

# EXPLORATION LICENCE 30797 OORALINGIE (NEUTRAL JUNCTION PROJECT)

FIRST ANNUAL REPORT
FOR THE PERIOD
12th NOVEMBER 2015 to 11th NOVEMBER 2016

Barrow Creek, Alcoota 1:250,000 Map Sheet

Registered titleholder: Bowgan Minerals Limited

Target commodities: precious metals, base metals, tungsten, uranium

Operator: Bowgan Minerals Limited Author: Gary Price gary@bowgan.com.au

Date: November 2016

# **Copyright statement**

This document and its content are the copyright of Bowgan Minerals Limited.

The document has been written by Bowgan Minerals Limited for submission to the Northern Territory Department of Mines and Energy as part of the tenement reporting requirements as per the Mineral Titles Act (NT). Any information included in the report that originates from historical reports or other sources is listed in the "References" section at the end of the document. All relevant authorisations and consents have been obtained.

Bowgan Minerals Limited authorise the department to copy and distribute the report and associated data.

# **CONTENTS**

SUMI	MARY	vi
1.	INTRODUCTION	1
2.	TENEMENT DETAILS	1
	2.1 Tenure	1
	2.2 Native Title Parties and Aboriginal Heritage	1
	2.3 Consultation with Pastoralists	1
3.	REGIONAL GEOLOGY	3
4.	PREVIOUS EXPLORATION	5
5.	EXPLORATION BY BOWGAN MINERALS LIMITED	6
	5.1 2016 reporting period	6
6.	WORK PROGRAM PROPOSED: 2017 reporting period	8

**REFERENCES** 

# **FIGURES**

	1.	EL30797 (Ooralingie), location of tenement	2
	2.	Geology of EL30797 (Ooralingie)	.4
	3.	Historical auger sampling of Alaskite target	.7
LIS		TABLES  EL30797 Tenement details	.1
LIS	ST OF	PLATES	
	1.	Field reconnaissance to explore Lithium potential	6

## **SUMMARY**

Ooralingie tenement EL30797, is located 250km north of Alice Springs and comprises part of the Neutral Junction project. Bowgan Minerals Limited is the current operator of the tenement. Exploration is currently aimed at identification of potential occurrence of economic gold, silver and base metals within an iron oxide-copper-gold (Tennant Creek-style IOCG) deposit setting and exploration for uranium within known alaskite occurrences. Known anomalies have been previously identified by Bowgan immediately east, on adjacent EL's 24253 and 29475 with exploration currently focused towards exploration along prospective structural corridors interpreted from regional geophysics. Exploration activity conducted during the current reporting period included the completion of a comprehensive review of historical exploration reports. A brief reconnaissance visit was also conducted to the southern part of the tenement to assist with planning of future exploration programs on EL30797.

#### 1. INTRODUCTION

Ooralingie (EL30797) is located 250 km north of Alice Springs, Northern Territory, on the Barrow Creek (SF53-6) and Alcoota (SF53-10) 1:250 000 map sheets (Figure 1). Access to the district is via the Stuart Highway to Ti Tree, then the Adelaide Bore Road or alternatively via the Sandover Highway, then the Adelaide Bore Road to Mount Skinner homestead, with access to the tenement via a network of graded station tracks.

This is the first annual report for Ooralingie which comprises part of the Neutral Junction project, and describes exploration work conducted on EL30797 during the current reporting period by Bowgan Minerals Limited (Bowgan).

#### 2. TENEMENT DETAILS

#### 2.1 Tenure

Bowgan Minerals Limited is the registered titleholder of exploration licence EL30797 as detailed in Table 1. This exploration licence lies within the Mount Skinner Pastoral Lease.

**Table 1:** Tenement Details

Tenement	Name	Tenement Holder	No. blocks granted	Date Granted	Renewal Date
EL 30797	Ooralingie	Bowgan Minerals Ltd (Bowgan)	69 blocks (224 km²)	12/11/2015	11/11/2021

Ooralingie (EL30797) comprises part of the Neutral Junction project, which includes; Neutral Junction (EL24253), Donkey Creek (EL28615), Adnera Hill (EL29475) and ELA31292 (Buggy Camp).

Ooralingie, Donkey Creek, Adnera Hill and Buggy Camp are 100% owned/operated by Bowgan, with Neutral Junction being operated under joint-venture agreement between Bowgan Minerals Limited and Mithril Resources Limited and Mega Hindmarsh Pty Limited.

