PARTIAL RELINQUISHMENT REPORT
EL 25397

FOR PERIOD ENDING 5th February 2009
‘SANDY CREEK’
CALVERT RIVER PROJECT

Robinson River SE 53-4  1:250,000
Robinson 6365          1:100,000
Calvert River 6465     1:100,000
Selby 6464             1:100,000

Titleholder: Territory Uranium Company Pty Ltd

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Territory Uranium Company Limited
By TB Page
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1. SUMMARY

EL 25397 is near the southern coast of the Gulf of Carpentaria and the Queensland border; south-east of the township of Borroloola. Territory Uranium Company Pty Ltd is exploring for uranium and base metals, and applied for EL 25397 to determine the potential for a wide range of mineralisation styles. Work during Year 1 of tenure consisted of a review of both NTGS data, compilation of all results from Industry reports, plus image generation from NTGS and Rio Tinto airborne geophysical data.

During Year 2 Territory Uranium completed an airborne geophysical survey over the tenement. The 123km long Hyper Spectral survey was conducted to differentiate the numerous circular features which had been identified using during Year 1.

Territory Uranium also conducted two major field trips to the tenement with a focus on regional scale geochemical sampling programs. The second of these trips was conducted after the geophysical survey results were returned. This second trip allowed for more detailed work to be conducted on some of the circular features which showed interesting responses during the airborne survey. In total 195 samples were collected, with 5 Stream Sediment Samples, 1 Soil Sample, 1 Rock Chip Samples and 1 Diamond Samples being located in the relinquished ground.

2. LOCATION AND ACCESS

EL 25397 is situated approximately 120km SE of Borroloola, near the southern coast of the Gulf of Carpentaria and close to the border with Queensland. The tenement runs in a NW-SE orientation and Calvert River and Sandy Creek bisect the tenement and run NE-SW, whilst Skeleton Creek drains the northern boundary of the licence. Access to the area is via a gravel road linking Borroloola to Doomadgee in Queensland, and the tenement boundaries can only be accessed via four wheel drive or helicopter.

Topography for most of the tenement is low relief, with some floodplains. The western border of the Licence has higher relief north of Calvert River and south of Sandy Creek. The geomorphic provinces are described as ‘G6’ (almost flat coastal terrace with immature drainage pattern) on the eastern edge of EL25397, and ‘G5’ (gentle erosional slopes on coastward side of sandstone ridges) which covers most of the Licence (Rawlings, 2006). The tenement has numerous creeks which can flood in heavy rains during the wet season.
3. TENEMENT STATUS AND OWNERSHIP

EL 25397 was granted on 6\textsuperscript{th} February 2007 and expires on 5th February 2013. It comprises 199 graticular blocks (655.3 sq km) (Figure 1). There are no other mining leases or mineral claims shown within the Licence boundaries. Underlying cadastre is all perpetual pastoral lease stations owned by several parties, including:

- PPL 1651 (NT Portion 773) Seven Emu Station, covering the northern part of the Licence;
- PPL 1113 (NT Portion 674) Wollogorang Station, covering most of the Licence, including all area to the southeast;
- PPL 1352 (NT Portion 774) Pungalina Station, covering parts of 6 blocks on the southern side of Calvert River.

The expenditure covenant set for the first year was $25,200.

At the end of year 2 134 blocks were retained, whilst 65 blocks were relinquished.

Figure 1 EL25397, showing the relinquished ground.
4. GEOLOGY

EL 25397 is situated within the tectonically stable Wearyan Shelf, on the southeastern margin of the McArthur Basin. The Wearyan Shelf is defined as a “thick platform cover” succession of mostly unmetamorphosed sedimentary and lesser volcanic rocks deposited on the North Australian Craton (Plumb, 1979). A full description of the geology and stratigraphy of the North Australian Craton can be found in several texts, including Plumb et al., (1990). The 1:250,000 geological series map and notes of Robinson River covers the tenement area (Rawlings, 2006).

