ANNUAL REPORT

Waterhouse West Project
EL24563

NORTHERN TERRITORY

FOR THE PERIOD
17 January 2011 to 16 January 2012

REPORT NO: ROY0661
DATE: January 2012
AUTHOR: M.Paton
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PROJECT NAME: Waterhouse West Project

TENEMENT NO: EL24563

TENEMENT OWNER: Aldershot Resources Ltd

TENEMENT OPERATOR: Royal Resources Limited

REPORT TYPE: Annual

REPORT TITLE: Annual Report Waterhouse West Project, EL24563 Northern Territory for the period 17 January 2011 to 16 Jan 2012

REPORT PERIOD: 17 January 2011 to 16 Jan 2012

AUTHOR: M Paton

DATE OF SUBMISSION: January 2012

DATUM: GDA94_Zone 52

1:250,000 SHEET AREA: Pine Creek (SD52-08)

1:100,000 SHEET AREA: Reynolds River (5071)

MINERAL FIELD: Rum Jungle Mineral Field

COMMODITY: Uranium
ABSTRACT

LOCATION: The Waterhouse West Project is centred approximately 10 kilometres southwest of the Batchelor township. The project is defined by a single Exploration Licence, EL24563, which covers an area of 128.4 km² (48 sub-blocks) and is located on the Pine Creek 1:250 000 Sheet (SD52-08) and the Reynolds River 1:100 000 sheet (5071).

GEOLOGY: The Waterhouse West Project overlies the Archaean Waterhouse Dome, part of the Rum Jungle Mineral Field. The core of the Waterhouse Dome comprises schist, gneiss and granitic units and blocks of the Stanley Metamorphics. Exposures of the Early Proterozoic sedimentary units include the Manton Group, Mount Partridge Group, South Alligator and Tolmer Group sediments, which are folded around the margins of the granitic dome.

WORK DONE: Access paths were cleared from the main roads to the project site. Ten drill lines were cleared for a proposed 57 air core drill holes. 35 out of the proposed 57 air core drill holes were completed in the dry season and the best intercepts were assayed.

CONCLUSIONS: Downhole logging anomalies resulted in sub-economic uranium assay values in Giants Reef North. Drilling needs to be completed at the Giants Reef South Prospect at targets cleared during the reporting period.
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1 INTRODUCTION AND TENURE

This report details exploration completed on the Waterhouse West Project for the fifth year of tenure during the period 17 January 2011 to 16 January 2012. The reporting area comprises one granted Exploration Licence EL24563 of 48 graticular blocks, overlying the Waterhouse West Dome, part of the Pine Creek Orogen. Tenement details are listed in Table 1.

The area is prospective for unconformity-type uranium mineralisation and vein-hosted uranium mineralisation along the western and south-western margins of the Waterhouse Dome.

Field activities involved site reconnaissance and pegging of proposed drill holes at three prospective locations, the Giants Reef Prospect, the Giants Reef South Prospect and the Riverside North-east Prospect.

Table 1: Tenement Details for the Waterhouse West Project

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2 LOCATION AND ACCESS

EL24563 is located 100 kilometres south of Darwin, approximately 10 kilometres southwest of the historic mining township of Batchelor in the Northern Territory (Figure 1). The tenement abuts the eastern boundary of the Litchfield National Park and covers an area of 128.4 km². It lies between longitude 130.93ºE and latitude -13.27º S, and longitude 131.0ºE and latitude -13.02º S on the Pine Creek 1:250 000 map sheet (SD52-08) and the Reynolds River 1:100 000 map sheet (5071).

The project area comprises savannah woodland with localised patches of tropical forest lining creeks, as well as areas of open black soil plains and experiences a wet season from November–April and a dry season from May–October. The average rainfall is 677mm with a mean temperature of approximately 34º C.

Access to the tenement area is by the Stuart Highway and turning off toward Batchelor along the Litchfield Park road. The tenement is then accessed via gravel roads heading south and then west via various properties gates and tracks. The flat, relatively open country is generally accessible by 4WD. Access to the Giants Reef Prospect is via Chin Road (dirt track) travelling west to the Litchfield National Park fenced boundary. A track marks the boundary on both sides of the fence and is used to access both Giants Reef Prospect and the Giants Reef South Prospect. The Riverside North-east Prospect is accessed through Camp Creek Station. Northern access to the tenement is possible off Litchfield Park Rd via fire breaks along fence line.

