

### EXPLORATION LICENCES 24115 and 24195 BOWGAN PROJECT

## FIFTH ANNUAL REPORT FOR THE PERIOD 13 OCTOBER 2008 – 12 OCTOBER 2009

Mount Drummond, Walhallow, Brunette Downs, Calvert River 1:250,000 Map Sheets

Registered titleholder: Marengo Mining Limited

Prepared by: G. Price November 2009

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1. Bowgan Project Tenement Detail

#### SUMMARY

The Bowgan Project, located 250 km northeast of Tennant Creek, consists of two contiguous exploration licences, EL 24115 and 24195. EL 24196 is located southwest of the other two licences and is reported on separately.

In April 2006, Hindmarsh Resources Limited (now Mega Hindmarsh Pty Ltd) and Marengo Mining Limited entered into a Joint Venture agreement, whereby Hindmarsh is entitled to earn a 51% interest in the Bowgan Project by spending \$200,000 in three years.

The primary mineralisation model considered was unconformity related uranium and gold at the contact between the crystalline basement rocks (in particular the Murphy Metamorphics) and the overlying sedimentary rocks of the South Nicholson Basin. Identification of a potential chemical trap, such as cross-cutting dolerite or graphitic shale, was also used as a targeting criterion. A review of data identified nineteen targets, for initial ground follow-up, relying on geophysical data (AEM, ATMI) drill hole information and geological interpretation. These targets were thought to contain either the interpreted unconformity with linear magnetic (dolerite) and basement conductor (graphite) features.

Proposed exploration of both tenement areas were subject to negotiations between the current operator, Mega Hindmarsh Pty Limited and future joint-venture partner Bowgan Minerals Limited. This discussion lead to the formalisation of a Heads of agreement, but no field work was carried out.

A formal meeting was held between Mega Hindmarsh Pty Limited and officers of the Titles Office, Minerals and Energy Group of the Northern Territory Department of Regional Development, Primary Industry, Fisheries and Resources on Tuesday, 9<sup>th</sup> June 2009, with exploration proposals, tenement and covenant variation issues being discussed for the future operation of EL 24115 and 24195.

#### 1. INTRODUCTION

The Bowgan Project is located 250 km northeast of Tennant Creek on the Barkly Tableland (Figure 1). Access to the licences is via the Calvert Road and a network of well maintained graded station tracks.

This report, the fifth annual report for the Bowgan Project, describes how joint venture negotiations were pursued between Mega Hindmarsh Pty Limited, Marengo Mining Limited and future joint-venture partner Bowgan Minerals Limited.

#### 2. TENEMENT DETAILS

#### 2.1 Tenure

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Marengo Mining Limited is the registered titleholder of two contiguous exploration licences EL 24115 and 24195 as detailed in Table 1. These exploration licences lie within the Walhallow Pastoral Lease.

Table 1:Tenement De	etails
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Tenement	Name	Tenement Holder	No. of graticular blocks	Date Granted	Renewal Date		
EL 24115	Bowgan	Marengo Mining	55 (180 sq km)	7/10/2004	12/07/2010		
EL 24195	Benmara	Marengo Mining	63 (206 sq km)	7/10/2004	12/07/2010		

In April 2006 Mega Hindmarsh and Marengo Mining Limited entered into a Joint Venture arrangement, whereby Hindmarsh is entitled to earn a 51% interest in the Bowgan Project by expending \$200,000 in three years; Mega Hindmarsh achieved this goal and is Manager and Operator of the Joint Venture, pending finalisation of Joint Venture negotiations with Bowgan Minerals Limited.



Figure 1: Location of Bowgan Project tenements, Barkly Tablelands region.



Figure 2: Bowgan Project tenements; EL24115 (Bowgan) and EL24195 (Benmara)

## 3. **PREVIOUS EXPLORATION**

Previous work in the district for gold, base metals and uranium has been undertaken by BHP, who explored along the Fish River Fault for SEDEX style mineralisation, and diamond explorers, who have been active in this area for many years.

Exploration activities undertaken by Marengo Mining Limited in the 2005 field season consisted of:

- Interpretation of geophysical data sets acquired from the Northern Territory Geological Survey
- Four ground magnetic survey lines across the interpreted position of the Fish River Fault
- Preparation of drill site access
- Drilling of nineteen reverse circulation drill holes to test a variety of geophysical targets.