The northern, central and western portions of the tenement are covered largely by Cenozoic alluvium and colluvium, whilst the raised western portion of the licence is defined by a plateau of sandstone and siltstone of the Tawallah Group (Figure 2). Rawlings (2006) refers to the Tawallah Group as part of ‘Redbank depositional package’ that consists of a regionally extensive platform of shallow marine to fluviatile sediments with bimodal volcanic and high-level intrusive rocks of age 1815-1710Ma. The SE corner of EL25397 has outcrops of Gold Creek Volcanics (Ptg), which is a mixed basalt-sedimentary sequence that has been divided into 7 coherent basalt sheets (Rawlings 2006). Disconformably overlying the Gold Creek Volcanics is the Pungalina Member, which is the basal mudstone, conglomerate and sandstone portion of the Echo Sandstone. Original mapping and sampling within EL25397 by previous workers identified the ‘Masterton Formation’ (part of the Tawallah Group) which is now called the Echo Sandstone. A number of streams drain this plateau and have been the focus of most of the exploration in this area.

East-west faults are also evident in the southern portion of the plateau, which follow mapped syncline and anticlinal structures within the lower Pungalina Member in EL25397. Northwest-trending faults and lineaments in the area are named the ‘Calvert Fault trend’ and can be identified in airborne magnetics and Landsat (Rawlings 2006).

Rawlings (2006) noted ‘unusual, circular 20 – 100m diameter sandstone knobs (‘Pungalina pipe set’) during mapping, which was interpreted as the surface expression of pipe-shaped collapse structures. The knobs are ‘untested and represent excellent base metal targets’ and are within EL25397 (Figure 2).
Figure 2: Tenement Geology from 1:250,000 mapping
5. HISTORICAL EXPLORATION

Part of the work done on EL25397 for 2007 was a literature review and data compilation and the results are in the section below. Figure 3 shows the graticular block numbers within EL 24884, the surrendered block is in red.

1960’s – 1970’s

AP 2167
US Steel International (New York) Inc undertook a reconnaissance survey in the Borroloola area during 1968-1969 covering Calvert River, Redbank, Wearyan and Batten Creek blocks. The company was searching for Groote Eylandt-style manganese mineralisation, as well as copper, uranium, iron and silver-lead-zinc mineralisation around the McArthur River area under several Licences covering most of the NE corner of the NT. Small deposits of manganese were found on the banks of Robinson River (outside EL25397) and traces of copper near the Running Creek copper mine (now Stanton, outside of EL25397). Work consisted of reconnaissance sampling and auger drilling (for Mn) and all recorded samples were outside EL25397.

AP 3385
Geotechnics (Aust.) Pty Ltd explored for mineral sands in 1971. No samples were collected within EL25397.

EL 1285
Damper Mining Company was searching for Groote Eylandt-style manganese mineralisation around the Seven Emu Homestead area and took 2 samples of laterite within EL25397. Results were not reported but the descriptions were unremarkable.

1978 – 1980: EL1612 and EL 1613
In 1978-80 the Broken Hill Proprietary Co Limited were looking for manganese in Cretaceous sediments onlapping Proterozoic rocks. The outcrop of Proterozoic rocks, along the south-western portion of EL 25397, was interpreted as providing an embayed paleo-coastline in the Cretaceous sea, providing protection for manganese deposition. Drilling revealed a relatively smooth, gently seaward sloping pre-Cretaceous land surface covered by extensive Cretaceous clay sands. A total of 82 rotary holes were drilled across these two tenements, of which 30 holes were drilled within EL25397 (EL1612_1613_Dhole_Data.tab). Hole depths ranged from 2-38m with no manganese recorded and no evidence of assaying for manganese. Bedrock was noted as ‘Ptn’ which is Masterton Sandstone (now defunct; is now called Echo Sandstone or Pungalina Member). Geochemical stream sediment sampling (SW outside EL25397) did not provide encouraging results.
1980-1982: EL 2564 and 2565

Australia and New Zealand Exploration Company (ANZECO) were granted EL’s 2564 and 2565 in 1980. The exploration concept looked at mineralisation potential of Proterozoic sequence rocks on the Wearyan Shelf. Previous Bureau of Mineral Resources (BMR) magnetic and gravity surveys showed coincident highs in the Sandy Creek area, to the west of EL 25397; although geophysical analysis suggested that these were most likely due to be an elevated basement area. ANZECO undertook airborne radiometrics and magnetics throughout 1980-82 with north-south lines 500m apart, outside of the current tenement.

