PROJECT NAME: Quartz Hill Project

TENMENT NUMBER: EL26048

HELD BY: Newera Uranium Limited

MANAGER & OPERATOR: Newera Uranium Limited

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ABSTRACT:

Location: EL 26048 is located about 150 km ENE of Alice Springs and 28 km SE of the Harts Range settlement. The tenement falls within Newera's Quartz Hill project area.

Geology: The Project lies within the eastern Arunta Region in the southern NT, towards the western flank of the Entia Dome.

Work Done: open file research, airborne magnetics and radiometrics acquisition, processing and interpretation, Ikonos and Landsat TM acquisition, processing and interpretation, GIS review and target generation.

Results: The work done located a number of interesting target areas for both uranium and base metal mineralisation. However, some limited field work by Newera reduced the prospectivity of the tenement.

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Summary

EL 26048 is located about 150 km ENE of Alice Springs and 28 km SE of the Harts Range settlement (Figure 1). The tenement falls within Newera's Quartz Hill project area.

The Project lies within the eastern Arunta Region in the southern NT, towards the western flank of the Entia Dome.

Exploration activities carried out within the total reporting period includes open file research, airborne magnetics/radiometrics acquisition and interpretation, Ikonos and Landsat TM acquisition and interpretation, GIS interpretation and target generation.

During the total reporting period, work continued capturing the available historical geochemistry from open file reports into the Newera access database, however following the collapse of funding, following the Global Financial Crisis, Newera Uranium Limited decided to reduce the number of company tenements and only maintain and progress our high priority tenements.

So while the tenement appears to be prospective for U, Cu, Zn, Pb and possibly Ni, in August 2009, Newera Uranium Limited decided to relinquish EL 26048 together with three other Exploration Licences of the Quartz Hill Project area, EL 26046, EL 26047 and EL 25674.

1.0 Introduction

EL26048 is located about 150 km ENE of Alice Springs and 28 km SE of the Harts Range settlement (Figure 1). The tenement falls within Newera's Quartz Hill project area.

Access is good with the major graded tourist route of the Ross Highway to the Arltunga Tourist Camp, then after Arltunga there is a graded road north to the Claraville, there after are a number of station tracks which head north east to the tenement and across the northern portion of the tenement. Access to the southern portion of the tenement is restricted to helicopter access or by foot.

The nearest medical clinics and RFDS-rated airstrips are located at Harts Range. Additional light aircraft-capable airstrips are located at Claraville.

2.0 Tenement Status

Exploration Licence 26048 was granted to Newera Uranium Ltd on 26 November 2007 and Newera is the manager and operator of the tenement.

The exploration licence is within the Arunta Region and covers an area of 32 km².

Table 1: Tenement Details

Tenement No.	Area	Holder	Manager	Granted	Commitment
EL 26048	10 blocks	Newera Uranium Ltd	Newera Uranium Ltd	26/11/07	\$30,000



Figure 1: Location Map

3.1 Regional Geology

The Quartz Hill Project area is situated towards the SE extent of the Arunta Inlier. This inlier is a complex of high grade metamorphic sedimentary and igneous rocks, located at the southern margin of the North Australian Craton. The contact with the Central Australian Craton is overlain by the Neoproterozoic Amadeus Basin (Figure 2).



J. Foden et al. / Precambrian Research 71 (1995) 207-227

Figure 2: Regional Map of the Arunta Inlier.

The Arunta complex is transected by a series of regional and local scale east-west and northwest-southeast trending faults, which have been the loci of multiple phases of north-over-south thrusting during the Proterozoic and later the Carboniferous Alice Springs Orogeny. This orogeny was responsible for retrograde metamorphism along the east-west structures, more widespread in the Harts Ranges than in the Central Province where it is intensely focussed on these structures. Metamorphic grades range from greenschist to granulite in the Northern Province and from amphibolite to granulite in the Central and Southern Provinces, with greenschist grades being associated with the retrogression in the south and central provinces.



Figure 3: BMR (1985) Illogwa 1:250,000 Geology

Stratigraphy is largely overprinted by the structural thrusting and the division of the Inlier into structural provinces, but there are divisions of groups based on age dating and relationships. The older basement rocks have been considered to be the Strangways Metamorphic Complex, but age dating by AGSO suggests the Weldon and Aileron Metamorphics in the Napperby area to the west may be older.