Detailed results are described in First Annual Report for the period 13 October 2004 to 12 October 2005, by Marengo Mining.

## 4. 2006 EXPLORATION

A reconnaissance geological survey was undertaken in August 2006. Following this, Hawke Geophysics Pty Ltd was contracted to review previously acquired geophysical data in order to identify the unconformity contact between the crystalline basement rocks (in particular the Murphy Metamorphics) and the overlying sedimentary rocks of the South Nicholson Basin.

The primary mineralisation model considered was for unconformity related uranium and gold at this contact, with identification of a potential chemical trap, such as a cross cutting dolerite or graphitic shale, also used as a targeting criteria.

To assist in the geological interpretation of the GeoTEM (airborne EM) survey, the data were reprocessed to produce conductivity-depth inversion (CDI) sections and depth slice products by Integrated Geophysical Solutions of West Perth.

Nineteen target locations were identified for initial ground follow-up, testing a range of interpreted unconformity surface, dolerite and basement conductor (graphite) features. Immediate follow up work included the collection of 59.8 km of ground magnetics and 7,818 ground spectrometer readings.

Selected magnetic features of the ground magnetic profiles were modelled to help constrain their geometry, including:

- The main magnetic anomaly target in the centre of the eastern tenements has a modelled depth of 220 m.
- The magnetic source within the Cambrian basalts is modelled at 160 m depth.
- Interpreted dolerite dykes have a modelled depth of 150 m.
- (Basement) magnetic targets in EL24196 have a modelled depth of 230 m.

The spectrometer survey identified several areas of anomalous uranium concentration (ranging from 8-12 ppm eU), including a 1.3 km zone of elevated uranium along the interpreted basement unconformity corridor. In general, there is a good correlation between the ground and airborne radiometric surveys.

#### 5. 2007 EXPLORATION

Exploration work completed during the reporting period focussed on the further evaluation of exploration targets delineated during the previous reporting period (2006).

The following exploration work was completed during the 2007 reporting period:

•Two RC drill holes (07RCBG01-2), with total of 234.5m being drilled and sampled.

•311.97 line kilometres of geophysical (ground radiometric) surveying by 4WD vehicle.

•Geochemical (soil) sampling program, with a total of 248 soil samples being collected by handauger and machine auger.

•Preliminary (orientation) program of vegetation sampling, with 207 leaf and stem samples being collected.

#### 6. 2008 EXPLORATION

Exploration work completed during the reporting period consisted of:

- Rehabilitation of historical drill sites (Marengo-era) by earthmoving contractor, and
- Biogeochemical (vegetation) sampling program at seven target prospect areas.

Previous exploration completed by Marengo on EL 24115/95 involved drilling 19 drill holes (BWC 001-019). No rehabilitation of drilling sites was completed, with sample bags still being observed in varying stages of decomposition at each site by Mega Hindmarsh exploration staff.

A backhoe and operator were contracted to rehabilitate the 19 historical drill sites. For each site, drill sample remains were buried and the hole collar was plugged, snapped off below surface and the ground mounded to prevent wash-out. Photographs were taken to provide a permanent record of rehabilitation activity with a summary report, detailing all rehabilitation works being forwarded to the NT Department of Primary Industry, Fisheries and Mines.

A total of 98 biogeochemical samples where collected from seven target areas, based on previous interpretation of geophysical survey data by geophysicist Phil Hawke. One rock sample was collected with anomalous values of uranium (0.47ppm), thorium (1.8ppm), copper (14ppm), chromium (20ppm), lead (6ppm), vanadium (57ppm) and zinc (13ppm) and a number of other elements being identified by analysis.

#### 7. 2009 EXPLORATION

Proposed exploration of both tenement areas were subject to negotiations between the current operator, Mega Hindmarsh Pty Limited and future joint-venture partner Bowgan Minerals Limited. Because this discussion and the formalisation of a Heads of agreement took to the end of the period of this report, no field exploration activities were carried out.

A formal meeting was held between Mega Hindmarsh Pty Limited and officers of the Titles Office, Minerals and Energy Group of the Northern Territory Department of Regional Development, Primary Industry, Fisheries and Resources on Tuesday, 9<sup>th</sup> June 2009, with exploration proposals, tenement and covenant variation issues being discussed for the future operation of EL 24115 and 24195.