



**FINAL REPORT**

**EXPLORATION LICENCE 24262**

***Moline Project***

**Year ending 2 March 2011**

Distribution:-

1. DOR Darwin, NT
2. Crocodile Gold Australia, Humpty Doo

Report Number: EL24262 BR2010

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## 1 EXECUTIVE SUMMARY

Exploration Licence (EL) 24262 is located about 200 km SE of Darwin along the Kakadu Highway with a distance of about 45 km from Pine Creek. This EL makes up one of 7 exploration licences (EL 22966, EL 22967, EL 22968, EL 22970, EL 23605, EL 24127, EL 24262) covering the Moline goldfield. Terra Gold Mining Pty Ltd, a wholly owned subsidiary of GBS Gold Australia acquired exploration rights from tenement owner (Mike Teelow) in 2004. Crocodile Gold acquired the Moline group of tenements in 2009 after GBS Gold Australia (liquidated) went into voluntary administration.

The tenement expired on 2 March 2011 and an application for Substitute Exploration Licence (SEL) numbered 28616 was applied for on 11 February 2011 to cover the area over the Moline Project (EL22966, EL22967, EL22968, EL22970, EL23605, EL24127 and EL24262).

EL24262 is situated within the central region of the Pine Creek Orogen, which is characterised by open to tight, upright N to NW-trending folds of the Palaeoproterozoic meta-sedimentary and volcanic rocks. The tenement area is dominated by massive greywacke of the folded Burrell Creek Formation, with portions of the McCarthys Granite in the north-west corner of the tenement. The Burrell Creek Formation is principally composed of greywacke, siltstone, sandstone and shale.

From 2003 to the licence expiry in February 2011, exploration activities on EL24262 have included field mapping and reconnaissance work, desktop studies, surveying and geochemical sampling. The Rockwall Prospect on the southern boundary of the EL24262 was found to be of interest however, most of the mapping and sampling over EL24262 focused on the northern boundary of the tenement, where sampling and mapping identified the southern extent of a soil anomaly situated over EL23605 and EL22967.

A total of \$70,167 has been spent over the life of the tenement.

## **2 INTRODUCTION**

EL24262 is part of the Moline Group of tenements (EL 22966, EL 22967 EL 22968, EL 22970, EL 23605, EL 24127 and EL 24262) which surrounds the Moline goldfield. The tenement expired on the 3 March 2011. The other tenements covering the project area are also due to expire. An application for SEL28616 was submitted on 11 February 2011 to cover the area over the Moline project.

In this report, exploration activity conducted over the life of the tenement is documented.

## **3 LOCATION AND ACCESS**

EL24262 is located approximately 200 km SE of Darwin, but is further by road. Access is from Pine Creek (220 km SE of Darwin) along the Kakadu Highway (approximately 45 km east of Pine Creek). Access within the tenements is possible during the dry season using old mining tracks and station tracks. Topography consists of low hills and ridges, usually with good rock outcrop, which drain into the Mary River via Bowerbird, Evelyn, Eureka and O'Neil Creeks. The Mary River forms the northern boundary of the Moline project area (EL24127), and the Wandie Creek is close to the southern boundary EL24262. Vegetation consists of open savannah woodlands.

The location of the EL24262 is shown in Figure 1.

## **4 TENEMENT DETAILS**

EL24262 was originally granted to Titleholder, Micheal Daniel Teelow on the 3 March 2003. Terra Gold Mining Pty Ltd, a wholly owned subsidiary of GBS Gold Australia acquired exploration rights from tenement owner (Mike Teelow) in 2004.

GBS Gold Australia went into voluntary administration on 15 September 2008 and as a result all assets held by the company were placed under care and maintenance. In June 2009, Crocodile Gold Australia announced to purchase all assets and exploration rights held by GBS Gold Australia (liquidated) in the Northern Territory. Crocodile Gold acquired the Moline Project tenements as part of the takeover from GBS Gold Australia liquidated) in November 2009.