The Harts Range Group in the south eastern Arunta is essentially a pelitic and calcareous metasedimentary assemblage metamorphosed predominantly to amphibolite facies. The basal unit, the Entia Gneiss, has attained granulite facies but has been retrogressed to amphibolite facies and affected by the Palaeozoic Alice Springs Orogeny. The bulk of the Harts Range Group, the Irindina Gneiss and the younger Brady Gneiss, show little evidence of having exceeded amphibolite facies and are clearly younger than the Entia Dome (Figures 3 & 4). The Bruna Gneiss, a felsic intrusive, or less likely a part-extrusive porphyroblastic rock, has been dated at 1750Ma but this date only puts a minimum age to the sequence.

Post-orogenic platform cover sediments are sporadically distributed throughout the Arunta Inlier. At least three age groups were named but the Hatches Creek Group (1

830-I800Ma) and the Reynolds Range Group (1820-1780Ma) are now both considered SMC equivalents. The Simpsons Gap Metasediments of the Iwupataka Metamorphic Complex (1660Ma) are truly covered.

The youngest sediments are the neo-proterozoic Amadeus Basin to the south and the Ngalia Basin in the centre (Figure 2), which cover substantial portions of the Inlier.

The Arunta Inlier has a complex and virtually continuous history of igneous activity. There are at least six major recorded felsic igneous intrusive episodes. Of these the Ngadarunga Granite (1880Ma), the Napperby-Huckitta-Jervois Granites (1780-1760Ma) and the Yarangunyi Granite (1600-1570Ma) are the most extensive and geologically most important. Other recorded igneous events, of relatively small areal extent, are the Andrew Youngs Igneous Complex (I635Ma), Mordor Igneous Complex (1200Ma), Stuart (mafic) Dyke Swarm (1050Ma), Gum Tree Granite (990Ma), Mud Tank Carbonatite (730Ma) and the Harts Range Pegmatites (520,400Ma).

4.0 Exploration History

PNC began their exploration of the Quartz Hill area (then known as EL 8036) in 1992. Prior work to that had been poorly recorded mica mining from the depression era, with re-opening of the mica mines allegedly using POW labour during the war. Many of the Italians who had worked here during the war may have returned in the post-war era, as the anecdotal evidence from prospectors and station managers in the area is that much of the post-war work in what would have been very isolated, primitive and remote camps was carried out by the newly immigrated Italian community.

Some geological work had been done on the mica mines however, as PNC report that one of the mica mines on the Quartz Hill project was known to contain uraniferous minerals. This was probably related to the burst of exploration for uranium that occurred shortly after the war in the 1950's, but the relevant research paper has not been located to date by Newera.

PNC initially flew airborne radiometrics, by both Kevron and Geoterrex, and followed up the data in 1993-4. Their 1996 surrender report (Drake-Brockman et al) copies directly from their 1994 Annual report (Drake-Brockman, 1995). In general their work consisted of large-scale airborne magnetic and radiometric surveys followed by ground mapping and rock chip sampling.

Follow-up of two airborne anomalies resulted in the discovery of the Quartz and Feldspar pegmatite prospects (Figure 4).

Quartz Hill was a priority 1 anomaly on the "quartz blow" outcrop known as Quartz Hill. Ground checks located hotspots within soil and quartz scree and on the pegmatite vein near the spur of the ridge, and historically, a small pit had been blasted on the pegmatite. Copper has been indicated on the Geol Survey map at Quartz Hill but PNC found none, whereas they located uranium rich samarskite intergrown with uraninite and coffinite, with some alteration to uraniferous tanteuxenite. Samples were in what they reported as "brecciated pegmatite".

Feldspar was a strong anomaly caused by float of a uranium rich mineral associated with a large E-W pegmatite. The mineral was massive, black, glassy, had a conchoidal fracture and didn't show weathering. It was identified as a Y-Nb>U mineral of the fergusonite series plus alteration products. They found only one anomaly roughly 30 X 30 m in extent and claimed it was caused by a small mineral occurrence spread by movement of float downhill, though they did mention other hot-spots. The mineral assayed 6.8% U. Further prospecting was limited.



Figure 4: PNC map of the Harts Range and Entia Dome complex (Drake Brockman et al 1996)

5.0 2008 and 2009 Exploration Programmes

Exploration activity undertaken on EL 26048 during the reporting period includes:

- Open file research and database compilation
- Aboriginal Areas Protection Authority Certificate for Mineral Exploration
- Airborne Magnetics, Radiometrics acquisition and interpretation
- Ikonos acquisition and interpretation
- Landsat acquisition, processing and interpretation
- GIS-Geology interpretation

During the 2008 reporting period, a field trip conducted in late November 2008 utilising a Bell Jet Ranger to gain access to the Quartz Hill project area failed to access EL26048 due to poor weather conditions. Approaching thunderstorms and lightning caused the field trip to be abandoned early before areas of interest within EL 26048 were visited.

