Partial Surrender Report for Exploration Licence EL 30251
Hayes Ck Project
For period 29/10/2014 to 28/10/2016

250,000 mapsheet- Pine Ck SD52-08
100,000 mapsheet- Batchelor 5171

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SUMMARY

Exploration Licence EL 30251 is located 3 km west of Ban Ban Spring and 17 km north of Hayes Ck Road House, Northern Territory.

This is the partial surrender report for work conducted between 29th Oct 2016 to 22nd Sept 2016.

No field activities have been undertaken during the reporting period.

INTRODUCTION

Exploration Licence EL 30251 is located about 3 km west of Ban Ban Spring and 17 km north of Hayes Ck Road House, Northern Territory. The licence was granted on the 29th Oct 2014 to Oz Uranium (NT) Pty Ltd, a wholly owned subsidiary of Rockland Resources Pty Ltd. Rockland is exploring the tenement for uranium, gold and base metals.

LOCATION AND ACCESS

The Hayes Ck project is located about 125 km SE of Darwin within the Pine Ck 250 map sheet (SD52-08) and Batchelor 100k map sheet (5171). The project consists of wholly owned tenements as well as a Joint Venture with Crocodile Gold for the uranium rights. Exploration Licence EL 30251 is located about 3 km west of Ban Ban Spring and 17 km north of Hayes Ck Road House, Northern Territory (Figure 1). The tenement can be accessed by a series of exploration and pastoral tracks leading off the main Stuart Highway. These tracks are impassable during and immediately after the wet season.

TENURE

Exploration Licence EL 30251 was granted on the 29th Oct 2014 to Oz Uranium (NT) Pty Ltd, a wholly owned subsidiary of Rockland Resources Pty Ltd.

The tenement originally consisted of 20 sub-blocks totalling 66.8 km$^2$.

On the 22nd Sept 2016 there was a 50% partial surrender for a new total of 10 sub-blocks and area of 33.4 km$^2$.

Details of the title are given in Table 1.

<table>
<thead>
<tr>
<th>EL No</th>
<th>Date Granted</th>
<th>Original Sub-Blocks</th>
<th>Current Sub-Blocks</th>
<th>Current Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL 30251</td>
<td>29/10/2014</td>
<td>20 blocks</td>
<td>10 blocks</td>
<td>33.4 km$^2$</td>
</tr>
</tbody>
</table>

Table 1 Tenement details EL 30251
Figure 1  Location Map of Current Tenement overlaying 250k Auslig Topography (Surrender Area in Green)
A description of the geology is found in Sener (2004). The exploration licence area is located within the central part of the Pine Creek Orogen (PCO) which is a tightly folded sequence of Palaeoproterozoic rocks, 10km to 14km in thickness, laid down on a rifted granitic Archaean basement during the interval ~2.2-1.87Ga (Ahmad et al. 1993). The sequence is dominated by pelitic and psammitic (continental shelf shallow marine) sediments with minor inter-layered tuff units. Pre-orogenic mafic sills of the Zamu Dolerite intruded the sequence prior to regional metamorphism and deformation.

During the Top End Orogeny (1870 – 1780 Ma), the sequence was tightly folded and pervasively altered with metamorphic grade averaging greenschist facies to phyllite. The Cullen intrusive event introduced a suite of fractionated calc-alkaline granitic magma into the sequence in the period ~1.85-1.78Ma. These high temperature I-type intrusives induced strong contact metamorphic aureoles ranging up to (garnet) amphibolite facies to more extensive biotite and andalusite hornfels facies.

