NGALIA PROJECT

FINAL TECHNICAL REPORT

EL29902

REF: ARA_NT_TR_2015/23

JUNE2015

G.KERN

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SUMMARY

Project Name:	Ngalia Project
State:	Northern Territory
Titles/Tenements:	EL29902
Report Type:	Technical Review
Reporting Period:	February 2015
Internal Reporting Title:	2015_NT_Ngalia Basin_EL29902_Final Technical Report
Author:	Guillaume KERN
Date of Report:	12th June 2015
Geological Region:	Ngalia Basin
Sheet Name (250k):	Napperby (F5309)
Sheet Name (100k):	Napperby (5452), Mount Wedge (5352)
Target:	Uranium; palaeochannel hosted, calcrete hosted.

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1. EXECUTIVE SUMMARY

In March 2013, Areva Resources Australia submitted an application for EL29902 based on Ngalia Basin potential for uranium deposit in both sandstone-hosted roll front-type deposits and in near surface concentrations with several uranium occurrences and deposits, notably the Bigrlyi Deposit and Walbiri Prospect.

Results of historical exploration showed the potential for ore grade uranium mineralisation to exist within three stratigraphic units within the Ngalia Basin;

1. Carboniferous Mt Eclipse Sandstone
2. Tertiary sediments
3. Upper Proterozoic conglomerates

Tenement was granted in April 2014 and no field works have been performed until now. The aim of this technical review was to precisely assess the potential of EL29902 based on historical works performed by AGIP Nucleare and Uranerz within the tenement.

Based on historical works performed by Uranerz and AGIP within EL29902, it seems to be unlikely to combine all the parameters favourable for the creation of a uranium deposit over EL29902. The main points leading to this conclusion are:

- Deep oxidation of Tertiary sediments
- Mostly fine reduced sediments (reduced clay and silts) within the Devonian Mount Eclipse sandstone
- Weak potential for calcrete hosted uranium deposit within the tenement

Considering all these different points it is recommended not to follow up with any work within EL29902.

A full surrender is recommended.

2. PROPERTY DESCRIPTION AND LOCATION

2.1. LOCATION

Tenement EL29902 (Ngalia) is located 200km north east of Alice Springs, Northern Territory. Situated in between the Reynolds Range to The North and the Stuart Bluff Range to the South, the tenement lies just north of the Tilmouth Crossing. Access to the tenement can be gained from Alice Springs, north along the Tanami Track (200km), and then north from Tilmouth Crossing.