The tenement expired on 2 March 2011. An application for SEL28616 was submitted to the DoR on 11 February 2011 to cover the Moline Project area.

Underlying cadastre is the Mary River Wildlife Ranch Pty Ltd (No. 1631).

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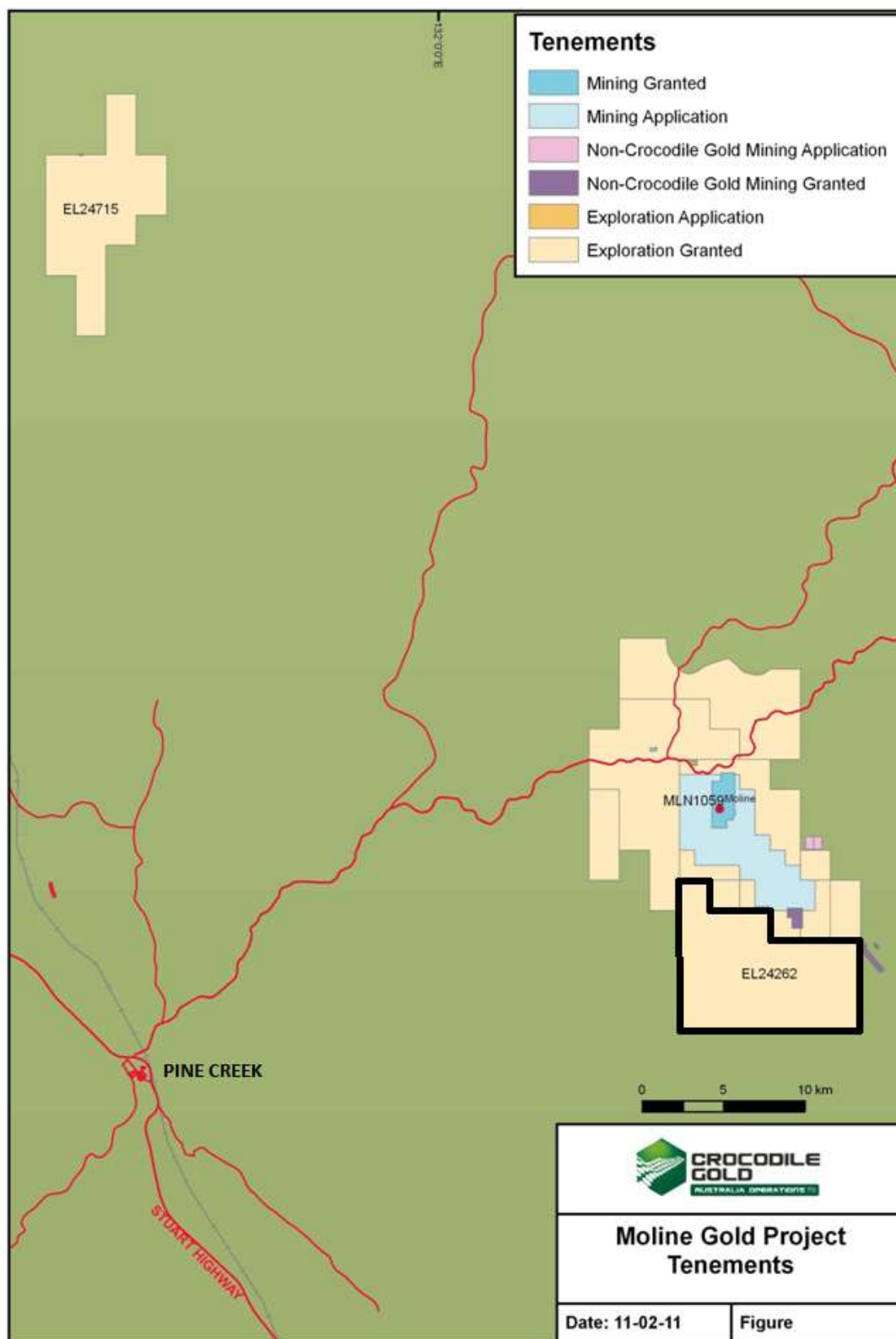