Central to the Hayes Ck project is the Burnside Granite of the Cullen Supersuite, which is rimmed by the younger Zamu Dolerite and Palaeoproterozoic South Alligator Group (Mt Bonnie Formation, Gewrowie Tuff, Koolpin Formation). This I-Type granite (leucogranite) has significant fractionation with clear evidence of late-stage release of magmatic fluids. Schofield (2010) has identified the Burnside Granite is having high potential for intrusive related uranium based on its uranium content and fractionation. EL 30251 is underlain by the Burnside Granite which outcrops along the south east half of the tenement. The granite is a multiphase pluton consisting of white-pink course grained equigranular adamellite. Minor pegmatites veins have been developed along the granite margins and in the surrounding country rocks. Minor occurrences of undivided Koolpin Formation and Zamu Dolerite may occur in the far south west part of the tenement rimming the Burnside Granite.

The Koolpin Formation is oldest of the rock units which rim the edge of EL 30251 and outcrops in the west part of the tenement. It unconformably overlies the Mount Partridge Group and has a conformable upper contact with Gerowie Tuff. Sills of Zamu Dolerite intrude the upper contact in places or is faulted (Stuart-Smith et al., 1993). The Koolpin Formation is informally subdivided into lower, middle and upper members (Nicholson, 1980). The lower member consists of up to 250 m of carbonaceous mudstone, mudstone and siltstone. The upper member is 50 – 150 m thick and contains mainly carbonaceous mudstone with minor mudstone and siltstone with interbedded tuff and shale near the contact with the Gerowie Tuff.

Cover in the north west part of the tenement consists of Cainozoic undivided alluvial and residual sediments along with active channel flood plain and swamp deposits.
Figure 2  Project Geology and Drilling (after Batchelor-Hayes 100k Geology Mapping)
EXPLORATION

HISTORY

Exploration 1970-1990

**EL 465 - Comalco (Commonwealth Aluminium) Ltd to 1973**

The focus of this exploration was at Uncles Gap and Rising Tide prospects. Details of the work undertaken are not provided in the available reports.

**EL466 - Geopeko Ltd to 1973**

Soil sampling and drilling was conducted at the Quest 5 anomaly which is to the west of Rockland’s EL 30251. Limited work was conducted at Quest 3 and Quest 4 which is just south west of Rockland’s EL 30251.

**EL 829, EL 830, EL 918 and EL 919 – Commonwealth Aluminium Corporation to 1974**

Several tenements were explored by Commonwealth Aluminium Corp centred on the Burnside Granite covering Rockland’s EL 30251. According to Chaku (1974) exploration included ground prospecting, geochemical sampling and costeaining. The occurrence of fluorite exhibiting some replacement characteristics beside the Burnside Granite at the Olive Mine (EL 678 - located 5.4 km east of Rockland tenure) apparently prompted the exploration initiatives. Work was done at the Rising Tide prospect and also resulted in discovery of fluorine at the Uncles Gap prospect. However, all occurrences were vein and replacement type deemed to be uneconomic. Minor barite, uranium and lead occurrences were identified. By cross referencing figures in the report it is apparent that some of the workings they sampled relate to the Burnside Lead Prospect. Chaku (1974): “**Lead mineralisation was also located in numerous pits along the north-south trending fault within the Burnside Granite. The mineralisation was mainly restricted to small sections of the brecciated quartz along the fault.”**

Some assay results and petrophysics is available in the report but would require some cross referencing to determine current coordinates from those using local systems.

**EL1149 - CRA Exploration 1979**

Soil surveys were conducted along lines 1 km apart with samples spaced 50 m apart. No significant anomalies were identified and the sampling was predominantly outside Rockland’s EL 30251.

**EL1196 – Geopeko to 1979**

Geopeko did not undertake any exploration activities within EL 30251 on their EL1196 tenement. Drilling was conducted outside Rocklands ground at the Quest 151 anomaly.

**EL 2030 – Mines Administration to 1981**

No work was conducted within EL 30251. Some resistivity and radiometric traverses were read in the northwest part of EL 2030.
**EL 2075 – AAR Ltd to 1981**

AAR conducted mapping, rock chip sampling, gridding, radiometric traversing, trenching and drilling. The drilling program targeted radiometric anomalies but the results were poor. The work was conducted outside Rockland’s ground.

