418_EL5255_SECT01_results.tif for results, CR19890418_EL5255_SECT01_rockchipsamploc.tif for rockchip sample locations and CR19890418_EL5255_SECT01_groundwatersamploc.tif.

Note sample location could be up to two kilometres out due distortions on the georeferenced images.

Work was undertaken by the Central Electricity generating Board Exploration (Australia) during 1988 and 1989.

**EL5200** covers the bottom half of EL24966. PNC Exploration Australia explored the region in the late 1980’s for (unconformity) uranium and Tennant Creek Au-Au+U mineralisation. Exploration during the first year consisted of an airborne magnetic and radiometric survey, a reconnaissance gravity survey and a drilling programme of 19 percussion holes (for 1165m). Drilling was difficult with ground water and tertiary sediments causing the most problems. The holes were gamma logged with an anomaly of 450cps identified in KL9 but was thought to be due to cherts overlying weathered granites. It was concluded that the northern part of the EL was underlain by granitoids and the potential for mineralisation was poor.

During the second year of tenure the aeromagnetic data was reassessed and seven anomalies were selected. A radon survey was undertaken on two of the anomalies
but all significant results were discounted. A further percussion drilling programme was planned but only eight of the holes (for 449m) were completed due to difficult drilling conditions (groundwater and tertiary gravels). The two anomalies covered displayed no indication of a magnetic anomaly and were in shales, greywackes and sandstones of the Warramunga group. Nine petrographic samples were collected as well as assays.

Of interest and noted on the location maps provided by PNC is the Kelly Astrobleme – a Pre Cambrian meteorite crater exists within EL5200.

Note was made in the summary that the work Uranerz completed in the region in the 1970s concentrating on the Proterozoic unconformity was flawed, subsequent reinterpretation by the BMR placed the unconformity at a lower stratigraphic position (at the then base of PW4). This comment was made in 1988.

**EL5135 and EL5074** were explored by the Tennant Creek Joint Venture (Newmont Australia, ADL) and Poseidon Gold. EL5135 covers the northern portion of EL24966 and EL5074 covers one graticular block of the northern portion of EL24966 and was known as the ‘Pipeline’ project. Airborne geophysics, geological mapping (CR1989-0197), stream sediment samples, soil BCLs, RAB, RC and Diamond drilling and landsat interpretation were carried out. Several anomalies were identified. The Pipeline project is described as having extensive soil cover with minor outcrops of laterised greywacke. To the south west of the region a gravity low exists and is attributable to granites. A set of north west trending pegmatitic quartz veins outcrop intermittently throughout the tenement and quartz feldspar porphyries intrude throughout. Some 96 orientation geochemistry samples were taken over the Tennant Creek district with background values determined to be 0.2ppb Au and anomalous values range up to 22.3ppb Au (these samples were taken adjacent to known mineralised zones).

Aeromagnetics and radiometrics were analysed with the following points being made

- Outcropping granites and acid porphyries correspond with the potassium channel anomalies.
- Subtle potassium channel anomalies are associated with acid intrusive subcrop and shallow residual cover.
- Mid order potassium channel associated with outcropping major sericitic shear zones
- Thorium channel shows restricted zones of response with semicontinuous zones around the Warrego Granite.
- Thorium channel also highlights channels and drainage.
- The Uranium channel shows even more restricted zone, a strong result was obtained from the tailings dam at the Warrego and Peko concentrators which reflected the uraninite content of the ironstone copper ore. Other zones of anomalous Uranium response are associated with larger outcrop of ironstone bodies (eg Nobles Nob).
- Radiometric data shows a low response from the major regional quartz veins that are associated with the later phase of faulting.
- Geophysics has determined that the granite contacts dip shallowly beneath the Proterozoic sediments.

Drilling over the C27 anomaly and Explorer 72 confirmed cover up 20 metres over granitic bedrock. Mapping was undertaken and geological interpretation was produced (CR19900216_EL5135_sect02_Appendix2 Interp.tif).

Several RC/diamond holes were drilled by Geopeko sampling around the Explorer 54 & 43 anomalies. Most magnetic anomalies were attributable to magnetite bearing sediments. Fourteen samples from Explorer 54 were resampled from the Geopeko core store. Chloritic shales with minor quartz veining returned weak gold anomalies up to 0.12ppm Au.