Work done and results include:

- Ground gravity survey (325 measurements, 500-1000m spacings, along existing tracks). The gravity survey confirmed the BMR gravity anomaly (mainly outside EL25397)
- 500m spaced airborne survey by Geometrics, with data presented as contours (magnetic intensity) and stacked profiles (radiometric data). Radiometric anomalies are outside EL25397
Further work included follow-up of radiometric anomalies and drilling; all of which was outside EL25397.

1983-1991: CRA Exploration

CRA Exploration held EL’s 4077, 5468, 7174, 7226, 7314 (which partly covered EL25397) from 1983 to 1991 exploring for diamonds and base metals. EL’s 4077, 5468, 7174 and 7226 occupied the lower SE of EL25397 only (see Figure 4). EL 4077 was explored for diamondiferous diatremes; EL’s 5468 and 7174 were considered prospective for stratabound basemetal mineralisation and ‘Redbank-style’ cupriferous breccia deposits.

EL 4077

On EL 4077 (which only covered 6 blocks in the SE corner of EL25397; Figure 4) CRA Exploration were searching for diamond-source diatremes. Exploration in 1983 consisted of a reconnaissance density drainage gravel sampling program for kimberlitic indicator minerals. Five samples from EL 4077 are recorded in the DIM database; none have either kimberlitic indicator minerals or diamonds. The total absence of kimberlitic and lamprolitic indicator minerals, small size of diamonds (outside of EL25397) and their occurrence at the paleo-shoreline base level in drainage off the Masterton Formation outcrop, suggest far removal from a source diatrem. A low-level high sensitivity aeromagnetic-radiometric survey of 3790 line km (almost exactly on the boundaries of EL4077) delineated nine magnetic
responses suggestive of discrete intrusive volcanic sources of which one (RC26) was within EL25397 (approx MGA53 794600E / 8161600N). These anomalies were ground checked; and loam samples were taken from 6 of the anomalies and 3 other photogeological sites of interest. No kimberlitic or lamproitic indicator minerals were found in these samples. Radiometric anomalies were also defined for follow-up. Of interest is ‘U-channel anomaly 1 / anomaly RC2-8 (2x bkgnd U channel response; 6-7 x bkgnd K response) that is almost coincident with an intense magnetic anomaly (Anomaly RC-26) at AMG 795000E / 8161500N (Figure 5).

Geology is described as “outcrop is predominantly Gold Creek Volcanics, hematised in places, with adjacent low outcrops of hematised quartz sandstone”. A petrological sample is described as “brecciated / quartz (-tourmaline?) – veined ferruginised basalt or chilled ‘dolerite’”. Rock chip sampling from gave low values (see EL25397_Historic Rock Chip Data.xls) with maximum values of 195ppm Cu, 110ppm Co, 155ppm Zn (all in separate samples). Highest U value of 30ppm was within the sample that had the highest Zn value. No diamond indicator minerals were found.
Figure 5 Radiometric anomalies from EL4077 over U radiometrics

**EL 5468**

Work by CRA focussed further south in the Running Creek area (Figure 6). No work appears to have occurred with EL25397. Exploration focussed on Tawallah Group...
sequences for Redbank style cupriferous breccia deposits, gold mineralisation and diamondiferous kimberlitic diatremes. Detailed gravel sampling programs failed to establish any drainage train of kimberlitic indicator minerals. Six 40kg bulk samples were taken in areas around Running Creek yet provided no positive results. Rock chip sampling around Running Creek of outcropping arenite/trachyte units presented no significant Au/Cu to test any potential Redbank breccia-style mineralisation. All further exploration in this area was centred on targets that are now part of the Running Creek and Stanton prospects.

