PARTIAL RELINQUISHMENT REPORT

ALARA JV PROJECT

EL24879

NGALIA BASIN
NORTHERN TERRITORY

TENEMENT HOLDER: Strike Resources Limited (75%)
Hume Mining NL (25%),

OPERATOR: Thundelarra Exploration Ltd

AUTHOR: Zia U. Bajwah
October 2012

DISTRIBUTION: NT Dept of Resources
Element 92 Pty Ltd/Thundelarra Exploration Pty Ltd
Exploration License (EL) 24879 is located approximately 330km northwest of Alice Springs in the Ngalia Basin, and covers 54 blocks (171.59 km²). On 14th May, 2009, Thundelarra Exploration Limited entered into a formal joint venture with Alara Resources Limited to earn a 70% interest in EL24879. Of the 54 blocks, a total of 27 blocks of the EL were surrendered in order to meet the NT Mining requirement.

EL 24879 is located within the Ngalia Basin, a Neoproterozoic to Palaeozoic intracratonic basin approximately 300 km long and 70 km wide within the Northern Arunta Province of the Arunta Inlier, in central-south of the Northern Territory. The Mount Eclipse Sandstone is the main geological unit exposed in the area and consists of arkoses, conglomeratic sandstones, greywacke and minor conglomerates deposited in piedmont to subaerial-fluvial environments. The sequence contains a significant carbonaceous component with common plant fossils. Uranium mineralisation of the Ngalia Basin is hosted in piedmont-style sedimentary channels, composed of carbonaceous arkoses located towards the base of the Mount Eclipse Sandstone. The primary source of the uranium is inferred to be the younger granites of the Arunta Inlier.

During the tenure of surrendered blocks, a comprehensive data review of the project area was undertaken such as open-file historical exploration reports, recovery of seismic and geophysical data and night-time Aster data. In addition a number of field visits were also undertaken for ground-truthing. A technical review of this information revealed that some part of the project area has no mineral potential. In order to meet NT Mining Act, 27 blocks of the EL were surrendered.
TABLE OF CONTENTS

SMMARY 2
1.0 Introduction 4
2.0 Location and Access 4
3.0 Tenement Details 4
4.0 Geological Setting 7
5.0 Historical Work 9
5.0 Exploration Program During the years Under Review 9
6.0 References 11

LIST OF FIGURES

Figure 1: EL 24879 – Relinquished area of the EL is shown by maroon Crossed-lines.
Figure 2: Geological setting of the project area and surrounds
Figure 3: Location of seismic lines in relation to relinquished part of EL 24879
Figure 4: Night time ASTER surface temperature image mosaic of the relinquished part of EL 24879

LIST OF TABLE

Table 1: Relinquished graticule blocks of EL 24879
1. INTRODUCTION

Exploration License (EL) 24879 covers 54 blocks (171.59 km²) and is located approximately 330 km northwest of Alice Springs in the Ngalia Basin. On 14\textsuperscript{th} May, 2009, Thundelarra entered into a formal joint venture with Alara Resources Limited to earn a 70% interest in EL24879. This partial relinquishment report is provided to meet the NT Mining requirements.

2. TENEMENT LOCATION

The EL is located about 1280 km south of Darwin and 330 km northeast of Alice Springs within Mount Doreen sheet (Figure 1). It is situated NW part of Mount Doreen (1:250,000) and can be accessed via Sturt highway from Darwin or Alice Springs. Tanami Road leads off about 110 km NW of Alice Springs, and then by either the Newhaven or Vaughan Springs roads to Nyirrpi. A track then leads from just west of the Nyirrpi air strip north along Waite Creek, which is just west of the western limit of the License.

The Mount Doreen has a semi-arid climate with low and erratic rainfall. The average rainfall is about 280 mm per year. Most of the rain falls during summer months. Evaporation from exposed water is generally 10 times the annual rainfall. Winters are generally cold with some frost days during June and July.

3. TENEMENT DETAILS

EL 24879 was applied for on 29 August 2005 and was granted 8 August 2006 for a period of six years to Hume Mining NL. Originally, it had 82 blocks covering approximately 260.9 km². In 2009, tenement owner (Strike Resources Limited 75%, Hume Mining NL 25%) entered into JV agreement with Thundelarra Exploration Limited. By virtue of this agreement, Thundelarra Exploration Limited earned 70% interest in the tenement.