**EL2104 – AAR Ltd to 1981**

Rock chip sampling, mapping and radiometric surveys were undertaken focusing on the potential for uranium. Rock chip sampling was poor and the ground was relinquished. No activities overlap with Rockland’s EL 30251.

**EL2805 – Talmina Trading Pty Ltd to 1982**

Exploration was for Tin-tantalite mineralisation associated with a major northerly trending fault. Surface prospecting failed to identify any areas of interest and the ground was relinquished. Further exploration was for stratiform gold and base metals. No significant results were obtained and the surveys are outside of EL 30251.

**EL 4178 – Geopeko to 1984**

Stream sediments surveys and a soil survey were completed over and down-stream from areas where middle Koolpin was thought to be present. No significant results were obtained.

**Exploration 1990-2011**

**EL5490 – Carpentaria Gold Pty Ltd to 1991**

EL 5490 almost directly overlies Rockland Resources EL30251. Stream sediment and rock chip sampling was undertaken especially aimed at gold and lead. Anomalous stream sediment gold results were identified in the northern part of the tenement just outside the Rockland tenure. Costeans located the gold in quartz veins and ferruginous siltstones. The best result was from a rock chip sample of returning 2.15 g/t gold, however, the mineralisation was not thought to have economic potential.

Within Rockland’s ground is a prospect identified by Carpentaria as the Quartz Wall. The Quartz Wall is located approximately 1.8 km south east of the Burnside Lead Prospect. Although the Burnside Lead prospect is not discussed by Carpentaria, both prospects are situated on the same quartz structure. According to Simpson (1990): “A massive white system of en-echelon quartz veins cuts through the Burnside Granite in a northerly direction. At one location (see Drawing NO.32871) it forms a wall of quartz, hence the name. Initial reconnaissance work located disseminated galena associated with the vein in a small (1x5x2m) pit near the EI’s southern boundary and at the Quartz Wall. Initial rock sampling gave lead values up to 1.25% Pb. Repeat channel sampling gave lead values up to 0.32%, and zinc to 0.23% and silver to 5 g/t. Minor sulphide mineralization is associated with quartz veining where the massive white veins feather out. This occurs at about 50m intervals between en-echelon massive quartz veins. The main portion of the massive white quartz veins appear to have little or no sulphide mineralization. Additional rock chip samples taken from the Quartz Wall Vein reinforced the conclusion that the main body of the quartz vein contains only insignificant base metal values (Appendix 1). It was concluded that the vein system at depth would...
mirror the poddy nature of the mineralization as sampled along strike at surface, and that there is little potential for significant tonnage of high grade ore”

Rockland Resources has the rock chip samples from Carpentaria Gold in digital format. The highest lead values are from sample QP 67938 located .92 km south east of the Quartz Wall prospect. The sample returned 1.25 % Pb, 65 ppm Zn and 40 g/t Ag. A stream sediment anomaly of 1.9 ppb Au (more than 10 times background) exists in the far west part of the tenement.

**EL 7543 – Newcrest to 1999**

Historical licence EL 7543 originally covered Rockland’s EL 30251 but by the second year the Burnside Granite portion of the tenement had been relinquished. In the first year a comprehensive program was undertaken including rock chips, mapping, stream sediment and soil sampling along with four RC holes. The majority of the work was outside the boundary of Rockland’s EL 30251. Rock chip sampling was undertaken at the Medusa and Lymberover prospects located outside of the Rockland tenure to the north and south. Additional prospects of interest also beyond Rockland’s ground includes North Britannia and Chimera Prospects. Drilling has encountered significant intercepts at Madussa including 7 m @ 1.26 g/t Au.

**EL 9075 – Ban Ban Springs Station and Earthrowl to 1997**

EL 9075 overlies the majority of Rockland’s EL 30251. According Earthrowl (1997), exploration initially focussed on a prominent northwest trending quartz reef structure which cut across the Burnside Granite.