**EL 7174**
CRA reprocessed the previous airborne geophysics covering EL 7174 with reinterpretation of the magnetic and radiometric data in an effort to delineate new targets. None were defined. CRA also carried out stratigraphic drilling (south of EL25397) to look for stratabound basemetal mineralisation. The drilling indicated that the cover sequences were too thick to allow economic exploration. A lack of incised drainage plus the presence of transported soil/alluvium also limited geochemical sampling options.

**EL 7226**
As with EL7174, CRA reprocessed the previous airborne geophysics covering EL 7174 with reinterpretation of the magnetic and radiometric data in an effort to delineate new targets. None were defined. Two rock chip float samples were collected within EL25397 (SW corner of EL25397; see EL25397_Historic Rock Chip Data.xls); no significant results came from the multi-element analysis. CRA relinquished this tenement in 1991, concluding that the western half of the tenement (including the area that now covers the southwest portion of EL 25397) is covered by a considerable thickness of Masterton sandstone and was considered unprospective and economically prohibitive.

**EL 7314**
Unlike the CRA tenements mentioned above, EL7314 covered most of EL25397. CRA’s exploration concept for EL7314 was to test the Pungalina Member of the Gold Creek Volcanics for stratabound copper mineralisation. Helicopter rock chip sampling of the Pungalina Member within EL25397 gave no elevated base metal results (see EL25397_Historic Rock Chip Data.xls). Low density reconnaissance stream sediment sampling from catchments draining the Pungalina Member and assayed for Ag, Co, Cr Cu, Mn, Ni, Pb). All results were unremarkable, with best results within EL25397 being 30ppm Cr and Co (in separate samples). Zn, Cu and Pb were all 10ppm or less (see EL25397_Historic Stream Sed Data.xls). Interpretation of BMR regional radiometric data suggests that these samples represent the silty facies of the Pungalina Member.
1993 – 1997: Ashton Mining / BHP JV; EL 8084 and EL8115

EL’s 8084 and 8115 only covered a small southern portion of EL 25397 between 1993 and 1997, with most of the Licences extending further south. The tenements were subject to a JV between Ashton and BHP (the Wollogorang JV) which encompassed several tenements in the area. Ashton explored for diamonds and BHP for base metals, using the stratiform sediment-hosted Cu-Co mineralisation style and Redbank-style Cu pipes. Ashton Mining collected 2 samples for diamond exploration within EL25397; both negative and recorded within the DIM database.

Base metal exploration consisted of airborne magnetic/radiometric surveys, airborne TEM surveys and geochemical sampling. The high frequency pattern consistent with a shallow, flat-lying magnetic source was interpreted as basalts within the Gold Creek Volcanics. NW and NE-trending linears are interpreted as faults. The magnetic anomalies identified from the airborne magnetic data are all located south of EL25397. Follow-up ground magnetic surveys are also south of EL25397.

A helicopter-assisted regional stream sediment survey (2-3km cumulative drainage spacing) was carried out. All reported geochemical anomalies are south outside of EL25397, with an ENE-trending zone of anomalous Ag-Au-Cu-Cd-Ni-Pd stream geochemistry within 2km of the southern boundary of EL25397. Stream sediments were assayed by BCL as well as ICP analysis. BCL analysis defined the anomalous zone just south of EL25397. The ICP data did not show any ‘significant’ anomalies but higher background levels were found in streams draining the Gold Creek Volcanics. Not all stream sediment sample assays were reported, but available results are in EL25397_Historic Stream Sed Data.xls. Soil sampling and drilling took place south of EL25397.