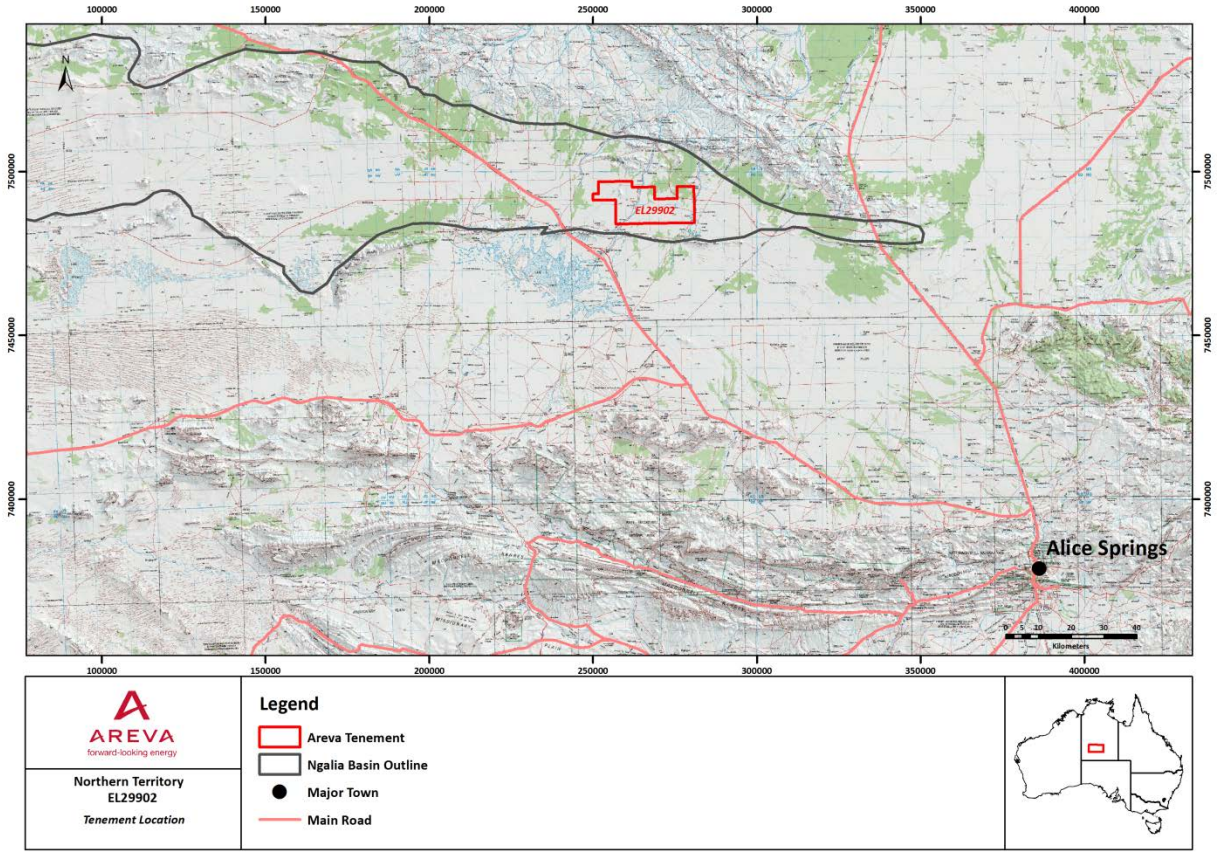

Figure 1: Ngalia Project - EL29902 - Tenement Location.

2.2. TENEMENT DETAILS

Table 1: Ngalia Project - EL29902 - Tenement Status

TENEMENT NAME	LICENCE HOLDER	EXPLORATION LICENCE (EL)	DATE OF APPLICATION	TENEMENT STATUS	AREA (BLOCKS)	EXPENDITURE $AUD
Ngalia	AREVA	29902	11/04/2014	Granted	89	42,250

2.3. EXPLORATION RATIONALE

Areva Resources Australia Pty Ltd (ARA) was targeting sandstone and palaeochannel-hosted uranium mineralisation similar to the type found in the Frome Embayment of South Australia (Beverley, Honeymoon or 4 Mile) and in other parts of the world such as Kazakhstan, Mongolia and the western United States.

The Ngalia Basin contains resources of uranium in both sandstone-hosted roll front-type deposits and in near surface concentrations with several uranium occurrences and deposits:

- Bigrlyi Deposit with 4.65Mt U_3O_8 indicated + 2.82Mt U_3O_8 Inferred @ 500ppm cut off (Energy Metals Ltd website)
- Walbiri Prospect with 423,520 tonnes at an average grade of 0.16% U_3O_8 for 690 tonnes or 1.53Mlb of uranium oxide (G.J. Pope, 1984, EL3261 Walbiri Final Report, CPM).

Results of historical and current exploration show the potential for economic uranium mineralisation to exist within three stratigraphic units within the Ngalia Basin;

1. Carboniferous Mt Eclipse Sandstone
2. Tertiary sediments
3. Upper Proterozoic conglomerates

ARA had selected an application area within the eastern portion of the Ngalia Basin (Figure 2). Previous exploration within the eastern part of the Basin has primarily targeted the Mt Eclipse Sandstone and calcrete mineralisation. Therefore, ARA's initial targeting was focusing on the unexplored Tertiary sediments.

The apparent widespread distribution of Tertiary sediments within the eastern portion of the Ngalia Basin as indicated by stratigraphic drilling made this unit an exploration target for uranium mineralisation. Uranium was interpreted to be leached from the granitic rocks, north of the Basin and/or possibly from weathering of the Mt Eclipse Sandstone. Carbonaceous material has been recorded in these sediments together with traces of pyrite indicating that suitable reducing environments conducive to uranium concentration could occur within this unit.