3 REGIONAL GEOLOGY

The Waterhouse West project is situated around the Archaean Waterhouse Dome part of the historic Rum Jungle Mineral Field on the western side of the Pine Creek Orogen (Figure 2). The Archaean Rum Jungle and Waterhouse Complexes are domal structures containing mixed schist, gneiss, and granitic units and metasediments and Banded Iron Formations (BIF) assigned to the Stanley Metamorphics, upon which early Proterozoic sedimentation has taken place. The Proterozoic sedimentary sequences consist of repeated cycles which commence with the deposition of high energy conglomerate and sandstone, which fine upwards to shallow-water limestone.

In the western part of the Rum Jungle Mineral Field the oldest sedimentary rocks in the sequence are exposed against granitic contacts. These units belong to the basal Manton Group sediments which are overlain by the Mount Partridge Group. The basal member of the Mount Partridge Group is the Crater Formation, overlain by the Coomalie Dolostone, Whites Formation and Wildman Siltstone.

The units of the Mount Partridge Group are unconformably overlain by rocks of the South Alligator Group. The Koolpin Formation lies along the eastern edge of the project area and isolated outcrops of Zamu Dolerite have been mapped along the north eastern edge overlying the Koolpin Formation.
Overlying the South Alligator Group are sediments of the Burrell Creek Formation of the Finniss River Group. The formation consists of siltstone, shale and greywacke and extends through the western sector of the project area. The Geolsec Formation unconformably overlies the Finniss River Group and marks a period of deformation, metamorphism and granitic intrusions, resulting in uplift and erosion. The basal member of the Geolsec is a haematitic quartzite breccia unit which in places unconformably overlies the Coomalie Dolostone. The Late Proterozoic sandstones of the Tolmer Group unconformably overlie the Early Proterozoic sediments at Rum Jungle and elsewhere. These sandstones are essentially flat lying and were deposited upon erosional surfaces of the older rocks, with siliceous iron-rich breccias developed in places.

The Rum Jungle area within the Pine Creek Orogen has undergone greenschist facies regional metamorphism associated with the Nimbuwah Event of the Barramundi Orogeny (1860-1840Ma). A slight increase in metamorphic grade occurs along the boundary of the granitic complexes. Geological mapping by the Northern Territory Geological Survey (NTGS) has identified in order of seven deformational events occurring pre-Manton Group and post-South Alligator Group. The major structural feature of the region is the Giants Reef Fault. The Giants Reef Fault is a north-northeast to northeast trending dextral strike-slip structure with up to 7km lateral offset and >600m vertical movement, northwest-side down. It laterally displaces the Early Proterozoic sediments where structural trends are generally striking north–south but also swing concentrically around the two granitic complexes.

4 LOCAL GEOLOGY AND MINERALISATION

EL24563 is situated on the central, southern and western regions of the Archaean Waterhouse Dome. The core of the Waterhouse Dome comprises schist, gneiss and granitic units and blocks of the Stanley Metamorphics. Exposures of the Early Proterozoic sedimentary units include the Manton Group, Mount Partridge Group, South Alligator and Tolmer Group sediments which are folded around the margins of the granite dome.

Exposures of outcrop within the Waterhouse Dome are poorer than those of the Rum Jungle Dome due to areas of extensive surficial cover. Along the south-western margin of the Waterhouse Dome the stratigraphic correlations can be difficult due to a number of the units missing in the sequence and due to a series of northeast trending fault structures. The Whites Formation and the Wildman Siltstone are absent and in general the sediments thin in this area compared to the northern margin of the Waterhouse Dome and to the Rum Jungle Dome.

Along the south-west region of the Waterhouse Dome there are areas of outcropping, extensively brecciated, fault controlled Coomalie Dolostone. Previous mapping and drilling in this area has identified a major northeast trending thrust which repeats the Coomalie Dolostone South Alligator Group succession (Lally, 2002).