At the time that Ashton/BHP were exploring the southern portion of EL25397, CRA explored the central and northern parts of EL25397 either in their own right (with EL8856) or in JV with titleholders Carnegie Minerals NL (CRA were managing the exploration) with EL’s 8533 and 8534. The Licences covering EL25397 were part of a larger regional landholding which aimed to investigate the Gold Creek Volcanics for breccia-hosted copper mineralisation.
Figure 6 EL25397 stream sediment sample sites with CRA anomalies & Pungalina pipe-set location.
EL 8533

In the first year CRA (Rio Tinto) carried out a detailed airborne geophysics survey and a reconnaissance stream sediment sampling programme. Airborne magnetics and radiometrics were flown over the entire tenement with lines 300-400m apart in a north-south direction. Dominant NW-SE orientations of the rocks were observed with major E-W faults. No significant uranium anomalies were identified. The airborne survey was interpreted and the faults are captured in MapInfo (CR19960614_AeromagInterpLines.tab).

There are around 144 -80# stream sediment samples (in EL25397_Historic Stream Sed Data.xls; Figure 6) which were assayed in 1996 by Amdel using ICP-OES and ICP-MS. The original lab report was not included in the report so detection limits are not known for some elements. A couple of ‘spot high’ results were named as CRA anomalies; Barra Anomaly (within EL 25397) sample 5594612: 175ppm Cu, 18ppm Pb, 11ppm Zn, 9ppm Co draining a catchment of 2km$^2$. Cu anomaly is 17 times higher than background values. Archer anomaly sample 5594602: 115ppm Cu, 13ppm Pb, 7ppm Zn, 7ppm Co draining a catchment of 2.5km$^2$ this anomaly is 11 times higher than background values (Figure 6). Seven geochemical samples were taken across the circular geophysical anomaly of Calvert 1 at 50m spacing (Figure 6). No anomalous results were reported with the highest values being 17.1ppm Cu, 8.4ppm Pb and 7.6ppm Zn.

In the second year, thirty-two -80# samples were taken as infill to the previous survey. No anomalous results reported and initial anomalies could not be replicated. However;

- There were NO replicate samples taken at the same site as the anomalies. All infill samples are scattered over the tenement and further north
- The lab used for the second year work was Assaycorp of Pine Creek, using similar assay methods but different detection limits – for some elements the detection limit was lower than that used by Amdel in the previous year
- The sample ledger coordinates do not match the coordinates on the map; the map coordinates (used from georeferencing maps in MapInfo) have been used after conversion to MGA53. It may be possible that the follow-up work meant the original sample sites weren’t located.

A further seventy-three -20# and -40# soil samples were taken around ‘Barra’ and ‘Archer’ anomalies and at ‘Calvert 1’, a circular feature between the two geochemical anomalies. From looking at the maps it appears that the soil sample sites were adjacent to the stream sediment sample sites, rather than upstream from the potential anomalous source. It is possible that CRA were trialling the concept of sampling the ‘overbank’ material near a stream sediment sample. The rationale of
overbank sampling was that the area regularly flooded and soils adjacent to drainage were coated with a veneer of stream sediment material.

‘Barra’ anomaly had two east-west 0.5km lines sampled at 50m spacing over the Pungalina siltstone. These reported very low base metals: highest values 14.2ppm Cu, 30.5ppm Pb and 44.1ppm Zn. ‘Archer’ anomaly had three north-south lines 250m apart at 50m spacing over Pungalina siltstone. The lines reported very low base metals with the highest value reading 22.1ppm Cu, 5.1ppm Pb and 89ppm Zn. The ‘Calvert 1’ anomaly produced no anomalous base metals, with highest reading of 17ppm Cu.

Four rock chip samples were also taken in Year 2, producing one elevated response in an iron rich sample at Calvert 1: 275ppm Cu, 51ppm Pb, 8ppm Zn, 10.5%Fe. A 40kg gravel sample sieved at -4mm showed no kimberlitic indicator minerals.

There was no concluding report, but it does appear that the Calvert 1 anomaly was not fully investigated.

Small ground magnetic surveys were also conducted over the anomalies which did not yield any significant results. However, the survey over Calvert 1 showed a higher response around the perimeter, which has been interpreted as laterite collected in the drainage.