Figure 1: EL24262 Tenement Location

## 5 GEOLOGICAL SETTING

### 5.1 REGIONAL GEOLOGY

EL24262 is situated within the Pine Creek Orogen, a tightly folded sequence of Lower Proterozoic rocks, 10km to 14km in thickness, laid down on a rifted granitic Archaean basement during the interval ~2.2-1.87Ga. The sequence is dominated by pelitic and psammitic (continental shelf shallow marine) sediments with locally significant inter-layered cherty tuff units. Pre-orogenic mafic sills of the Zamu Dolerite event (~1.87Ga) intruded the lower formations of the South Alligator Group (Ahmad et al 1993). During the Top End Orogeny (Nimbuwah Event ~1.87-1.85Ga) the sequence was tightly folded, faulted and pervasively altered with metamorphic grade averaging greenschist facies with phyllite in sheared zones.

The Cullen intrusive event introduced a suite of fractionated calc-alkaline granitic batholith into the sequence in the period ~1.84-1.1.78Ga. These high temperature I-type intrusives induced strong contact metamorphic aureoles ranging up to (garnet) amphibolite facies, and created regionally extensive biotite and andalusite hornfels facies. Less deformed Middle and Late Proterozoic clastic rocks and volcanics have an unconformable relationship to the older sequences. Flat lying Palaeozoic and Mesozoic strata along with Cainozoic sediments and proto-laterite cementation overlie parts of the Pine Creek Orogen lithologies. Recent scree deposits sometimes with proto-laterite cement occupy the lower hill slopes while fluvial sands, gravels and black soil deposits mask the river/creek flats areas.

There is a tendency for gold mineralisation to be focused in anticlinal settings within strata of the South Alligator Group and lower parts of the Finnis River Group. This sequence evolved from initial low energy shallow basinal sedimentation to higher energy deeper water flysch facies.

Gold mineralisation appears to be related to the I-type members of the Cullen Batholith, formed as a result of fractionation and differentiation processes during magma emplacement. That ultimately led to the evolution of hydrothermal fluids responsible for gold mineralisation in the adjacent meta-sediments (Bajwah, 1994).

Figure 2 illustrates the regional geology of the Moline project.