Explorer 43 was drilled by Geopeko but not to target, samples around chloritic shales ran 1.4m @ 0.15ppm Au and 600ppm Cu. RC/DDH hole drilled to 432m, (Hole no. E43P-1-DT) retargeted magnetic anomaly. The maximum result was 0.03ppm Au. Anomaly was folded magnetic sediments. No data found on hole.
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<th>Comment</th>
<th>Relevant georeferencing</th>
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<tr>
<td>P7, P8, P9, C26, Explorer 54</td>
<td>CR1989-0197 CR1990-0464</td>
<td>Aeromag anomaly, (P7-min outcrop of quartz veins and metasediment on contact between granite).</td>
<td>CR19900464_EL5135_SECT01GC_maganomalies.tif</td>
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<tr>
<td>Nail</td>
<td>CR1990-0464</td>
<td>Roof pendant surrounded by granite</td>
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<td></td>
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<tr>
<td>Rockchip</td>
<td>CR1990-0464</td>
<td>3 rockchips</td>
<td>Ironstone quartz stringer outcrops 400948-1 foliated Fe-rich sediment 210ppm Cu</td>
<td>CR19900464_EL5135_SECT01GC_rocksamples.tif</td>
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<tr>
<td>Orientation geochem survey</td>
<td>CR1988-0040</td>
<td>96 soils</td>
<td>Taken from district, background of 0.2ppb Au, anomalous values up to 23.5ppb Au adjacent known mineralised zones.</td>
<td>CR19880040_EL5135_SECT02GC_results.tif Cant find locations</td>
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<td>Pipeline soils C25, 26, 27</td>
<td>CR1989-0197 CR1990-0464</td>
<td>552 soils (500m centres) 218 soils follow up</td>
<td>Lab batch errors encountered anomaly C27 located at 0.95 ppb Au, resampled at 250m centres for 1.78ppb Au, C26 resampling did not improve tenor, C25 4.87PPb Au.</td>
<td>CR19900464_EL5135_SECT01GC_results.tif CR19900464_EL5135_SECT01GC_geochemanomalies.tif CR19890197_EL5135_SECT02_prospect descriptions.tif CR19890197_EL5135_SECT03GC_blegresults.tif CR19900216_EL5135_sect02_Appendix2 BLEG.tif</td>
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<tr>
<td>C25 RAB Drilling</td>
<td>CR1989-0197</td>
<td>8 holes</td>
<td>Test Bleg anomaly. Single N-S traverse drilled to 30m with approx 10m cover over seds. No anomalous results.</td>
<td>CR19890197_EL5135_SECT04_C25_26_27_expl72RABlogs.tif CR19890197_EL5135_SECT05C252627_RABsections.tif</td>
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<td>C26 (Explorer 72) RAB Drilling</td>
<td>CR1989-0197</td>
<td>10 holes</td>
<td>Test mag anomaly. Yellow – brown clays and granite intersected. No anomalous results.</td>
<td>CR19890197_EL5135_SECT04_C25_26_27_expl72RABlogs.tif CR19890197_EL5135_SECT05C252627_RABsections.tif</td>
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<td>C27 RAB Drilling</td>
<td>CR1989-0197 CR1990-0464</td>
<td>17 holes</td>
<td>Drilled on a single N-S traverse Max result 0.05ppm au corresponds with Bleg anomaly, related to metasediment/granite boundary.</td>
<td>CR19900464_EL5135_SECT02GC_rabsection.tif CR19900464_EL5135_SECT01GC_C27RABlogs.tif CR19890197_EL5135_SECT04_C25_26_27_expl72RABlogs.tif CR19890197_EL5135_SECT05C252627_RABsections.tif</td>
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<td>Explorer 43</td>
<td>Ground magnetics</td>
<td>Original hole drilled by Geopeko but not to target, samples around chloritic</td>
<td>CR19900216_EL5135_SECT01_explorer 43 maganomaly.tif</td>
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<td>RC/DDH</td>
<td>shales 1.4m @ 0.15ppm Au and 600ppm Cu</td>
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<td>RC/DDH hole drilled to 432m, Hole no. E43P-1-DT, max result 0.03ppm Au.</td>
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<td>Anomaly due to folded magnetic sediments. No data found on hole.</td>
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<tr>
<td>Explorer 54</td>
<td>Ground magnetics</td>
<td>Mag anomaly thought to be mag sediments. Geopeko hole resampled (14),</td>
<td>CR19900216_EL5135_sect02_Appendix2 maganomaly 54.tif</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>chloritic shales with min qtz veins sampled up to 0.12ppm Au</td>
<td>CR19900216_EL5135_sect02_Appendix2 DDH.tif</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Explorer54 DDH1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P9</td>
<td>Ground magnetics</td>
<td>Mag anomaly too small for drill testing</td>
<td>CR19900216_EL5135_SECT01_P9 maganomaly.tif</td>
<td></td>
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<tr>
<td>Rockchip sampling</td>
<td>Ground magnetics</td>
<td>All values below 0.001ppm Au</td>
<td>CR19900216_EL5135_sect02_Appendix1 RChip.tif</td>
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<tr>
<td>P23</td>
<td>Ground magnetics</td>
<td>Anomaly result of folded magnetic sediments.</td>
<td></td>
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</table>

