

# Jalein Pty Ltd

Final Report for Ngalia Project

Exploration Licence 32945

For period 10 June 2022 to 14 June 2023

9 August 2023

Report Prepared By:

Leslie Ingraham

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## 1 Bibliographic Data Sheet

**Project Name:** Ngalia Project  
**Title Number:** EL 32945  
**Title Holder:** Jalein Pty Ltd  
**Project Operator:** Jalein Pty Ltd  
**Report Type:** Final  
**Report Title:** Final Report for Ngalia Project  
**Report Period:** 10/06/2022 to 14/06/2023  
**Report Prepared By:** Leslie Ingraham  
**Report Date:** 9 August 2023  
**1:250,000 Map Sheet:** SF5212 (Mount Doreen)  
**1:100,00 Map Sheet:** 5053 (Vaughan)  
**Target Commodity:** Uranium  
**Contact Details:** cameron@tsolutions.com.au

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## 2 Abstract

Jalein Pty Ltd (Jalein) applied for EL 32945 on 13 October 2021 and it was granted on 10 June 2022.

The tenement is located south west of the Bigrlyi uranium deposit.

Jalein planned to explore EL 32945 for further uranium mineralisation associated with Bigrlyi.

No exploration activities were conducted for EL 32945.

EL 32945 was surrendered on 14 June 2023.

### 3 Introduction

Jalein believed EL 32945 had potential for uranium mineralisation due to the proximity to the Bigrlyi uranium deposit.

The Bigrlyi deposit is a tabular sandstone hosted uranium vanadium deposit located on the northern margin of the Ngalia Basin.

#### Bigrlyi Mineral Resource estimate at a 500ppm U3O8 cut-off – MIK Model 2011.

Resource Category	Mt	U3O8 ppm	V2O5 ppm	U3O8 kt	U3O8 Mlbs	% Contrib	V2O5 kt	V2O5 Mlbs
Indicated	4.65	1366	1303	6.36	14.01	62	6.06	13.36
Inferred	2.81	1144	1022	3.21	7.08	38	2.87	6.33
<b>Total</b>	<b>7.46</b>	<b>1283</b>	<b>1197</b>	<b>9.57</b>	<b>21.09</b>	<b>100.0</b>	<b>8.93</b>	<b>19.69</b>

#### Bigrlyi Mineral Resource estimate at a 250ppm U3O8 cut-off – MIK Model 2011

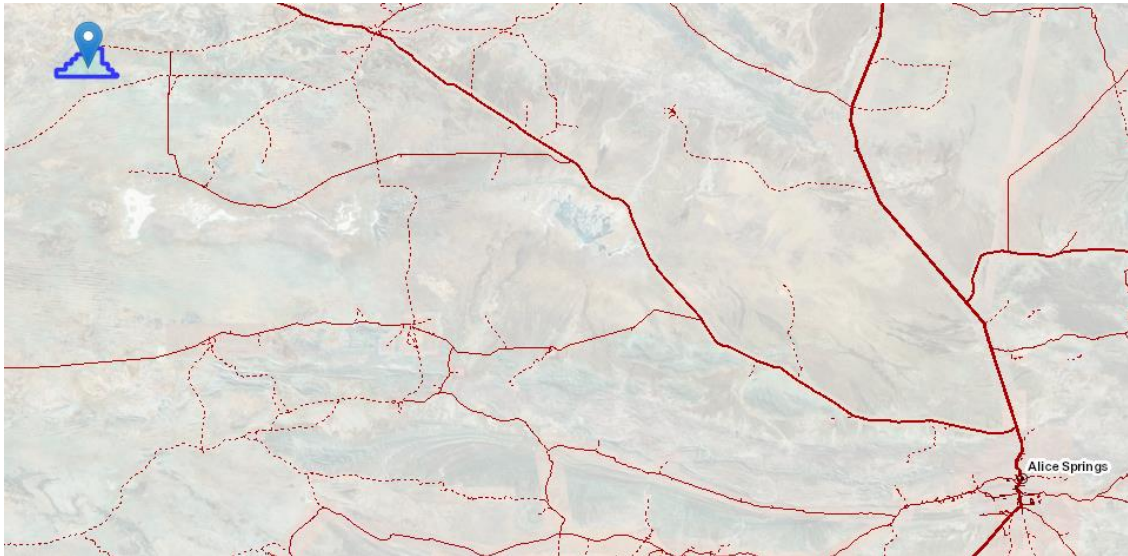
Resource	Mt	U3O8 ppm	V2O5 ppm	U3O8 kt	U3O8 Mlbs	% Contrib	V2O5 kt	V2O5 Mlbs
Indicated	8.80	890	1026	7.83	17.27	59	9.03	19.91
Inferred	6.15	715	805	4.40	9.69	41	4.95	10.91
<b>Total</b>	<b>14.96</b>	<b>818</b>	<b>935</b>	<b>12.23</b>	<b>26.97</b>	<b>100.0</b>	<b>13.98</b>	<b>30.82</b>

Source: <https://energymetals.net/projects-nt-bigrlyi/>

Jalein planned to explore EL 32945 using modern exploration techniques. No exploration activities were conducted.