**EL 8534**

Only one block of EL8534 is within EL25397, so no work was carried out within EL25397. Throughout 1995-97, Carnegie Minerals Limited explored for kimberlite intrusions, predominantly in the coastal strip of the Wearyan Shelf. A 400m line spaced aeromagnetic/radiometric survey and follow-up field check found no major anomalies in or near EL 25397. Seven 20kg bulk samples sieved to -2mm screen size, one which was taken just to the northeast of EL 25397 found no major geochemical anomaly.

**EL 8856**

Rio Tinto Exploration drilled the stratigraphic holes DD95GC007 within EL25397, designed to test the thickness of the Gold Creek Volcanics, particularly under cover (Figure 7). Rio Tinto were testing the Gold Creek Volcanics for breccia-hosted copper mineralisation similar to that found further south at Redbank. Hole DD95GC007 was the only hole assayed and no significant base metal results were intercepted. Highest values were 5m @ 147ppm Cu from 145m; 10m @ 45ppm Co from 150m; 5m @ 157ppm Zn from 90m. This hole was relogged by Rawlings (2006), and differentiated the stratigraphy in the Gold Creek Volcanics and shows the
hole intersected both the Upper and Lower Pungalina Members, the Gold Creek Volcanics and finishing in the underlying Wollogorang Formation. The highest assay values are not within the ‘target unit’ (at 120m – 140m) but within the underlying ‘basalt 4’ unit (145-150m).

Airborne magnetics and radiometrics flown in the northwest area of the tenement (and southern portion of EL 25397) delineated major northwest and east-west trending faults as well as the continuation of Gold Creek Volcanics under shallow cover. No significant uranium anomalies were detected. 22 helicopter assisted stream sediment samples were also taken in catchments draining the outcropping Gold Creek Volcanics yet no significant base metals were detected (results in EL25397_Historic Stream Sed Data.xls).

**EL 9204**

Only 3 blocks out of the 200 blocks that formed EL9204 fell within EL25397. EL9204 was explored along with EL’s 9205 and 9266 by BHP as part of regional exploration programme for sediment-hosted copper mineralisation. Work included a regional stream sediment sampling program with a 2kg sample (-10#) was taken for BLEG processing of Au, Ag, Cu, Zn, Cd, Ni and Pd. Only 4 samples were taken inside EL 25397, with results available for 3 of those samples. No samples recorded anomalous results, although it is possible that the analysis wasn’t suitable for the sample type, particularly as the lab used BLEG on Ni and Zn, and there is no description on acids used. The poor results from the stream sediment sampling on EL9204 led to BHP dropping the Licence after only 1 season of exploration. Soil sampling was carried out further south of EL25397 (on EL9205). Airborne geophysics and an airborne TEM survey reported were outside the EL9204 (and EL25397).
Figure 7 EL25397 Drillhole & Rock Chip Sample Location
6. EXPLORATION ON SURRENDERED BLOCK

Work undertaken on EL25397 in Year 1 included a historical exploration review (included in previous section). Exploration in Year 2 included reconnaissance rock chip sampling and a stream sediment sampling program. In some areas soil samples were collected as well as bucket samples to test for possible Diamond mineralisation in the area.

Only a few of the samples were collected on the relinquished ground, they are shown in Figure 8. Assays results from there samples are contained in Appendix 1.

During Year 2 of tenure Territory Uranium flew a Hyper Spectral remote sensing survey over the entire Calvert River tenement. The survey consisted of a total flight length of 123kms at a height of 1400m, with a line spacing of 1300m. Images of the remote sensing data over the relinquished ground are contained in Appendix 2.

Figure 8 Samples collected by TUC on the relinquished ground.
7. REFERENCES


APPENDIX 1

Appendix 1: Sampling Data:

EL25397_Calvert_River_Bucket_Samples.csv
EL25397_Calvert_River_Samples.csv

APPENDIX 2

Appendix 2: Hyper Spectral Remote Sensing Survey

EL25397_Calvert_Hyvista_clipped.tab
EL25397_Calvert_Hyvista_clipped.jpg