Table 1: EL5135/EL5074 prospect information
EL3575 covers the top half of EL24966. Geopeko (Peko Wallsend Operations) explored for Tennant Creek gold copper ironstone bodies in ground proven to host mineralisation. During 1984 low level airborne magnetic and radiometric survey was flown over the licence delineating several unrecognised anomalies. The magnetic survey cover the top half of EL24966. No radiometric data presented.

Nine magnetic anomalies were assessed, three were determined to be due to ironstones, the Jubilee Mine, Explorer 106 (BMR anomaly C8) and Explorer 104 (BMR anomaly C6). BMR hole DDH5 had been previously drilled at Explorer 104 and recovered 7g/t Au at 103m. Explorer 104 was described as an outcropping hematitic shale and BIF that maybe genetically related to an ironstone.

Other anomalies included
- Explorer 212 (anomaly21) which was drilled with PDH1 – 2. The anomaly is adjacent the Caroline Mine. PDH1 intersected alteration associated with ironstone bodies. PDH2 intersected 10m of chloritic magnetite with no significant anomalism.
- Explorer 217 (anomaly22) (410100E 7832000N) was west of the Caroline Mine. Two drill holes were drilled for 276m. DH:2 encountered a sequence of magnetic sediments which accounted for the magnetic anomaly.
- Explorer 219 was a mag anomaly drilled by PDH 1-3, an ironstone was drilled but subeconomical analytical results were returned.
- Explorer 220 (408400E, 7831400N) was drilled but the anomaly was not located.
- The Extension (Tennant Creek IV/Anomaly 25) is an outcropping ironstone. Mining has occurred on the outcrop. Also Anomalies 26 and 29.

BHP explored EL2903 in the early 1980’s for diamonds with a subsidiary interest in base metals and sampled for Pb, Zn, Cu, Ni, Ag and Sn. No significant results were delineated and the licence was relinquished.

EL2535 only covers a small portion (one graticular block) of the south east corner of EL24966. The region was explored by Peko Wallsend Operations for distinct magnetic ‘bullseye’ target type ironstones that hold the Tennant Creek style Au–Cu-Bi Mineralisation. No discoveries were made in the region of EL24966.

EL1668 covers the top half of EL24966. The licence was held by Uranerz and Marathon Petroleum. Exploration was undertaken for uranium using the Alligator River model for mineralisation and targeting veinlike type uranium deposits. The model was tested for where mineralisation is located near the ?Carpentarian
unconformity. This sampling was not successful and any readings were a result of lithology.

During year one geological mapping, footbourne scintillometeric survey, magnetometric survey and minor geochem was undertaken. The footbourne scintillometeric survey encountered several anomalies which mostly attributable to thorium and can be divided into

1. basal grit heavy mineral accumulations –dirty cross bedded sandstones with heavy mineral bands. These bands can reach up to 500cps.
2. lateritic cover, some iron enriched laterites can be up to 250cps. Thorium is thought to be the source. This is also the case around purple brown arkosic sandstones which can read up to 125cps.
3. ironstones can read 100 – 120 cps.
4. dolerite sills around Last hope mine read around 250-300cps compared to others in the region (70-80cps). Small mica lamprophyric sills read up to 150cps.