To meet NT Mining Act requirement, 28 blocks (171.59 km²) of EL 24879 were relinquished in 2011. In the following year another lot of 27 blocks are surrendered (Figure 1). List of surrendered blocks is given below and now the tenement has 27 blocks.
Table 1: Relinquished graticule blocks of EL 24879

<table>
<thead>
<tr>
<th>Grid_ID</th>
<th>BIM</th>
<th>Block</th>
<th>Sub_Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF522004N</td>
<td>SF52</td>
<td>2004</td>
<td>N</td>
</tr>
<tr>
<td>SF522004O</td>
<td>SF52</td>
<td>2004</td>
<td>O</td>
</tr>
<tr>
<td>SF522005U</td>
<td>SF52</td>
<td>2005</td>
<td>U</td>
</tr>
<tr>
<td>SF522006Q</td>
<td>SF52</td>
<td>2006</td>
<td>Q</td>
</tr>
<tr>
<td>SF522004Z</td>
<td>SF52</td>
<td>2004</td>
<td>Z</td>
</tr>
<tr>
<td>SF522005V</td>
<td>SF52</td>
<td>2005</td>
<td>V</td>
</tr>
<tr>
<td>SF522005W</td>
<td>SF52</td>
<td>2005</td>
<td>W</td>
</tr>
<tr>
<td>SF522005X</td>
<td>SF52</td>
<td>2005</td>
<td>X</td>
</tr>
<tr>
<td>SF522076A</td>
<td>SF52</td>
<td>2076</td>
<td>A</td>
</tr>
<tr>
<td>SF522076E</td>
<td>SF52</td>
<td>2076</td>
<td>E</td>
</tr>
<tr>
<td>SF522077A</td>
<td>SF52</td>
<td>2077</td>
<td>A</td>
</tr>
<tr>
<td>SF522077B</td>
<td>SF52</td>
<td>2077</td>
<td>B</td>
</tr>
<tr>
<td>SF522077C</td>
<td>SF52</td>
<td>2077</td>
<td>C</td>
</tr>
<tr>
<td>SF522078A</td>
<td>SF52</td>
<td>2078</td>
<td>A</td>
</tr>
<tr>
<td>SF522075K</td>
<td>SF52</td>
<td>2075</td>
<td>K</td>
</tr>
<tr>
<td>SF522076F</td>
<td>SF52</td>
<td>2076</td>
<td>F</td>
</tr>
<tr>
<td>SF522076G</td>
<td>SF52</td>
<td>2076</td>
<td>G</td>
</tr>
<tr>
<td>SF522076K</td>
<td>SF52</td>
<td>2076</td>
<td>K</td>
</tr>
<tr>
<td>SF522077F</td>
<td>SF52</td>
<td>2077</td>
<td>F</td>
</tr>
<tr>
<td>SF522075N</td>
<td>SF52</td>
<td>2075</td>
<td>N</td>
</tr>
<tr>
<td>SF522075O</td>
<td>SF52</td>
<td>2075</td>
<td>O</td>
</tr>
<tr>
<td>SF522075P</td>
<td>SF52</td>
<td>2075</td>
<td>P</td>
</tr>
<tr>
<td>SF522076L</td>
<td>SF52</td>
<td>2076</td>
<td>L</td>
</tr>
<tr>
<td>SF522076M</td>
<td>SF52</td>
<td>2076</td>
<td>M</td>
</tr>
<tr>
<td>SF522077M</td>
<td>SF52</td>
<td>2077</td>
<td>M</td>
</tr>
<tr>
<td>SF522077N</td>
<td>SF52</td>
<td>2077</td>
<td>N</td>
</tr>
<tr>
<td>SF522077O</td>
<td>SF52</td>
<td>2077</td>
<td>O</td>
</tr>
</tbody>
</table>
4. GEOLOGICAL AND STRUCTURAL SETTING

The Ngalia Basin is a Neoproterozoic to Palaeozoic intracratonic basin approximately 300km long and 70km wide within the Northern Arunta Province of the Arunta Inlier, in central-south of the Northern Territory. The Ngalia Basin is an asymmetric syncline with a steep tectonised northern boundary and a shallow northerly dipping unconformity forming the southern basin boundary. The northern boundary is defined to the east by low angle thrust faults over the Arunta Inlier and to the west by high-angle reverse faults that have thrust the basement rocks several kilometres over the sediments.

The region has been tectonically active since before 1880Ma with several tectonic events and phases of granitic intrusions up to 1000Ma. Granites and metamorphic rocks have provided the source material for subsequent sedimentation.

The younger post-tectonic granites, particularly the Southwark Granite Suite dated at 1567Ma are believed to be the origin of the uranium for the known uranium mineralisation in the region. Wholerock chemical analysis of 18 samples from these
late granites are recorded as having uranium contents varying from 1.5-22.5ppm, thorium ranged from 3-175ppm and vanadium typically from 3-57ppm. In contrast, 8 samples from the older granites ranged in uranium content from 1.5-10ppm and vanadium from 20-90ppm. In general the geochemistry of these late granites is consistent with other high-heat production group (i.e. radiogenic) granites of the Arunta Inlier.

The Neoproterozoic to Carboniferous sedimentary sequences of the Ngalia Basin range in age from 850 - 350Ma. The Basin rests unconformably over the Arunta Inlier. The sediments of the Neoproterozoic are 2-3km in thickness and composed of dominantly fluvial to shallow marine quartz sandstones, shales, mudstones, conglomerates, dolomites and tillites. The transition from the Neoproterozoic to the Cambrian occurs within the 700m thick Yuendumu Formation of sandstone and arkosic sandstone formed in shallow marine conditions. Three further sequences of shallow marine to fluvial sediments, each unconformable upon the underlying sediments, were deposited during the Cambrian, Ordovician and Devonian periods.

