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FINAL REPORT ON EL 24879

NGALIA BASIN

NORTHERN TERRITORY

Report No: BG/2013/09-1

Date: September 2013 (revised 14 February 2014)

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BIBLIOGRAPHIC DATA SHEET

PROJECT NAME:	Bigrlyi South Uranium Project
REPORT TITLE:	Final Surrender Report EL24929 Ngalia Basin, Northern Territory
REPORT TYPE:	Final
TARGET COMMODITY:	Uranium
HOLDERS:	Strike Resources Limited (75%) and Hume Mining NL (25%)
OPERATOR:	Alara Resources Limited
TENEMENT:	EL 24879
REPORT PERIOD:	15 August 2006 to 10 July 2013
1:250,000 SHEET AREA:	MT DOREEN (SF5212)
1:100,000 SHEET AREAS:	DOREEN (5313) & VAUGHAN (5053)
AUTHOR:	Ganesh Krishnamurthy and Zia Bajwah
DATE OF SUBMISSION:	September 2013 (Revised 14 February 2014)

ABSTRACT

EL 24879 is located about 300 km NW of Alice Springs and is a part of Bigrlyi South Uranium Project which also comprises EL 24928 and EL 24929. The Licence has 27 blocks.

The tenement EL24879 is situated within the Ngalia Basin, 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. Uranium mineralisation has been detected in the uppermost unit of the Basin – the Mt Eclipse Sandstone.

In September 2007, Alara conducted airborne radiometric and magnetic survey. Subsequent field traverses to check on anomalies did not generate any drill targets.

In May 2009, Alara entered into a Joint Venture agreement with Thundelarra Limited to manage exploration on EL24879. Thundelarra carried out data compilation, airborne gravity survey (November 2010) and interpretation. Significant amount of historical data was retrieved and compiled for assessment. Historic work of relevance had been identified to-date includes track etch surveys by CPM and percussion drilling by AGIP. Processing and interpretation of geophysical data did not identify any significant targets for further exploration. Thundelarra withdrew from the joint venture in June 2013.

Based on the assessment of previous work undertaken on the tenement and exploration prospectivity, Alara decided to surrender this EL24879 in July 2013.

TABLE OF CONTENTS

LIST OF FIGURES

1. INTRODUCTION AND TENURE

Exploration License (EL) 24879 covering 27 blocks (85 km^2) was granted on 15 August 2006 for 6 years expiring on 14 August 2012. After partial surrender the tenement was extended for another year till 14 August 2013. Alara conducted exploration till April 2009 and then entered into a farm-in Joint Venture agreement with Thundelarra Limited in May 2009. Thundelarra undertook exploration thereafter but terminated the joint venture in June 2013.

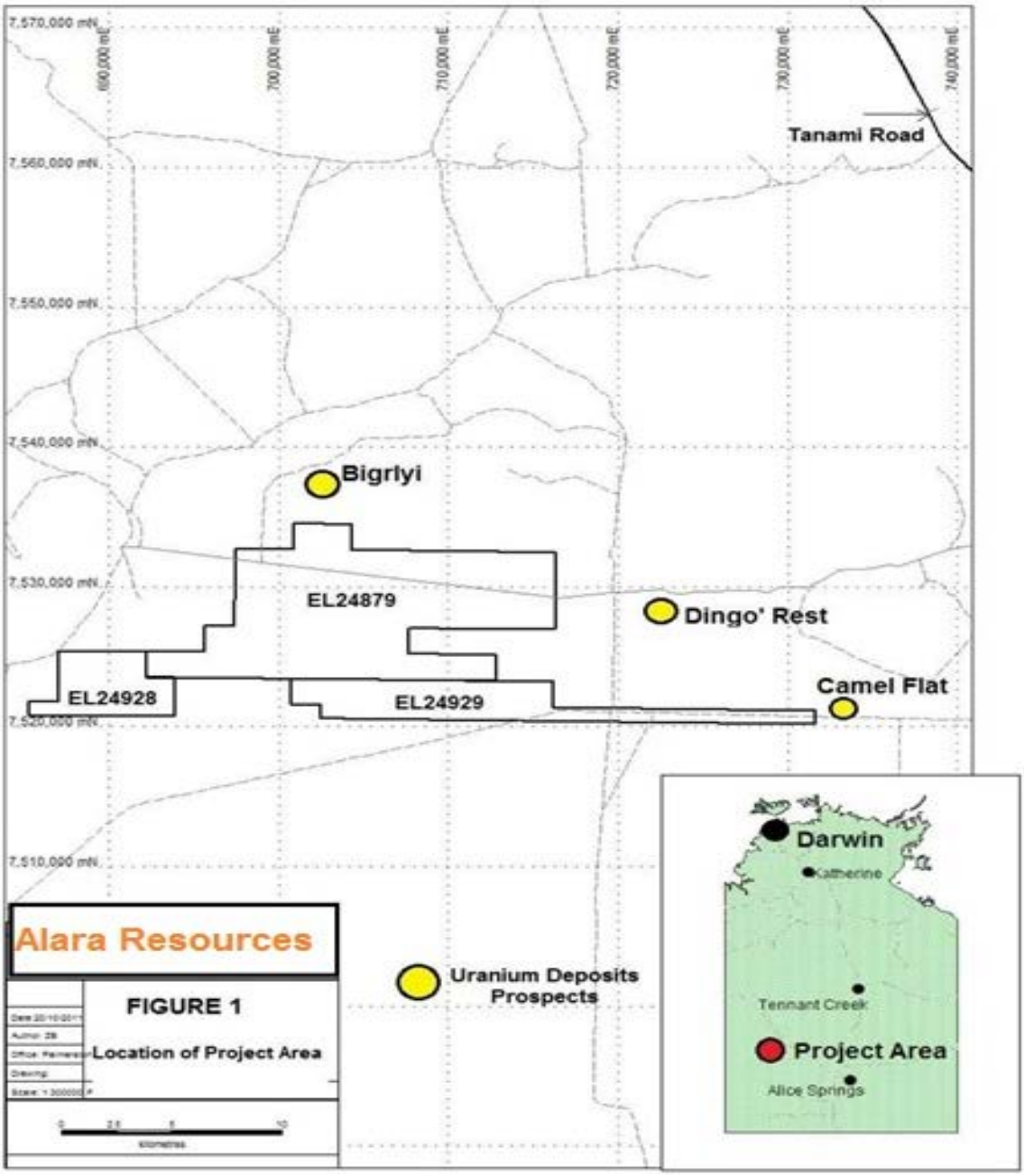
Based on the exploration carried out and assessment of the prospect, Alara decided to surrender this tenement in July 2013.