#### 4 Location & Access Details

EL 32945 is located approximately 330km northwest of Alice Springs.



*Figure 1: Location*

## 5 Title Details

Title ID	Project	Holder	Ownership	Area	Grant	Surrender
EL 32945	Ngalia Project	Jalein Pty Ltd	100%	46 Blocks	10/06/2022	14/06/2023

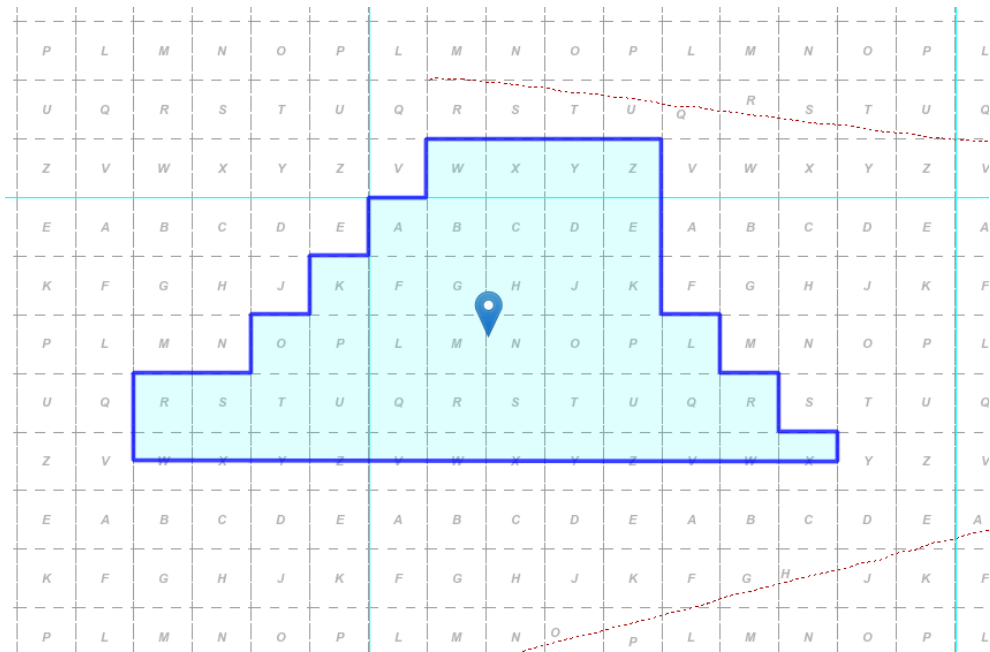


Figure 2: Title Plan

## 6 Geology

The area is part of the Meso-Proterozoic to Palaeo-Proterozoic Aileron Province sequence of the Arunta Region. The rocks are metamorphosed sediments, volcanics and calc-silicates with mafic and granite intrusives. The age of the Aileron Province rocks ranges from 1560 to 1860 Ma. The adjacent Ngalia Basin lies immediately south of the tenement and is Neo-Proterozoic in age (300 to 1080 Ma).

Mineral occurrences are well known from the Aileron Province which includes many gold mines as well as copper, lead zinc and rare earth discoveries. The Ngalia Basin is known for its roll-front uranium deposits as at Bigryli.

The tenement is mainly undulating plateau upland area and relatively flat, except for the eastern part which is a dissected upland area of higher relief.

The area is considered geologically prospective for uranium, particularly due to the pervasive high radiometric uranium count from airborne surveys. This could be due to the high background levels in the sandstones and mudstones of the sedimentary sequences as well as the occurrence of granites with high-background radiation. There are also indications from radiometric patterns that palaeochannels cross the tenement.

The laterite profile is a good provenance for uranium and base metal enrichment within the groundwater or hydrologic circulation. The laterite profile is variously developed in the eastern and western upland areas and is resistant to erosion, creating low-lying mounds or rises as remnants of the once extensive oxidation.