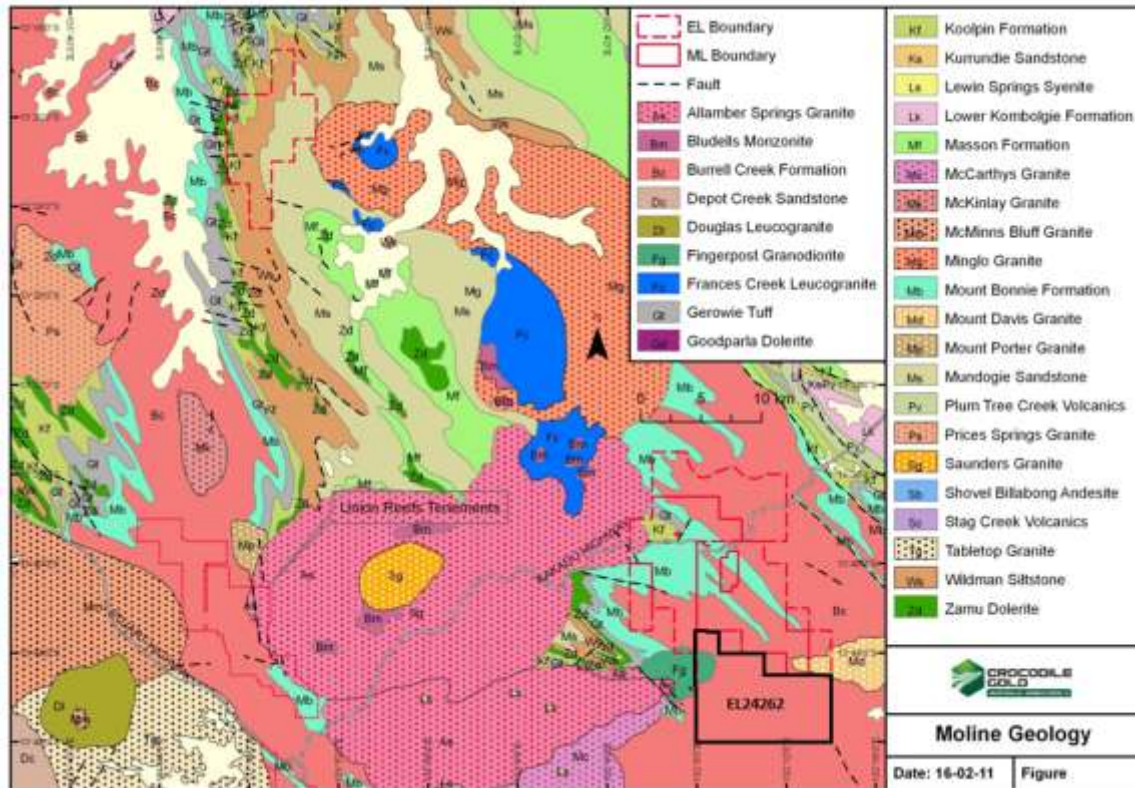


Figure 2: EL24262 Regional Geology

## 5.2 LOCAL GEOLOGY

The tenement area is dominated by massive greywacke of the folded Burrell Creek Formation, with portions of the McCarthy's Granite in the north-west corner of the tenement. The Burrell Creek Formation is principally composed of greywacke, siltstone, sandstone and shale.

## **6 EXPLORATION ACTIVITIES FOR EL24262 – 2003 TO 2011**

In the first years of tenure Titleholder, Michael Daniel Teelow, focused exploration over MLN1059 and no work was conducted on EL24262 from 2003 to May 2005.

During 2005 to 2006, JV partner Terra Gold Mining (subsidiary of GBS Gold Australia) conducted a desktop review of the Moline Project identifying the Rockwall Prospect on the southern boundary of EL24262 as an area of interest. Geological mapping and surveying of the tenement was also conducted.

From May 2006 to March 2007, exploration activities included a desktop review and reconnaissance field mapping. A 100m x 400m geochemical sampling program was conducted over the Moline project where 55 samples were collected within EL24262.

During 2007 to May 2008, GBS Gold Australia conducted a literature review, geological mapping and collected 46 geochemical soil samples over EL24262. These samples were collected as part of a larger 50m x 100m geochemical sampling program over the entire Moline project area. A large soil anomaly lies over EL23605 and part of EL22967 with the southern extent located over the northern part of EL24262. Results showed a maximum value of 0.016ppm Au.

Figure 3 illustrates the geochemical samples collected over EL24262 during 2006 and 2007.

In September 2008 GBS Gold Australia went into voluntary administration and from September 2008 to November 2009 exploration was confined to desktop reviews and reconnaissance field mapping.

Crocodile Gold obtained the Moline Project group of tenements, including EL24262, in November 2009 and has conducted a review of satellite imagery, purchased new satellite images and completed field mapping.

Over the life of the tenement a total of \$70,167 has been spent on EL24262. Table 1 lists the exploration expenditure for each year of tenure.



Year	Exploration Activity	Expenditure
March 2003 to March 2004	-	-
March 2004 to May 2005	-	-
May 2005 to May 2006	desktop review, mapping and surveying	\$17,184
May 2006 to March 2007	desktop review, mapping and geochem sampling	\$8,268
March 2007 to May 2008	literature and data review, recon mapping and geochem sampling	\$20,760
May 2008 to March 2009	project review and recon mapping	\$9,960
March 2009 to May 2010	project review and recon mapping	\$12,040
May 2010 to expiry	review of satellite imagery and feild mapping	\$1,955
<b>TOTAL</b>		<b>\$70,167</b>