It is noted by Rockland that some of samples was assayed for Au and As without the inclusion of base metals. Also, it is noted that the position of the north north trending quartz structure and sampling in the provided maps is consistently located 250 m further west than indicated by the satellite imagery and mapping, which cannot be explained but is possibly due to an error when preparing the hand drawn maps? Some assay results are tabulated, however, the locations are only provided in a map format.

Using aerial photography and local postural knowledge, the quartz reef and several old pits were located. Some galena and chalcopyrite was located but no gold. Best result was 4.12 % Pb and 8.72 % Cu from separate samples 4 and 5, which was not within the quartz vein but possibly next to it? The coordinates for these samples is unknown but most like relates to the Galena Prospect next to Carpentaria Gold’s QP 67938 located 900 m south east of the Quartz Wall prospect. The occurrence was deemed to be uneconomic. Some attempts were made to follow the structure from the Burnside Granite north into areas where the host would be meta-sediments but arsenic and gold samples were below detection.

**EL 25517 – Michael Morawa and Great Western Exploration 2009-2011**

Historical EL 25517 exactly overlays EL 30251. Michael Morawa applied for the ground focussed on exploration for uranium and other commodities. A small field reconnaissance program was carried out using a handheld XRF but no data was retained. After the Fukushima disaster the interest in uranium collapsed and further work was not warranted to search for this commodity. The prospectivity for other commodities was considered low and the tenement was relinquished (Morawa, 2011).
Kelly Prospect

Two hundred meters north east of Rockland’s EL 30251 is the Kelly Prospect. During exploration work by Thundelarra in 2010 a review was completed of the Kelly Prospect by H. Mees. “The prospect is hosted by broadly NW trending tightly folded metamorphosed carbonaceous shales and dolomites assigned to the Koolpin Formation. This package of sediments lies on the northern margin of the Burnside Granite intrusion. A wide belt of pre orogenic Zamu dolerite intrusive lies immediately to the north of the sediments. Structurally the prospect is hosted by a refolded syncline. A NNE trending shear with a leucogranite/quartz fill runs through the Burnside granite and through the prospect area. The Kelly’s mineralisation is located at the intersection of this shear with the Koolpin formation metasediments. Uranium mineralisation at the prospect occurs as pitchblende veins and disseminated Uranium mineralisation associated with fractured, calcite veined carbonaceous-sulphidic schist-granite contacts. Shallow mineralisation has been remobilised along the watertable.

The area was explored by Arnhem Land Mining Ltd from 1980-1981. Anomaly 1 was identified from a broad spaced ground radiometrics and radon survey. Detailed follow-up ground surveys culminated in the drilling of 2 diamond holes at the prospect. Minatome carried out exploration work during 1982 and apparently independently relocated the prospect. Detailed ground radio-metrics and some trenching were completed over the prospect, which resulted in the discovery of pitchblende veining with a maximum assay of 1.12% U in a trench sample. From 1982 to 1988 the joint venture between Minotome (Subsequently Total Australia) and Zapopan NL conducted extensive Uranium exploration at the prospect. This consisted of geological mapping, ground radiometric surveys, a heliborne radiometric survey, rock chip sampling and 17 percussion drillholes for a total of ??m. The ground surveys identified several radiometric anomalies, the heliborne survey appears to have been a failure. The best assay result obtained from the drilling was a 1.47m intersection at 0.53% U in hole BUR-RP 4.

The drilling in the immediate prospect area has been extensive and has failed to produce significant results.”

Historical Data Overview

Government and company geological, geochemical and geophysical datasets have been compiled for the Hayes Ck project and specifically the EL 30251 tenement. This includes compilation dataset provided by Crocodile Gold.