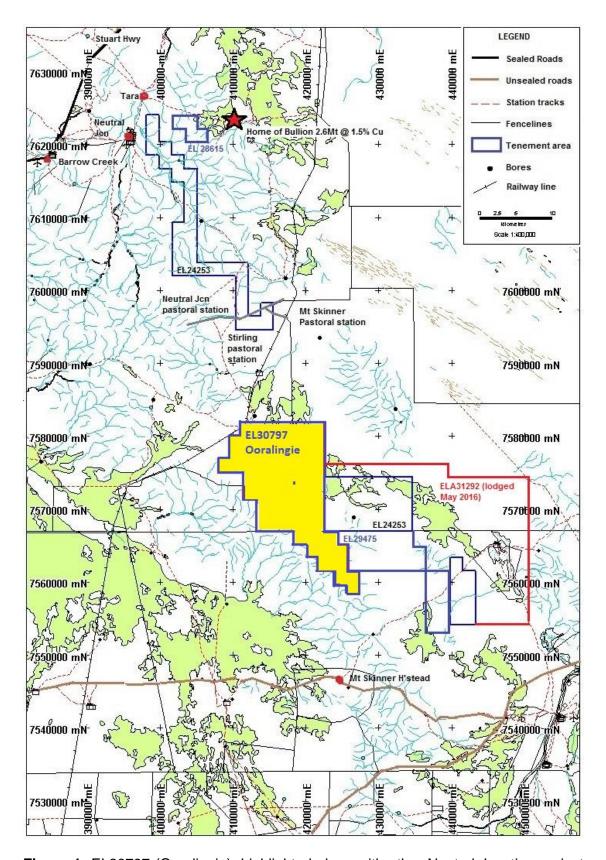
# 2.2 Native Title Parties and Aboriginal Heritage

EL30797 lies within Native Title Claim area NTP 704 (Mount Skinner) with sacred sites being identified within this precinct.

Bowgan has engaged the Aboriginal Areas Protection Authority (AAPA), which conducted a survey of protected sites on record for EL30797. Sacred sites have been identified within the EL30797 tenement area.

#### 2.3 Consultation with Pastoralists

The station manager at Mount Skinner and Stirling pastoral stations will be contacted by Bowgan both before commencement, during the running of the program and, at the conclusion of field exploration programs conducted on EL30797.



**Figure 1:** EL30797 (Ooralingie), highlighted along with other Neutral Junction project tenements; EL24253, EL28615 EL29475 and ELA31292.

#### 3. REGIONAL GEOLOGY

The Neutral Junction project is located at the boundary of the Arunta Inlier to the south and the Tennant Creek Inlier/Davenport Province to the north. The contact between these tectonic blocks constitutes a wide northwest-southeast trending corridor which includes intensely folded and faulted rock types of both provinces (Lennartz, 2006).

Shallow regolith to deeper transported sandy soils cover occurs across the central and eastern parts of EL30797, with outcrop exposures occurring along the western side of the tenement. Here, Neoproterozoic-aged Georgina Basin sediments comprising; Adelaidean Central Mt Stuart Formation (sandstones and quartzite) occur within shallow-dipping outcrops, or under shallow cover. These flat-lying units rest unconformably above steeply inclined and deformed/metamorphosed Palaeoproterozoic-aged metasediments (Arunta Inlier rocks) which exhibit amphibolite-grade metamorphism and are largely obscured apart from a small number of exposures at surface or under shallow cover.

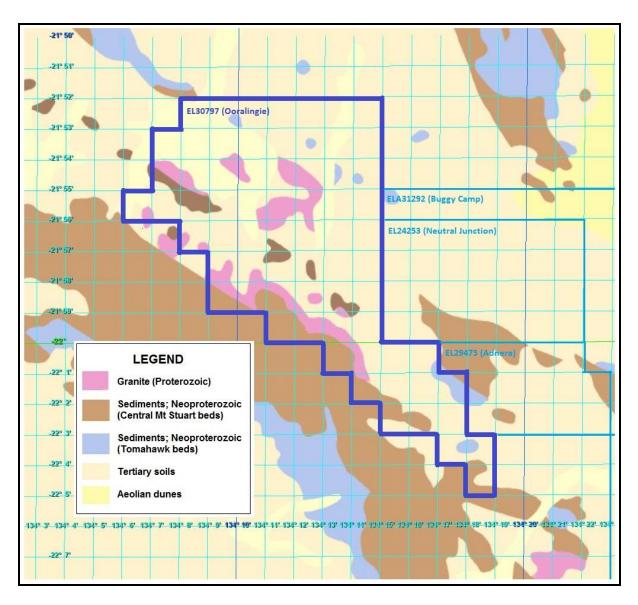
Further north, this metasedimentary package includes the prospective Hatches Creek Group (HCG) which hosts the Home of Bullion mine as well as a number of other potentially economic prospects.