The youngest and thickest Palaeozoic sedimentary sequence is the thick Devonian to Carboniferous Mount Eclipse Sandstone, up to 2.4km thick, which is deposited unconformably on all underlying Ngalia Basin units. In the region around the Bigrlyi uranium deposits the Mount Eclipse Sandstone overlies the Neoproterozoic age Vaughan Springs Quartzite, the oldest unit in the Ngalia Basin overlying the rocks of the Arunta Inlier.

Uplift and erosion of the Arunta Inlier rocks to the north of the Ngalia Basin between 350-370Ma initiated the deposition of the Mount Eclipse Sandstone. This deposition was terminated at the peak of the Alice Springs Orogeny, possibly about 300-320Ma. At this time the Yuendumu, Waite Creek, Patty Hill, Napperby and Hann Range thrust faults were active, thrusting the Arunta Inlier rocks southward over the Ngalia Basin rocks. This overthrusting is associated with the asymmetric folding of the Mount Eclipse Sandstone sequence with east to west axes and steep north-facing limbs.

The Mount Eclipse Sandstone consists of arkoses, conglomeratic sandstones, greywacke and minor conglomerates deposited in piedmont to subaerial-fluvial environments (Figure 2). The sequence contains a significant carbonaceous component with common plant fossils. Uranium mineralisation of the Ngalia Basin is hosted in piedmont-style sedimentary channels, composed of carbonaceous arkoses.
located towards the base of the Mount Eclipse Sandstone. The primary source of the uranium is inferred to be the younger granites of the Arunta Inlier.

Overlying unconsolidated sediments obscure parts of the prospective Mount Eclipse Sandstone within the Alara tenement block, however they represent a potential trap site for uranium mineralisation that is sourced from the Mt Eclipse Sandstone. The Tertiary sequence in this area is poorly described; however the Tertiary basins in the Alice Springs area are thought to be the result of two distinct periods of deposition (Senior et al 1994, Wyche 1983). The Lower Tertiary consists of an upward fining sequence, with flowing channel sands at the base locally capped by dark grey & black carbonaceous mudstones and green, white or dark grey swelling clays. A zone of calcrete, silcrete or laterite separates this sequence from pervasively oxidised and locally magnetic Upper Tertiary sands, gravels, clays and massive gypsum beds.
5.0 HISTORICAL WORK

A number of historic exploration licenses coincide with the present area of EL24879. Most of the work on these historic licenses did not involve exploration within EL24879. However, two companies did report the results investigations within the license area, including:

- CPM, on ELs 360 and 402, undertook a regional track-etch survey. No anomalies were detected within EL24879.
- AGIP, on EL1200 drilled two percussion holes (CFP 12 & 13). These holes were designed to follow-up seismic shot-hole cuttings in which apparently prospective “white facies” of the Mt Eclipse Sandstone were identified. Both hoes were drilled to 100m and gamma-logged, however no mineralisation was intersected.

A number of seismic lines were surveyed by Magellan in 1971 on OP165, with at least 10 of these lines covering EL24879.

6.0 EXPLORATION PROGRAM DURING THE YEARS UNDER REVIEW

During the tenure of the surrendered blocks, Element 92 Pty Limited undertook comprehensive data review which involved search from open-file historical exploration reports and other open-file domains such as Aster-Night Time data, geophysical data from Government agencies and seismic lines which have been conducted by petroleum companies. In addition, a number of field visits were undertaken for ground-truthing.

Literature search revealed that clastic sediments with carbonaceous material are appropriate sandstone lithologies for hosting uranium mineralisation. Thundelarra Exploration will test both overlying unconsolidated and rocks of Mt Eclipse Sandstones for uranium mineralisation.
Work during the quarter included the recovery of digital seismic data from Magellan Petroleum’s vaults in Brisbane. This has been transcribed onto modern media with data recovery specialists in Perth. The tapes were then handed over to the NTGS, along with a copy of the recovered data. 15 seismic lines have been surveyed over the license area (Figure 3).

Figure 3: Location of seismic lines in relation to relinquished part of EL 24879

A selection of night-time ASTER images was made from searches of the USGS Glovis website. The corresponding images were ordered from the NASA Land Processes Distributed Active Archive Centre. The ASTER Level 2 AST08 product provides land surface temperatures from data collected during the night time. The temperatures are determined from Planck's Law, using the emissivities calculated after correction of the measured radiances for atmospheric effects (all conducted by the GDC using their standardised processing procedures). A false-colour temperature mosaic was then prepared using ER Mapper software, and output as a raster image for use in MapInfo and Figure 3 shows the image in the relinquished part of the project area.
Figure 4: Night time ASTER surface temperature image mosaic of the relinquished part of EL 24879.

Review work conducted so far revealed that blocks shown in Table 1 have no mineral potential and it was decided to surrender these blocks in order to meet NT Mining Act.

7.0 REFERENCES