Regional geophysical coverage includes:

- Rum Jungle airborne magnetics and radiometrics flown in 1999 by the NTGS at 200 m line spacing;
- Pine Ck airborne electromagnetic TEMPEST flown in 2011 at 1.6 km line spacing (more detailed .35 line km lines clip north east part of EL 30251 over the Ellison Prospect);
- Scattered gravity stations from 2-10 km; and
- Satellite ASTER Alteration Maps produced by the CSIRO.

Historical surface samples within the licence includes:

- Chips
  - Four rock chip samples from the government NTGS compilation
  - 39 rock chip samples from the Crocodile Gold compilation (Total_Rocks) of which approximately half captures the work by Carpentaria Gold on historical EL 7127, EL 7900
and EL 7391; and half captures the work by Newcrest on historical EL 7543 where the latter includes only Au and sometimes As.

- Chips collected by Earthrowal at EL 9075 have been located on a map but have not been brought into the GIS due to uncertain positioning.

- Streams
  - There are no stream sediment samples within EL 23051 which have been compiled by the government;
  - 51 stream sediment samples are contained within Crocodile Gold compilation Total_Streams. The majority capture work undertaken on EL 5490 by Carpentaria Gold.

- Soils
  - There is a soil survey in the NTGS soil compilation which is thought to be in the wrong location based on the meta-data;
  - Some soil samples from historical licence EL 7738 (North Howley Siding) clips the western edge of the licence but are not anomalous in As or Au (Socic, 1996)

There are no historical drill holes within the tenure:

- RC Drilling captured in the NTGS compilation is mostly like in the wrong geographic location based on failed attempts to cross reference with the company reports (CR2002-0055).
- Similarly there are several holes with the Crocodile Gold database cgao_z52_drilling and Northern Gold *_drilling_collars which are also in the wrong location based on failed attempts to be cross reference with reports.
- Drilling at the Kelly Uranium prospect (Total_Kelly_Holes) plot just outside and along the edge of EL 30251 within 400 m of the boundary.

The most anomalous historical rock chips within EL 23051 that are in digital format were collected by Carpentaria Gold south of the Quartz Wall prospect. Two samples collected 235 m apart have returned up to 1.25% Pb, .23 % Zn, 40 g/t Ag and 980 ppm Cu. Better results were achieved by Earthrowl of up to 4.12 % Pb and 8.72 % Cu at the Galena Prospect but the position of these samples is not exact. A stream sediment anomaly of 1.9 ppb Au (more than 10 times background) exists in the far west part of the tenement.

During the reporting period a problem was identified with the raw line data for the Rum Jungle government aerial survey. An offset of 120 m was found to exist compared to the gridded data for the same survey, and also compared to overlapping ground and airborne surveys. The NTGS were notified and traced this issue to a coordinate transformation error by the original contractor in 1999, which has now been rectified. Often it is the gridded airborne radiometric data which is utilised by explorers to identify anomalous uranium to follow up in the field (this was the approach in the past by Thundelarra). However, it is possible that previous explorers may have checked the wrong location if they used the wrongly located raw line data.

In order to identify line data anomalies in a rigorous and semi-automated manner, the GAMMA_Target method was utilised (developed by Minty Geophysics Pty Ltd) by Rockland Resources to identify anomalies. The method relies on the gamma-ray response functions calculated according to the mean survey height and sample spacing. GAMMA_Target recognises two types of anomalies for both grid and line data. Areas in the dataset which are rare are called a “spectral” anomaly. In the case of 3-component radioelement data (K, U and Th) spectral anomalies are those areas of the map or profiles where the 3-component
radioelement signatures (K, U and Th concentrations) are rare. The second type of anomaly may not be as unique, but is anomalous with respect to the local background for the radio-element and is referred to as a “point” anomaly.

**ROCKLAND PROGRAM AND RESULTS**

Rockland Resources has undertaken significant compilation and targeting for the Hayes Ck region exploring for uranium, gold and base metals. No targets are identified within the surrendered areas. There has been no on-ground exploration within the surrendered areas of this report.