Proterozoic-aged, radiometrically-anomalous granites have intruded along the northwest-southeast structural trend and occur along the western flank of the EL30797 tenement area.

Previous modelling of the depth of the HCG metasediments by the NTGS indicates that a major fault forms the western margin of the Georgina Basin. The depth of the basin sediments in the area of EL30797 increases from less than 100 m to greater than 1 km from west to east over a distance of less than 500 m. This suggests a major crustal discontinuity, which could provide a pathway for migrating mafic magma.

Locally, this discontinuity is represented by the Ooralingie Fault, which runs along the eastern side of EL30797. A number of surface gold, silver and copper anomalies have been identified to occur at Adnera Hill, within an iron oxide-copper-gold (IOCG) depositional setting, with the potential for further anomalies interpreted to occur within the Ooralingie fault corridor further west on EL30797.

Review of historical exploration reports identify outcrops of alaskite (granitic rocks composed of K-feldspar and quartz with almost no dark minerals) on EL30797 which were previously explored for their uranium potential and a small number of tungsten prospects are also identified in the area. Exploration for lithium-bearing pegmatites has also occurred in the area over the last 1-2 years.



**Figure 2:** Geology of EL30797 (Ooralingie) and surrounding tenements. Image derived from geology layer, ASTER dataset (Geoscience Australia, World wide data viewer, Version 2.1 December 2011).

#### 4. PREVIOUS EXPLORATION

Historically, limited prospecting and small-scale mining has been reported in the local area for copper, lead, silver, nickel, tin, tantalum, tungsten, molybdenum and mica (NTGS, 1991). The largest mining operation occurred at Home of Bullion mine site where copper ore was extracted (6,100 tonnes officially recorded) between 1923 and 1951.

Aerial surveying (magnetics) was completed by NT Geological Survey on N-S oriented 500 metre line-spacing at 100 metres height during 1981 and a regional gravity survey was completed on a 4km grid during 2008-09.

#### Base metals

Exploration for base metals was conducted within the district by Kennecott Exploration (1966), Department of Mines and Water Resources (1968). Wolfram, tantalum and tin exploration was conducted within the local area by BHP Minerals Ltd (early 1980's) and R.B. Mining (1981). Further work for base metals was conducted in the district by C.R.A.E. (1980), Alcoa Australia Ltd. (1983) and Otter Exploration (1989).

Work recommenced at the abandoned Home of Bullion mine site in 2012, with a program of resource-delineation drilling being conducted by Kidman Resources. An inferred resource figure of 2.5Mt @ 1.8% copper, 2% zinc, 1.2% lead, 0.14g/t gold and 36g/t silver was announced at the conclusion of this program (ASX release, July 29<sup>th</sup> 2014).

## Diamonds

Exploration for diamonds was undertaken in the district by C.R.A.E. in 1977.

#### Nickel

Exploration for nickel was undertaken in the district by Mithril Resources Limited in 2005.

#### Uranium

Uranium exploration was undertaken in the district by Otter Exploration (1977), C.R.A. Exploration (1978) and by Uramet Minerals (Intercept Minerals) between 2007 and 2014 and by MegaHindmarsh (2006-9) and by Bowgan (2009-present). Intercept Minerals explored an alaskite prospect which is located within the current EL30797 tenement area.

# Tungsten

Exploration for tungsten was undertaken in the district by Uramet Minerals (Intercept Minerals) between 2007 and 2014.

## 5. EXPORATION BY BOWGAN MINERALS LIMITED

# 5.1 Current reporting period

Exploration activity conducted during the current reporting period included the completion of a comprehensive review of historical exploration reports. Of particular interest was exploration of an alaskite target by Intercept Minerals period 2009-2013 (Figure 3) where follow-up exploration is currently proposed.