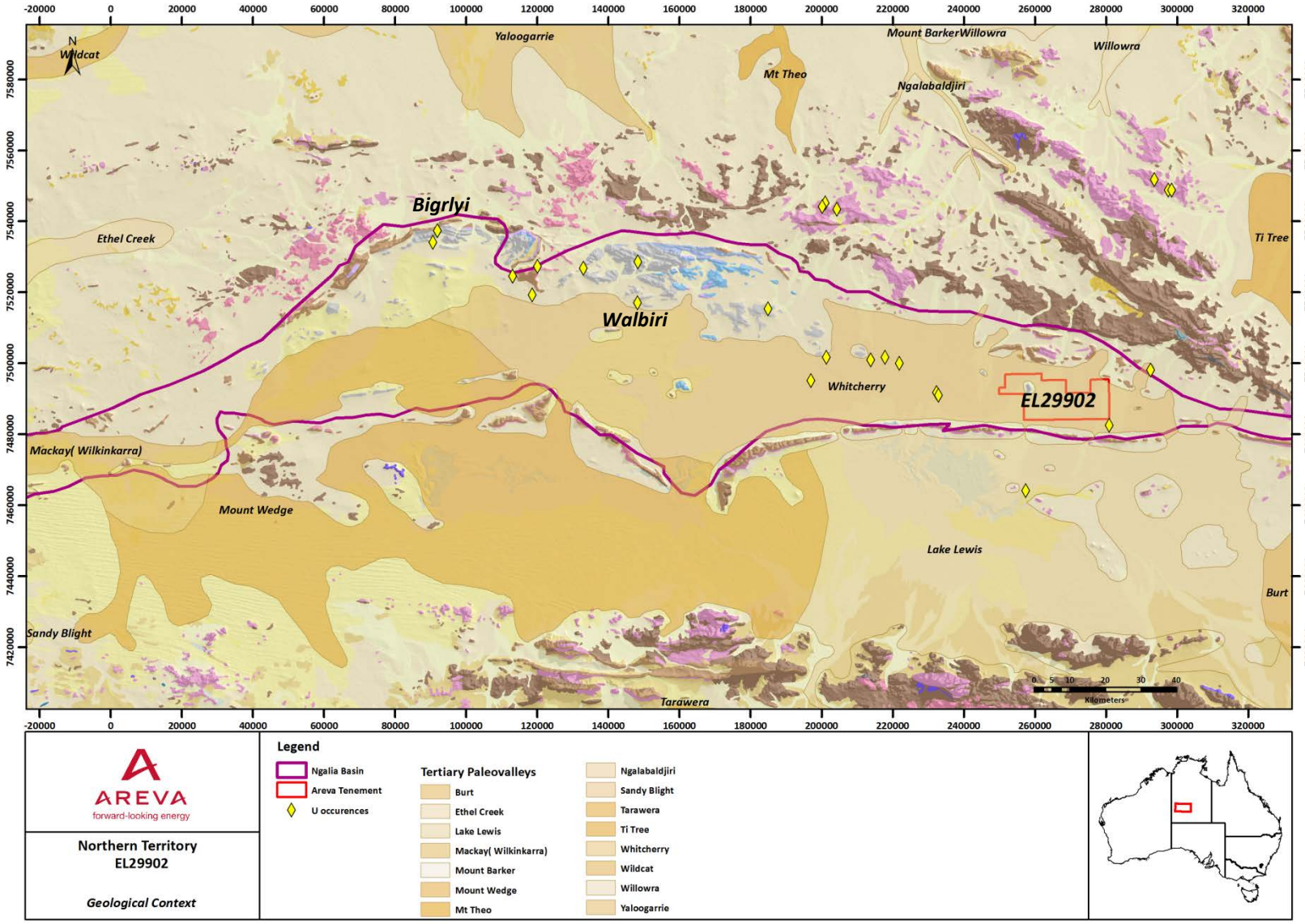

Figure 2: Ngalia Project - EL29902 - Geological Context.

3. HISTORY

3.1. PREVIOUS EXPLORATION

Regionally, uranium exploration in the area has been focused inside the Ngalia Basin to the North, targeting the Tertiary cover, Carboniferous sandstone units or upper Proterozoic conglomerates. Several deposits and prospects exist within the basin, such as Bigrlyi (Energy Metals Ltd 53.3%, Paladin Energy Ltd 41.7% and Southern Cross Exploration 5%), Walbiri (Energy Metals), and the Afghan Swan prospect (Thundelarra). Prospectivity is high in the Ngalia Basin as it has a thick succession of Tertiary to Carboniferous porous sediments, surrounded by uplifted and uraniferous Proterozoic units, and with a significant stable drainage systems from the source rocks into the basin. The Ngalia Basin ground is strongly held by companies such as Energy Metals, Deep Yellow, Cauldron Energy, Oz Uranium, and remaining ground is subject to tough environmental and heritage zoning. The Ngalia Basin has also been subject to minor petroleum exploration.