EL24563 also covers a portion of the north-western margin of the Waterhouse Dome. To the east outcropping Beestons Formation of the Manton Group sediments unconformably sits on top of the granites of the Waterhouse Dome and is overlain by the Crater Formation of the Mount Partridge Group. In this region the Whites Formation is preserved in conformable contact with the Coomalie Dolostone and both units show a thickening of stratigraphy compared to the southern margin.

Geology is steeply dipping to the southwest in the southern part of the tenement and towards the west in the north. The Giants Reef Fault cuts across the project area and offsets the northern tip of the Waterhouse Complex, exposed to the west is the Tolmer Group sediments.

Known mineralisation in the Rum Jungle Mineral Field has a close spatial relationship with the Coomalie Dolostone and Whites Formation contact. The Whites Formation is host to the uranium ores of the previously mined Dysons and Whites mines of the Embayment Group deposits.

Base metal mineralisation is associated with these deposits and also exists separately in the field, e.g. at the Intermediate Mine (copper), and at the Brown’s Deposit (copper, cobalt, nickel, lead, silver), also of the Embayment Group deposits.

Previous uranium exploration in the area has separated the Coomalie Dolostone into four rock units: siliceous and quartzitic rocks (usually formed over dolomite); tremolitic schist; unsilicified dolomite; and undifferentiated dolomitc sediments. The overlying Whites Formation is a carbonaceous schist unit which acts as an ideal reductant for uraniferous fluids.
Mineralisation is generally in structurally controlled environments, vein-style uranium where the Coomalie Dolostone is juxtaposed with the Whites Formation. Structures are therefore a focus for exploration of uranium within the project area.

Uranium and uranium-copper mineralisation was identified by Uranerz at the Kylie, SE-Kylie and Riverside prospects on the south-western Waterhouse Dome margin. Mineralisation is reported as being associated with D7 reverse faults and breccia zones within the Coomalie Dolostone beneath the Geolsec Formation. The faulted breccia zone is reported to be traceable for more than 5 kilometres.

There are three prospective uraniferous zones in the project area which Royal is focused upon. The first is situated along the south-western margin of the Waterhouse Dome, along a fault controlled unconformity that separates the brecciated units of the Coomalie Dolostone and the chlorite-altered meta-siltstones and shales of the South Alligator Group. The second is located along the western margin of the Waterhouse Dome, possible demagnetisation of a regional dolerite dyke which is faulted and transects the Giants Reef Fault. The third is located along the north-western boundary, the prospect lies within the core of the nose of an upright, vertical syncline plunging 45-55° to the north-east which is coincident with a weak but evident, airborne radiometric anomaly, where the western limb of the fold is cut by the Giants Reef Fault, the prospect is referred to as the Giants Reef Prospect.

5 PREVIOUS EXPLORATION

As reported by Aldershot (Annual Report 2008).

Parts of the project area were subjected to extensive exploration for uranium by the Bureau of Mineral Resources (BMR) in conjunction with Territory Enterprises Pty Ltd (TEP) in the 1950s and 1960s. The relevant BMR records for the area are available and cover geological mapping and geophysical surveys. Some diamond drill holes were sunk within the project area and are referred to in the BMR data but drill logs have not been located.

In the period 1977–83 major exploration programmes were conducted in the region by Uranerz Australia Pty Ltd (UAL) and CRA Limited. This exploration was driven by the results of the BMR–TEP exploration data and concentrated on anomalies outlined in that work on adjoining areas. In 1980–81 a zone of anomalous radioactivity was discovered in an area west of the Camp Creek Homestead called Riverside. Six RAB holes were drilled and one hole returned 150 ppm U3O8 and 250 ppm Cu, but the remainder were barren (Open File Report CR81/176).
Figure 1: Waterhouse West Project Location
Figure 2: Waterhouse West Project Regional Geology
UAL farmed into a group of contiguous tenements held by Mines Administration Pty Limited and aimed their exploration primarily at the discovery of uranium mineralisation with the knowledge that there was likely to be associated base metal mineralisation. In the period 1978–83 UAL conducted geological mapping, RAB and auger drilling for bedrock geochemical sampling, and geophysical surveys. This work defined the Hoppy Anomaly, a combined geochemical–geophysical anomaly which coincides with the axis of a weak electromagnetic anomaly. This had been located by the BMR exploration of the 1960s and was tested by six TEP diamond drill holes prior to 1967. Drill logs for these holes have not been located. Anomalous nickel, cobalt, copper and zinc values in bedrock samples exist over a strike length of 2500 metres with widths of up to a maximum of 500 m. The anomalous zone is elongate north–south, trends parallel to the mapped position of the Coomalie Dolostone – Masson Creek Formation contact, and is open to the south.