A brief reconnaissance visit was also conducted to the southern part of the tenement to assist with planning of future exploration programs on EL30797.

The field trip was conducted on Sunday, 5<sup>th</sup> June as part of 1 day trip to explore lithium potential in the Barrow Creek-Alcoota areas (Plate 1).

There was no geological mapping, soil or rock chip sampling or other field work conducted on EL30797 as part of this reconnaissance trip.



**Plate 1:** Rob and Linda Campbell at Adnera Hill, during field reconnaissance to explore lithium exploration potential at the Neutral Junction project, Sunday, 5<sup>th</sup> June.

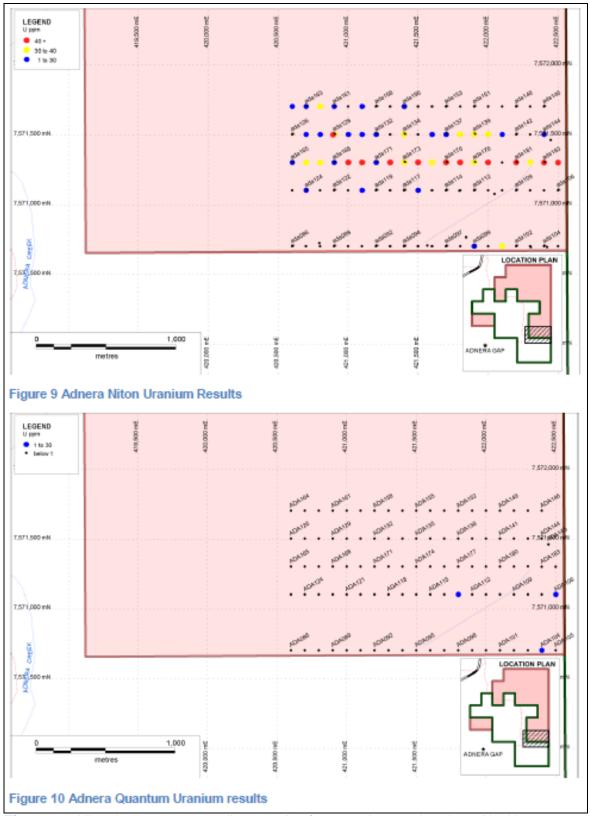


Figure 3: Historical auger sampling results from work completed at Alaskite target, located in the southern part of EL30797 period 2009-2013. (Referenced from partial surrender report for EL26748 Adnera Creek, Intercept Minerals, dated April 2013).

# 6 WORK PROGRAM PROPOSED: 2017 reporting period

Exploration field work is currently scheduled for EL30797 during early-mid 2017.

The following field and office-based exploration work is proposed for the 2017 reporting period;

- Completion of gravity survey program, as part of CORE-funded 1km X 1km survey to be conducted by Atlas Geophysics scheduled for November-December 2016,
- 2) Review of gravity survey results,
- 3) Completion of detailed geological mapping and sampling,
- 4) Continued research of historical exploration reports.

#### REFERENCES

Haines, P.W., Bagas. L., Wyche, S., Simons, B., Morris, D.G., (1991). Northern Territory Geological Survey 1:250 000 Geological Map Series. Explanatory Notes Barrow Creek SF53-6. Government Printer of the Northern Territory, 1991.

Lennartz, R., (2006). Hindmarsh Resources Ltd. EL 24253 "Neutral Junction" Previous Exploration - Summary Report March 2006. Unpublished report prepared for Hindmarsh Resources Ltd., by Central Mining and Exploration Services March 2006. Report No. hmr0103/2006.

Price, G., (2016). Bowgan Minerals Ltd. EL 24253 Neutral Junction Project. Eleventh Annual Report for the Period 7 April 2015-6 April 2016. Annual Tenement Report for Bowgan Minerals Limited. Dated April 2016.

Price, G., (2016). Bowgan Minerals Ltd. EL 29475 Adnera Hill, Neutral Junction Project. Third Annual Report for the Period 11 January 2015-10 January 2016. Annual Tenement Report for Bowgan Minerals Limited. Dated January 2016.

Townrow, B., (2013). EL 26748 Adnera Creek. Partial Surrender Report for the period 18 February 2009 to 17 February 2013.