Outside the Ngalia Basin, uranium exploration is focused on Quaternary calcrete-hosted (Toro's Napperby Prospect) and Tertiary palaeochannel-hosted uranium (Toro's Theseus Prospect). Historically these types of deposits have been explored for since the 70s by companies such as CRA Exploration, BHP and Uranerz Australia. The historical focus has been on surficial expressions of calcrete and radiometric anomalies. To the West and at the Eastern bottom corner of EL29902, Uranerz Australia conducted a significant drilling campaign in 1981, including 250 shallow drill holes over a major drainage system. Targeting the quaternary calcrete unit, results showed no significant anomalies intercepted and a thin cover sequence over weathered basement. The ground was explored again in 1982 by Alcoa of Australia, which conducted preliminary exploration and reported a lack of suitable uranium host rocks.

One of the main actors is the area was Italian company AGIP Nucleare Australia which completed 167 drillholes (10 percussion, 111 RM, 46DD) for a total of 22,400m mainly to the West of EL29902 and within the tenement itself (7 RM Drillholes) between 1977 and 1983 (Figure 3).

Their conclusions were that the Mount Eclipse Sandstone is mainly oxidised with only narrow intersection of weak uranium mineralisation. In view of these factors, most of the original area was considered unlikely to host significant deposits of uranium (Final Report to Department of Mines and Energy, AGIP Australia, 1983).