Six TEP diamond drill holes tested a similar contact position within ex EL6988 and about 1600 m north of the Hoppy Anomaly: no drill logs have been located. UAL carried out RAB drilling in this area but reported no anomalous results.

Further exploration was conducted by the Wells Family Syndicate who took up EL5429 in 1988. Reconnaissance geological traversing and geochemical rock-chip sampling was undertaken in the western portion of the area. A maximum value of 13 ppm Au was recorded from more than 100 samples with most samples below the limit of detection for gold (0.02 ppm). The 13 ppm Au value came from what is now known as the Ford Grid.

Exploration of the Hoppy Anomaly confirmed the earlier bedrock geochemical results. During 1991 Poseidon Exploration Limited explored the area for “Woodcutters” style mineralisation. A Sirotem survey was carried out to delineate conductors which were subsequently tested by two drill holes located approximately 500 m apart along strike. The holes confirmed that the source of the Sirotem response was foliated sheared graphitic sediments, and that the sequence contained sporadic, low-grade, base metal mineralisation (best intersection being 1.65 m at 11.9% copper, 1 g/t silver, with traces of nickel, cobalt and bismuth). Poseidon concluded there was little potential for “Woodcutters”-style deposits, but that the mineralisation was similar to that at Area 55.

The Central Electricity Generating Board (Australia) Pty Ltd (CEGBEA) conducted exploration for uranium within the general area from 1986–90. However, their major exploration effort concentrated to the east over the contact between the Rum Jungle Complex and the Lower Proterozoic sediments immediately west of Rum Jungle. CEGBEA conducted interpretation of the published aeromagnetic and radiometric data, commissioned colour aerial photography, flew an INPUT geophysical survey over 5 widely spaced lines, and carried out 4 regional ground magnetic and radiometric traverses. No major anomalies were delineated.

In 1989 prior to relinquishing the area, CEGBEA conducted helicopter-borne stream-sediment sampling for gold. A BLEG sample taken from a major tributary of the Finniss River west of Mount Fitch returned an anomalous value of 4.1 ppb gold. Re-sampling of the site was not undertaken due to a lack of trap sediment when revisited in 1990.

In 1990 Compass Resources N.L., in joint venture with CEGBEA, explored targets for base and precious metal mineralisation of the styles known at Whites and Dysons uranium deposits; and the intermediate copper deposit at Rum Jungle; deposits of the Brown’s lead–silver prospect type, the Mount Fitch and Mount Burton copper and uranium occurrences, and the Area 55 copper–lead occurrences.

In late November 1993 a discovery of copper–lead mineralisation hosted by a silicified dolomite was made. An outcrop zone measuring up to 10 m wide can be traced about 200 m along strike at this locality. Chalcopyrite, pyrite, galena, covellite and malachite are visible in the host rocks. Up to 15 volume % sulphides exist in hand specimen, but overall the proportion of sulphides is low. Out of 6 grab rock-chip samples collected from lines spaced 10 m apart at the northern end of the outcrop zone, 2 are reported to carry gold values above 0.5 ppm. Poor exposures of silicified dolomite have been recorded in 3 other localities.