Table 1: EL24262 expenditure 2003 to 2011

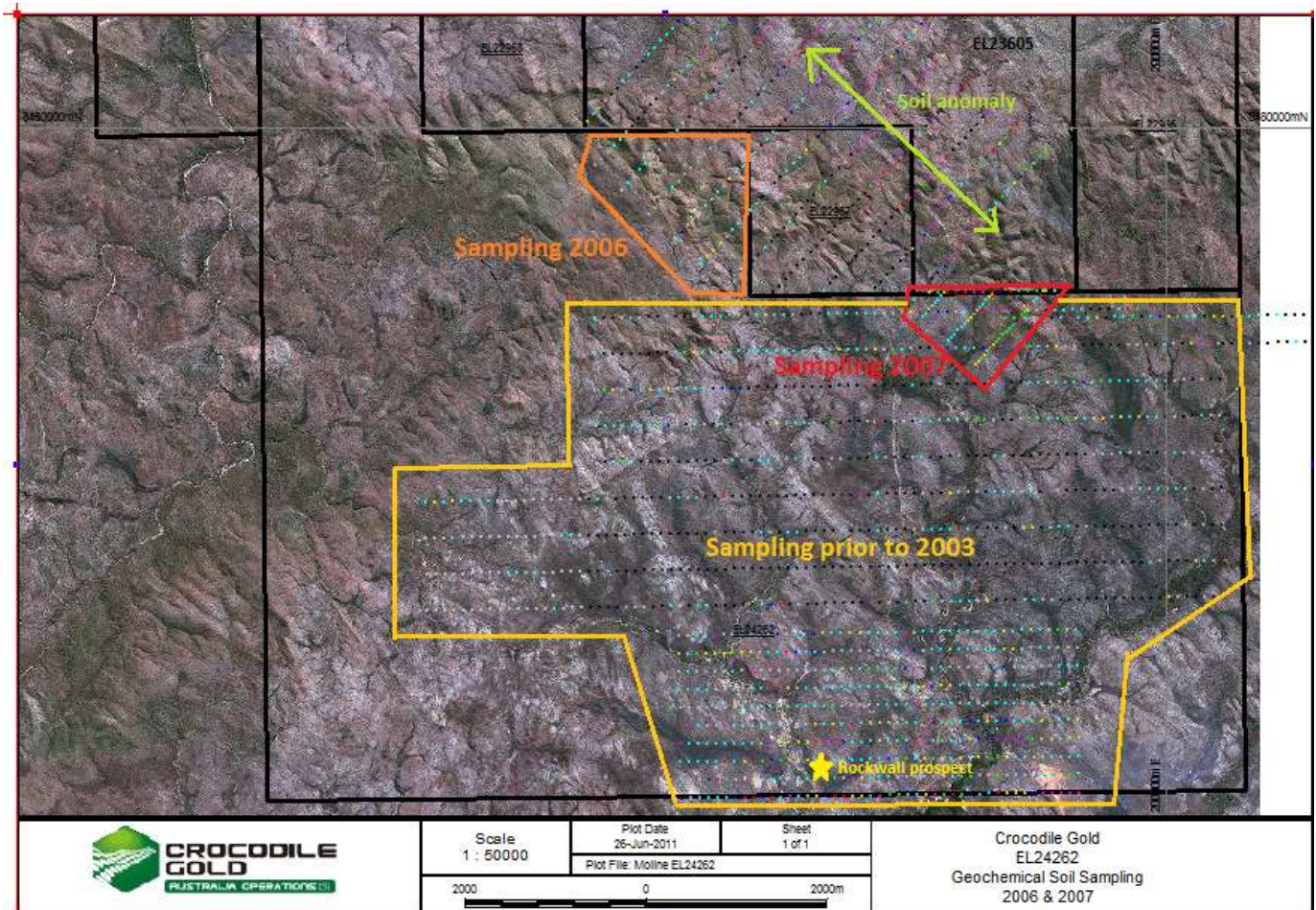


Figure 3: EL24262 geochemical sampling for 2006 & 2007

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