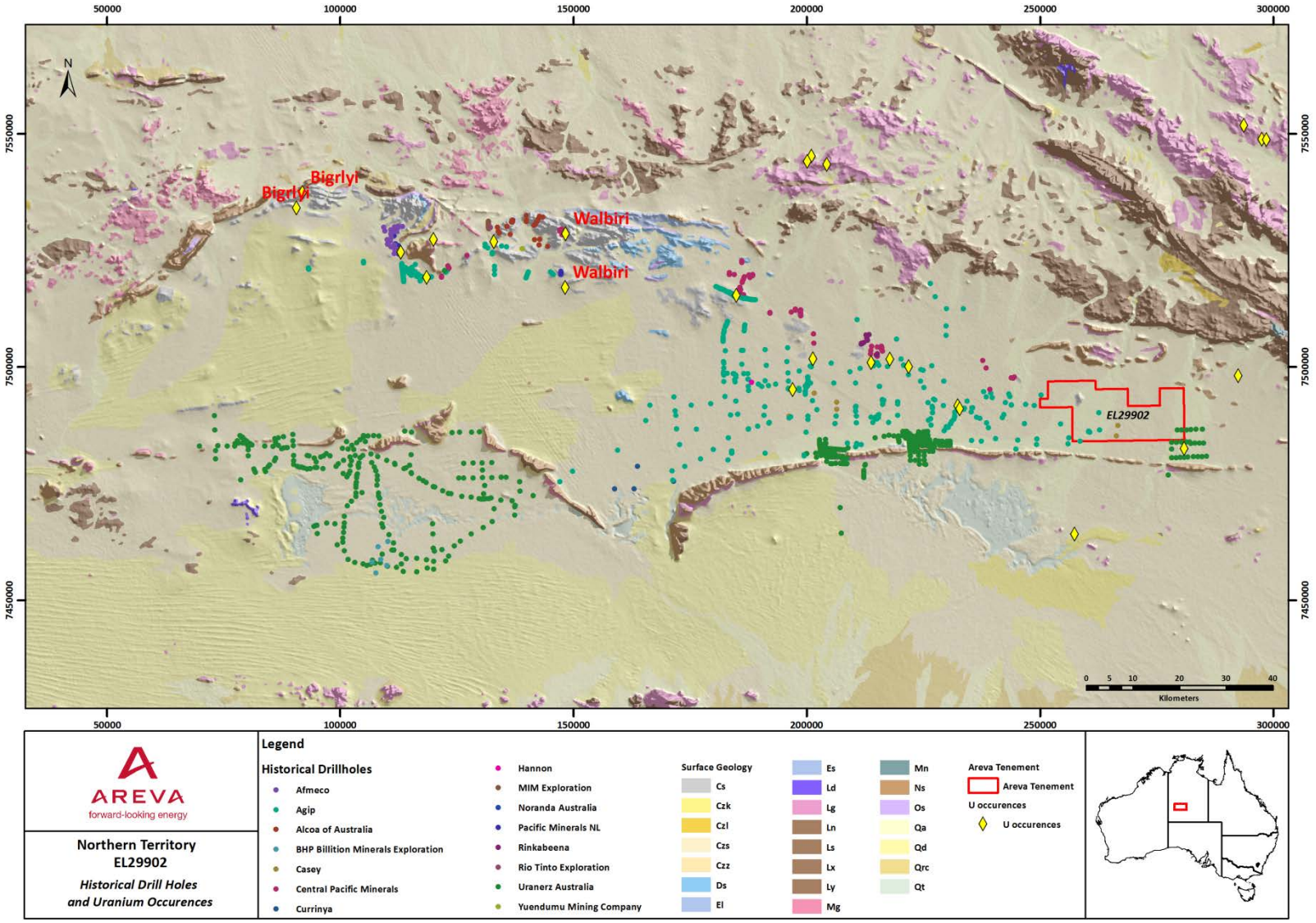

Figure 3: Ngalia Project - EL29902 - Historical Works.

4. GEOLOGICAL SETTINGS, DEPOSIT TYPE AND MINERALISATION

4.1. REGIONAL GEOLOGY

EL29902 lies in the Arunta Block/Region, within the Ngalia Basin (part of the Aileron Province (Figure 4). The Arunta block, surrounding the tenement, is dominated by a basement terrane comprising of the late Paleoproterozoic Warumpi Province, which is structurally interleaved with Neoproterozoic basal units of the southern Amadeus Basin. The Warumpi Province can further be sub-divided into two fault bounded domains, the southern Haasts Bluff Domain (amphibolite facies) and the northern Yaya Domain (granulite facies), in which EL28968 sits. The Yaya Metamorphic Complex is a series of metapelite (deposited ~1660 Ma) and metamorphosed felsic and mafic units of uncertain age. Since deposition and intrusion of these units, the province has undergone a significant orogenic history, with the Amadeus Basin initiated in Neoproterozoic and the Ngalia basin to the north, in the early Neoproterozoic. Major tectonics continued through until the carboniferous, with uplifting, major folding and thrust faulting associated with the Alice Springs Orogeny. No significant geological events occurred in this area, between the Carboniferous and the Cenozoic, with the period dominated by erosion. The erosional regime continued into the Cenozoic in conjunction with periods of deep weathering of surficial units (Palaeocene and late Eocene). The dry environmental conditions promoted deep chemical weathering and the development of lateritic profiles. Minor deposition of material occurred in palaeovalleys and topographic lows. Large conglomerate/scree fans were deposited adjacent to strongly uplifted areas, with the majority of the Tertiary age sediments being derived locally. Quaternary aeolian sands cover much of the area in both plains and dune fields, with alluvial deposits confined to drainage from hills and ranges of the area. Calcrete formation is also widespread in the cover sequences, though predominately related to present drainage systems.