EL 24978 is located approximately 330km northwest of Alice Springs (Figure 1) on the Mt Doreen pastoral lease, immediately east of the Vaughan Springs homestead.

2.0 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.

Figure 1: Location of the project area



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. 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. Since the end of the Alice Springs Orogen, the Ngalia Basin has been part of the stable Australian Craton with terrestrial sedimentation of sands, silts, Aeolian sand, calcrete, silcrete, lateritic ironstones and playa lake sediments; however sedimentation appears restricted to the Tertiary. These unconsolidated sediments obscure parts of the prospective Mount Eclipse Sandstone within the Alara tenement block.

2.1 STRUCTURE

Shallow, south-dipping, small scattered outcrops of Mt Eclipse Sandstone cover approximately 5-10% of the Bigrlyi South Project area. The remainder is covered by a thin cover of Recent to Quaternary sands, silts, calcrete, silcrete, lateritic ironstones and playa lake sediments.

A curvilinear low angle thrust, known as the Yuendumu Thrust, has been interpreted to intersect the easternmost portion of EL24929 (Figure 1). The Yuendumu Thrust has a total length of100km and joins up with another major northeast thrust fault on the western margin of the Basin.

3.0 MINERALISATION AND EXPLORATION MODEL

The shallow cover of Recent to Quaternary sediments obscures much of the geology and also inhibits any radiometric response from the area. The asymmetric folding and the extensive thrust faulting, plus faulting within the Bigrlyi deposit suggests that carbonaceous horizons within the Mount Eclipse Sandstone, considered favorable for hosting the uranium mineralisation, may have repetitions within the tenements. In addition, faults would have provided excellent channel ways for the movement of uranium bearing oxidising fluids.

4.0 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 results of investigations within the license area including CPM, on EL's 360 and 402, undertook a regional track etch survey. No anomalies were detected within EL 25879. AGIP on EL 1200 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 Mt Eclipse Sandstone were identified. Both holes were drilled to 100m and gamma logged. However no mineralisation was intersected.

5.0 EXPLORATION PROGRAM DURING THE TERM OF LICENCE

During the term of the Licence, Alara conducted a review of the historical exploration data and a number of field visits were undertaken for ground-truthing. Exploration Index map of EL 24879 is shown in Figure 2. In November 2007, Alara commissioned GPX Survey to conduct an airborne radiometric and magnetic survey. This data was provided in a DVD to the Department of Mines and Energy (Zuvela, 2008). Subsequent to geophysical interpretation, field visits were carried out to ground truth anomalies. However, no drill targets were defined.