The palaeo-drainage trending N-S on the central and western side of the tenement shows up well on the regional (wide-spaced) airborne total radiometric count (potassium, thorium & uranium) and is of exploration interest for locating possible calcrete or palaeochannel sources.

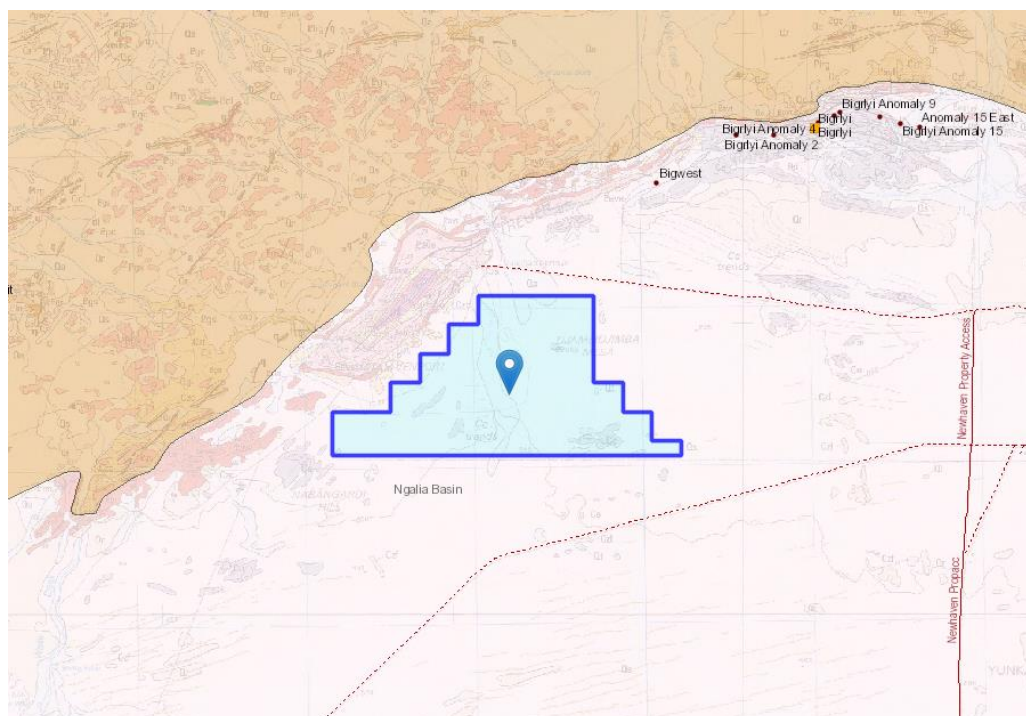


Figure 3: Regional Geology



## 7 Previous Exploration

The Bigrlyi uranium project, which is a joint venture with Northern Territory Uranium (20.8%) and Southern Cross Exploration (6.8%), was subject to significant exploration activity for the period 1974 to 1982 including over 400 drill holes, resource estimations and metallurgical test work programs. The project was put on care and maintenance in 1983.

Energy Metals Ltd (EME) as manager of the Bigrlyi Joint Venture (BJV) recommenced field activities in November 2005 after a 23 year hiatus and following a detailed environmental assessment of the project and installation of appropriate radiation monitoring procedures. Initial work involved re-establishment of the exploration camp, validation of historic drilling and assay data and Aboriginal heritage surveys over the Bigrlyi tenements.

Several Drilling programs concentrating mostly on Anomaly 4 and Anomaly 15 deposits, were completed at Bigrlyi in the period from 2005-2011 with most holes intersecting significant uranium mineralisation. Uranium and vanadium resource estimates were successfully modelled incorporating results from these drilling programs.

Due to the depressed uranium market, the Joint Venture limited its activities at Bigrlyi for the period 2012 to 2014. Activities undertaken during this period included camp and site maintenance, rehabilitation works, ongoing radiation and environmental baseline studies, and bulk density measurements of archived drill core to assist with more accurate resource estimation in the future.

Source: <https://energymetals.net/projects-nt-bigrlyi/>

## 8 Current Exploration

No exploration activities were conducted for EL 32945.

## 9 Conclusion and Recommendations

EL 32945 was surrendered on 14 June 2023.

## 10 References

CR2017-0190 Partial relinquishment report for EL 30006 Davis Gap Ngalia Regional Project period ending 24 March 2017

Young, D.N., Edgoose, C.J., Blake, D.H., Shaw, R.D., 1995: Mount Doreen 1:250,000 Geological Map Series Explanatory Notes, Australian Geological Survey.

Energy Metals Limited: <https://energymetals.net/projects-nt-bigrlyj/>