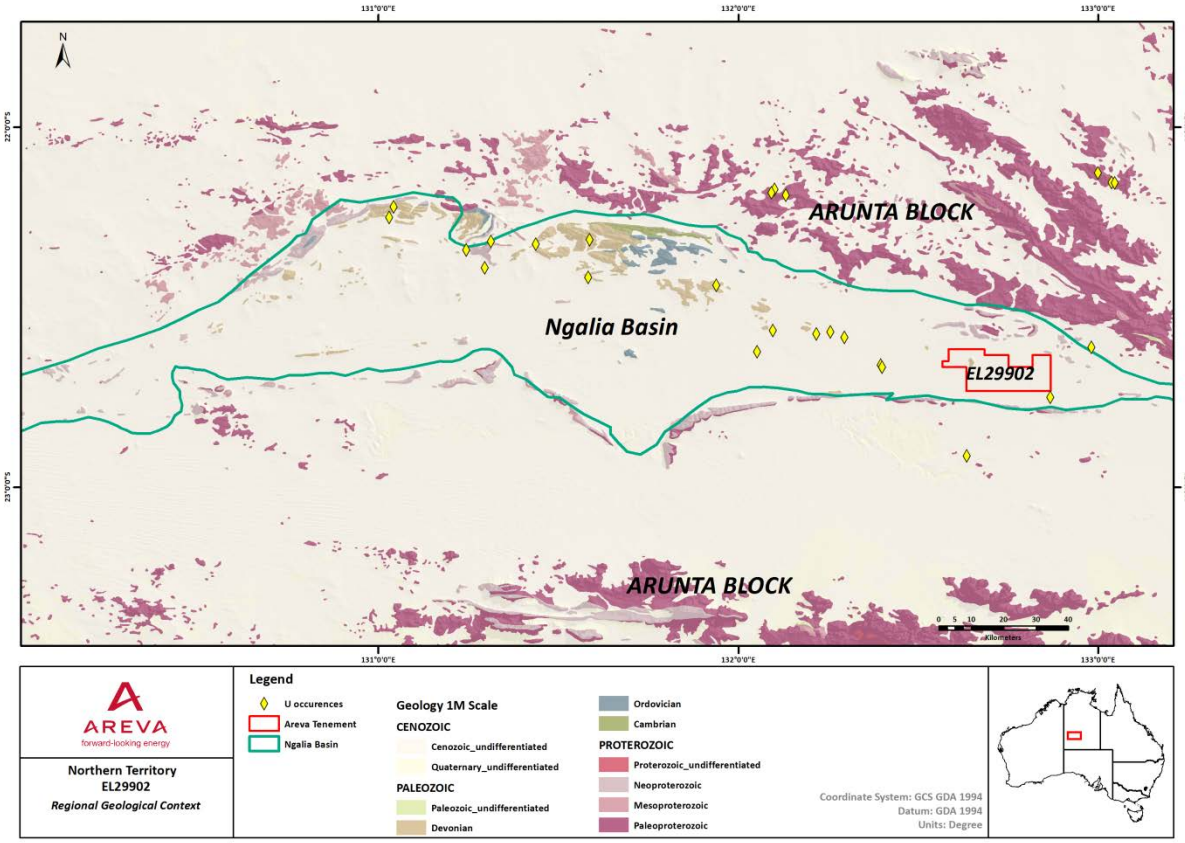

Figure 4 : Ngalia Project - EL29902 - 1M scale surficial geology surrounding.

4.2. LOCAL GEOLOGY

The licence covers a portion of the eastern part of the Ngalia Basin which is an intracratonic depression within the Lower-Middle Proterozoic Arunta Complex, which first received sediments, now represented by the Vaughan Springs Quartzite, during the Upper Proterozoic. Marine and continental sedimentation continued into the Middle Palaeozoic, with the Mt. Eclipse Sandstone being deposited in Upper Devonian-Lower Carboniferous times.

The Mt. Eclipse Sandstone hosts all the main uranium occurrences of the Ngalia Basin. It consists of a thick, syn-orogenic sequence of non-marine sandstone and shale, deposited in piedmont and sub-aerial deltaic environments.

Apart from a few minor outcrops the Mt. Eclipse Sandstone is overlain by younger sediments ranging from 30 to 150m thick. These younger sediments include a widespread silcrete and ferricrete horizons and upper Tertiary fluvial and lacustrine sands and clays.

5. GEOLOGICAL ACTIVITIES AND OFFICE STUDIES

During Year ending in 2015, ARA did not perform any on ground work within EL29902. Only a technical review was performed leading to the conclusion that the tenement does not present any potential for uranium sandstone hosted deposits.

6. RECOMMENDATIONS AND CONCLUSIONS

The Ngalia basin clearly presents a good potential for uranium deposits and has been subject for exploration for decades.

However considering historical works performed by Uranerz and AGIP within EL29902, it seems to be unlikely to combine all the parameters favourable for the creation of a uranium deposit over EL29902. The main points leading to this conclusion are:

- Deep oxidation of Tertiary sediments
- Mostly fine reduced sediments (reduced clay and silts) within the Devonian Mount Eclipse sandstone
- Weak potential for calcrete hosted uranium deposit within the tenement

Considering all these different points it was recommended not to follow up with any work within EL29902.

The tenement was approved for surrender on the 7th of April 2015 by the Department of Mines and Energy.

REFERENCES

Anonymous, Final Report To Department of Mines and Energy, AGIP Australia Pty. Ltd., CR1983-0087.

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