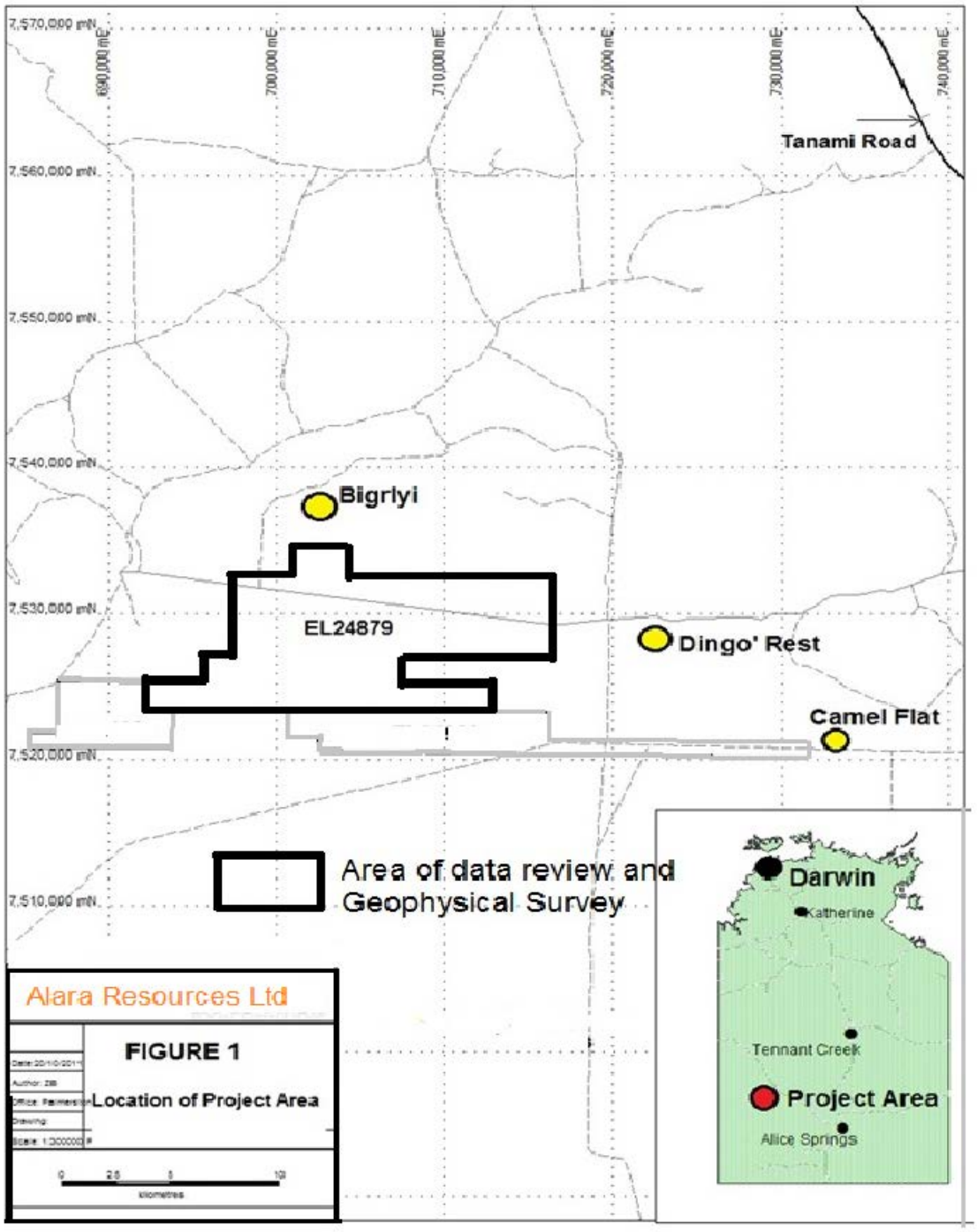
In May 2009, Alara entered into a Joint venture agreement with Thundelarra Limited. After taking control of EL 24879, Thundelarra carried out data compilation and conducted an appraisal of exploration data gathered so far. Historic work of relevance had been track etch surveys by CPM and percussion drilling by AGIP. During review, potential for sand stone-hosted uranium deposits was identified. Thundelarra commenced a dedicated exploration program which included a study of Uranium Mineral System in the Ngalia Basin, led by CSIRO (Schmidt et al., 2011), high resolution AEM survey and precision helicopter-assisted gravity survey. GDF formatted geophysical data of these surveys were lodged with Dept of Mines and Energy (Bajwah and Maloney, 2011; Bajwah and Mill, 2012).

Processing and interpretation of geophysical data identified palaeochannel systems within the Ngalia Basin and drilling within other Licences e.g EL 25334 intersected significant uranium mineralisation. However, palaeochannels identified within EL 24879 were not prospective enough for further exploration program such as drilling.

6.0 CONCLUSIONS

Appraisal of previous exploration data along with processing and interpretation of high resolution geophysical data did not identify any exploration targets within the project area. Accordingly, EL 24879 was surrendered in July 2013.

Figure 2: Exploration index map of EL 24879



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