5.1 Open file research and database compilation

During the 2008 and first reporting period for this tenement, CSA Australia was commissioned by Newera to summarise previous exploration efforts across the Quartz Hill project.

They concluded that the area was prospective for base metals, Nickel, Rare Earth Elements (REE's) and uranium. They summarised the findings from various reports and found that of all the work done, that undertaken by PNC Australia is by far the most exhaustive and of the greatest value. A large tenement holding which included Newera's exploration licence areas were explored by PNC Australia in the mid 1990s. It was noted that the work carried out by this company used the latest instruments available at the time and was managed by skilled and experienced geologists who reached correct conclusions based on the data collected and for the time in which they operated. PNC abandoned the project despite some of the good results obtained.

5.2 Aboriginal Areas Authority Certificate

The application for the Authority Certificate for Mineral Exploration from the Aboriginal Areas Protection Authority was dated 22 November 2007. The information meeting between the Central Land Council (CLC) and company representatives from Newera, as well as a site visit by the CLC representatives, occurred during May 2008. A little over eleven months after application, an Authority Certificate, dated 27 October 2008, covering Newera's Quartz Hill project, including EL26048, was issued to Newera Uranium Limited.

5.3 Airborne Magnetics & Radiometrics Acquisition

Southern Geoscience Consultants (SGC) acquired publicly available Magnetics and Radiometrics data from the Geoscience Australia data download facility on the website or from the NTGS. SGC has merged and reprocessed the images as required.

5.4 Ikonos Acquisition

Ikonos imagery was purchased from Terranean Mapping Technologies to cover all tenements within the Quartz Hill project area (Figure 5). These images have been previously supplied to the NTGS to assist in the geological mapping of the Quartz Hill area.



Figure 5: Ikonos Imagery over Quartz Hill Project area including EL26048.

5.5 Landsat Acquisition and Processing

Landsat TM scenes were acquired by EarthScan Pty Ltd, merged and processed to produce 14 Mapinfo images mapping the various channels and useful ratios (Table 2).

Landsat Mapinfo File Name	Description		
Mosaic_Bands742b.tab	Channels 7, 4, 2 mapped to RGB – Good Lithology		
Mosaic_Bands753b.tab	Channels 7, 5, 3 mapped to RGB – Good Lithology		
Mosaic_Bands532b.tab	Channels 5, 3, 2 mapped to RGB – Good Lithology		
Mosaic_RatioFeclay.tab	Ratios 5/7, 4/5, 4/3 – Alteration & Stratigraphy		
Mosaic_RatioFeclay_pan.tab	As above with PAN merged		
Mosaic_RatioLatrat.tab	Ratios 5/7, 4/5, 4/2 - Structure		
Mosaic_RatioLatrat_pan.tab	As above with PAN merged		
Mosaic_RatioNev.tab	Ratios 5/7, 5/4, 3/1 – Alteration, Stratigraphy & Structure		
Mosaic_RatioPWrat.tab	Ratios 7/4, 5/3, 4/1 – Alteration & Structure		
Mosaic_RatioPWrat_pan.tab	As above with PAN merged		

Table 2: Details of the Landsat Images

5.6 GIS-Geology Review

Following the acquisition and processing of the airborne magnetics, radiometics and Landsat TM datasets, a GIS/Geological review was conducted to assess possible exploration targets for the planned November 2008 field trip to the Quartz Hill area.

Four uranium targets were highlighted from the radiometrics images (Figure 6) that warranted field mapping and rock chip sampling. There were also several potential base metal targets highlighted in the TM753 image (Figure 7) with the corresponding BMR mapped mafic lithologies (Figure 8) that warranted a field visit.

Due to inclement weather at the organised time of the helicopter-assisted field trip in November 2008, the Newera field team were prevented from visiting any of the target areas. However these targets remain valid.



Figure 6: Radiometrics Uranium channel showing priority uranium (red) & base metal (blue) targets



Figure 7: Landsat TM753 showing priority uranium (red) & base metal (blue) targets



Figure 8: Illogwa 1:250,000 Geology showing priority uranium (red) & base metal (blue) targets

5.7 Rehabilitation of Disturbed Areas

No areas within the tenement EL 26048 incurred ground disturbance by Newera Uranium Limited or any contractors for Newera. Therefore no areas have been rehabilitated.

6.0 Conclusions

Following the first year of image acquisition, processing and GIS examination, the areas of interest highlighted in section 5.6 required follow up interpretation, investigation and field assessment. In early 2009 due to the Global Financial Crisis, the Newera Uranium Limited company priorities changed and by August 2009 Newera surrendered EL 26048.

The tenement appears to be prospective for U, Cu, Zn, Pb and possibly Ni.

7.0 References

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