Eighteen samples were taken and assayed for U, Th, Cu, Bi, Se, Zn, Pb

During 1980 Pb, Zn, Cu, Co, Bi, Fe, As and U sampling was undertaken. CR1982-0068 makes a reference to an Olympic Dam analogy.

**EL1128** covers the bottom half of EL24966. Peko Wallsend undertook, in 1976 a low level airborne geophysical survey and found little to interest them and the ground was relinquished.

**EL676 and EL143** were explored in the mid 70’s by Australian Development Ltd for Nobelex. They targeted magnetic anomalies and drilled. No gold significant results were recorded.

Also during the first year of EL24966 a consultant geophysicist (Frank Lindeman) produced introductory images of analytic signal and TMI aeromagnetics. The data was obtained from the aeromagnetic survey flown over the Tennant Creek sheet by AGSO in 1998 using 200m spaced north-south flight lines at a height of 60m. This is excellent quality data, which can be used for accurate modelling and general interpretation. See Appendix 4 of the year 1 annual report for Frank Lindemans summary notes on the Bluebush anomaly where the anomaly is compared with the Olympic Dam deposit setting.
Appendix 2
Frank Lindeman Bluebush summary (2007)
BLUEBUSH PROJECT

Information on Exploration Completed in the Bluebush Area Prior to that by Giants Reef Mining.

Excerpts from A.W.G. Whittle 1966 Thesis “The Paragenesis and Origin of the Tennant Creek Mineral Deposits”: information on, and discussion of drilling results in the BMR 3 Area including geological cross sections (DDH 158 and 168) and thin and polished section results.

NTGS Report GS 80/7 by P.Woyzbun “Ground Magnetometer Survey Over Explorer 15 Area” discusses ground magnetic and gravity and the results recorded in Geopeko drill holes DDH 1-3.

ADL Geological Log DDH 163, BMR 3 Area

ADL Memoranda on GW 104 (Greenwood) Area
- 28/3/73 P.Kelso
- 21/1/74 P.Dreverman
- 26/2/74 R.Walker

BMR Record 1974/171 “Ground Geophysical Survey, Tennant Creek, N.T” by Ian Hone


Significant Geoscientific Activities Affecting Knowledge in the Bluebush Area Again Prior to Exploration by Giants Reef Mining.

1956/1960 BMR completed regional aeromagnetic

1962 ADL drilled the first of 5 x DDH’s (158,161-163,168) at BMR 3 Area at north Bluebush testing magnetic anomalies

1967 BMR regional helicopter gravity survey over Tennant Ck Sheet

1972 Detailed BMR gravity traverses in Bluebush area

1972 DDH 169 drilled at BMR 3

1973 Follow-up BMR gravity at Bluebush and recommendation to drill test main Bluebush response

1974 NTS Mines Branch drilled vertical hole at Anomaly B to 213.5 m

1989-93 GRM/WMC JV compiled regional gravity data

1999 AGSO released detailed airborne radiometric and magnetic data for Tennant Creek 1:250K sheet
Bluebush – A Giants Reef Mining (GRM) Perspective

Introduction:

The possibility that the Bluebush gravity anomaly, the subject of exploration conjecture in the literature for many years, could have similarities to the gravity response at Olympic Dam, was developed by GRM. After a presentation to Billiton Minerals in the early 2000’s, a JV with that company was formed to explore the Bluebush area.

It was proposed that the large Bluebush gravity response, with more detailed information, could develop into possibly several individual responses having the dimensions of the Olympic Dam response. It was recognised that the Olympic Dam deposit is represented, almost precisely, by the Residual Bouguer data and similar processing here suggested that several separate and discrete responses could also exist here.

Exploration:

The 200m line spaced AGSO aeromagnetics flown in 1998 at a height of 60m was considered adequate.

The widely spaced regional gravity coverage, although added to in several limited surveys, was considered inadequate although a large response with a smaller one just to north was outlined. The latter is known as BMR3 after mainly government work, including, drilling was completed. This BMR3 area lies outside the TUC tenement.