The most significant gold prospect within the tenements is the Ford Grid: an arsenic anomaly 800 m long and up to 110 m wide, well-defined by auger soil samples greater than 1000 ppm As. The original gold rubble sample that ran 13 ppm Au found by the Wells Syndicate work has not been duplicated.
6 EXPLORATION AND RESULTS

Exploration activities during the reporting period comprised the following:

- Ongoing review of historical reports and compilation of past field work;
- Field reconnaissance to assist in access around the tenement area;
- Clearance in order to create access tracks and drill lines;
- Air core drilling and gamma logging of 35 drill holes.
- Assaying of selected samples

6.1 Clearance of drill pads and access to drill sites

A track was cleared from Litchfield Park Road along fence lines to gain access to the drill sites. Ten drill lines were cleared in three different areas: one line to the north, six lines in the centre and three lines to the south (Figure 3).

6.2 Air Core drilling of Giants Reef Prospect

Drilling at Waterhouse West commenced on the 4th of November. The drill rig utilised was a WASDRILL 400D mounted on the back of a six-wheel Landcruiser ute. Thirty-five holes were drilled over four days for a total of 863m. The program was terminated on Tuesday the 8th of November due to significant rain the previous night.

7 DISCUSSION OF RESULTS

All holes were gamma logged after drill rods were removed. Holes with above background intersections included WWAC006, 9, 10, 12, 17, 18, 19, 20, 29, 30 and WWAC032. Only 5 of these 11 intersections had above background uranium assays. Holes WWAC006, 009, 017, 030 and 032 had above background uranium values, averaging around 40ppm in the best intersections. The highest uranium assay was 76.2ppm U in hole WWAC017 @ 3-4m. These uranium values are far below economic grade.

WWAC032 had anomalous Cu, Pb and Zn values from 0-5m which were above detection limit. Upon re-assay values were up to 511ppm Cu, 2690ppm Pb and 1450ppm Zn. The top 5 metres for hole WWAC032 was 0-2 metres of ferricrete and 2-5 metres of moderately weathered schist with a sheared fabric. Below the schist was tourmaline-bearing pegmatite. To the north of the tenement area the Hoppy Prospect also demonstrates this type of anomalism following tourmaline development, with Cu intercepts as high as 11.9%.

Outcropping around the middle area of Target Area B was a muscovite-bearing boudinaged migmatite unit. This unit was logged in most of the holes below the ferricrete in the middle and southern holes of Target Area B. To the east of Target Area B the granite contacts were constrained (Holes WWAC008, 20, 25, 26, 33).

In the two holes that were drilled in Target Area C (northwest of group), siltstone, granite and dolomite was found from top to bottom.

8 CONCLUSIONS AND RECOMMENDATIONS

The Waterhouse West Project is situated within the Rum Jungle Uranium Mineral Field. The area is prospective for unconformity-type uranium mineralisation and vein-hosted uranium mineralisation along the western and south-western margins of the Waterhouse Dome where a number of previously identified prospects are situated. The drilling targeted the contact of a coarse granite unit from the Rum Jungle complex with and dolostone units from the Mount Partridge group.

Further work recommended for the Waterhouse West Project includes:

- Completion of drill lines to the south (Target area C).
- Completion of drill lines to the north (Target area A).
- Possible follow-up drilling of tourmaline-bearing pegmatite unit.
Figure 3: Waterhouse West Project Drill Hole Locations
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10 REFERENCES


RUM JUNGLE WEST – HOPPY ANOMALY

Anon, 1979, Annual Report on Exploration over EL 1296, Rum Jungle Area, Northern Territory, Uranerz Australia Limited, Perth. CR79/100


Central Electricity Generating Board Exploration (Australia) Pty Ltd, 1989, EL 4879, Report to NTDME. CR 89/565


Uranerz Australia Limited, Various company reports submitted to the NTDME between 1978 and 1985 namely:

| CR 78/93 | - | EL 1295 |
| CR 79/100 | - | EL 1618, EL 1296 |
| CR 80/136 | - | EL 1296 |
| CR 81/175 | - | EL 1296 |
| CR 82/238 | - | EL 1296 |
| CR 83/189 | - | EL 1297 |
| CR 83/188 | - | EL 1296 |
| CR 85/211 | - | EL 1901 |
Digital appendices to accompany report

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EL24563_2011_A_04_DHAssay .txt
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