Semi-detailed (1km x 1km) gravity surveying was completed by GRM/Billiton. The resulting data were merged with the original data to produce a single data set. Preliminary gravity interpretation, using the residual method especially, highlighted several areas worth special attention (including BMR3) and possibly even drill testing and hence several detailed gravity lines were completed.

Detailed magnetic and gravity interpretation was carried out and several targets were developed with the use of the Potent 3D Potential Field Modelling package.

Additional exploration included the sampling and assaying of water from existing wells and bores in the area.
Results:

A number of drill holes were completed on gravity/magnetic targets. Most targets were at depths close to 500-600m. No mineralisation was intersected, although limited sulphides and evidence of faulting were detected.

Conclusions:

The disappointing results obtained by the JV saw Billiton exit the JV. Although deep “targets” still exist, they are very deep and the targets are still interpreted from geophysical data.

TUC Ground

The EL only covers the eastern part of the original GRM JV gravity response. This ground only contains one of the several detailed gravity lines and no drilling was positioned on it suggesting that any targets developed were deeper than elsewhere within the GRM ground.

Frank Lindeman
October, 2007
The Potential for the Discovery of Olympic Dam Style Copper-Gold and Other Ore Deposit Styles in the Bluebush Area, south of Tennant Creek, NT

Introduction

The large regional-scale Bluebush Bouguer gravity anomaly with possibly related magnetic responses in the Proterozoic Inlier at Tennant Creek is considered to have potential to host iron oxide associated copper-gold mineralization of the Olympic Dam type. The possibility of this anomaly hosting other deposit types, such as copper-zinc, is also recognised. Although the Bouguer Gravity “anomaly” covers approximately 1000 square kms, residual Bouguer Gravity suggests that this apparently single response is comprised of perhaps 4 or 5 discrete “Olympic Dam-sized” responses.

Geology

The similarity of the tectonic settings of Tennant Creek and Olympic Dam has been described in the literature (eg Hitzman, 1992) and although this is well known and understood by many of the major exploration companies, no work of any real substance for these, or in fact any deposit type other than the traditional Tennant Creek style mineralization, has ever been conducted in the Tennant Creek area.

When compared with the well-explored Eastern Succession of the Mt. Isa Inlier in Queensland, which is a similarly sized belt hosting several significant ore deposits, the Tennant Creek Inlier and its limited exploration history is seen as providing a very real opportunity for new discoveries.

The many high-grade ironstone-related gold deposits of Tennant Creek serve to demonstrate both the existence of mineralizing activity and of the specific iron-oxide/gold/copper association in the belt. The documented occurrence of both zinc and lead in the field should also be noted when considering the potential for other styles of mineralization.

Regional Geophysics

Gravity

The gravity data for the Tennant Creek 1:250,000 sheet defines the Bluebush anomaly which has the potential to host large ore bodies such as the Olympic Dam
deposit. This target could be represented by gravity responses with or without magnetic support. While the gravity data coverage over this response was irregular and broad spaced, semi-detailed gravity work was conducted by Giants Reef Mining in the early 2000’s while that company held the area under tenement.

The gravity data was interpreted with an OD-style iron-rich source in mind.

**Magnetics**

Recently released AGSO detailed aeromagnetics, flown in 1998 at a line spacing of 200m and at a height of 60m, is very high quality and needs little follow up, other than perhaps traverses to ground truth specific target areas. This data defines several anomalies of interest, which appear to be at least spatially related to the gravity response.

Structurally, the Bluebush area is well located within, and adjacent to, strongly magnetically-defined corridors and fault zones.

The magnetic interpretation has shown that significantly-sized bodies exist within quite shallow depths of the surface, and while it might appeared appealing to test some of these, it could well be the much deeper ones which best indicate the most promising drill targets. You will remember that at Olympic Dam, the ore body is represented by a residual gravity response ABOVE a large and deep, and so far unidentified, magnetic body. Close to the most intense part of the gravity response at Bluebush, as it is currently defined, are several large and deep magnetic bodies!

**Conclusions**

The ground held by TUC is only part of the “greater Buebush” area. No drilling was completed by GRM on the current TUC ground, meaning that the shallower targets were elsewhere.

Frank Lindeman
Appendix 3
Rock Chip Sample Data file

TUC_EL24966_Rockchip_TUCAR2008.csv