



ANNUAL TECHNICAL REPORT

MLN 41

Evelyn Prospect

1 January 2011 to 31 December 2011

Distribution:-

1. DME Darwin, NT
2. Crocodile Gold Australia, Humpty Doo
3. Crocodile Gold Australia, Brocks Creek

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TABLE OF CONTENTS

1	EXECUTIVE SUMMARY	3
2	INTRODUCTION.....	4
3	LOCATION AND ACCESS.....	4
4	TENEMENT DETAILS	4
5	GEOLOGICAL SETTING.....	6
5.1	Geology	6
5.2	Mineralisation and Prospectivity	7
6	PREVIOUS EXPLORATION.....	8
7	EXPLORATION ACTIVITY 1 January 2011 TO 31 December 2011	9
8	FORWARD EXPLORATION PROGRAM YEAR ENDING 31 December 2012.....	
9	REFERENCES.....	12

1 EXECUTIVE SUMMARY

MLN 41 is a small tenement which is located about 5 km NW of the Moline Gold Field. The MLN was applied for to cover North Evelyn base metal prospect and was granted in 1969 for 21 years. It covers 8.9 hectares, and is surrounded by EL 28616. This tenement was held by Michael Teelow until August 2011 when it was transferred to Crocodile Gold. In the reporting period Crocodile Gold was responsible for all activities on the lease.

The tenement is situated in the northern Part of Mount Evelyn 1: 250 000 sheet (Pine Creek Orogen), which is characterised by open to tight, upright N to NW-trending folds within the Palaeoproterozoic meta-sedimentary and volcanic rocks. MLN 41 and surroundings is host to gold and base metal mineralisation. Geological setting of the area shows that tenement and surroundings (EL 28616, Crocodile Gold Australian Operations Manager) has significant potential for gold and base metal mineralisation. Presence of the Koolpin Formation and Allamber Springs Granite further point towards the presence of uranium mineralisation as found on the western side of the granite body.

During several field trips were taken to the area to understand the local infrastructure and local geology, a VTEM survey was also flown over the title, this survey is currently being review and prioritised.

A site visit is planned to the tenement in the coming year to complete detailed local geology mapping with some associated sampling. A review of the VTEM targets on this tenement may also be required.

2 INTRODUCTION

MLN 41 is located on the Mount Evelyn (1:250 000) sheet area, about 5 km NW of the Moline Gold Field. The MLN covers the North Evelyn base metal prospect and was acquired from M Teelow by GBS who then sole the title to Crocodile Gold. Due to issues with the transfer documents this title was not officially handed to Crocodile Gold until August 2011.

A number of base metal deposits/prospects are located around the tenement which is hosted by marble and calc-silicate hornfels of the Koolpin Formation. Evelyn lead-zinc-silver mine is the largest deposit of this class and was initially worked during 1886–1889, producing 610 tonnes of lead and 2.8 tonnes of silver (Hossfeld et al. 1937).

While these deposits are only small the high grade nature of them suggests more work is required to understand the potential.

3 LOCATION AND ACCESS

The tenement centres on Latitude 132° 07'07.75" and Longitude 13° 38'39.96" and is situated about 200 km SE of Darwin and about 5 km NW of Moline Gold Field. Access to the tenement can be obtained from the Stuart Highway just before Pine Creek along the Kakadu highway, which runs east of the Pine Creek Township. 20 km on the Kakadu Highway will take you to the Moline turn off, and then north of the Kakadu Highway by a bush track for 4 km, leads to the tenement. This track is only for four wheel drive vehicles and can be restricted during wet season. Topography consists of low hills and ridges, usually with good rock outcrop, which drain into the Mary River. Vegetation consists of open savannah woodlands.

4 TENEMENT DETAILS

MLN 41 covers 8.9 hectares and is surrounded by EL 28616, which is owned and operated by Crocodile Gold. The MLN was applied for to cover North Evelyn base metal prospect and was granted in 1969 for 21 years. Last renewal was granted on 20 February 2007 and expired on 31 December 2011, a new renewal was lodged with the department and is currently being assessed. Crocodile Gold purchased this tenement, along with other tenements in the Moline Project area, from GBS as part of the sales agreement which was finalised in November 2009. Due to issues outside the control of Crocodile Gold this title could not be transferred to the company until August 2011. Crocodile Gold is manage the title though

Underlying the tenement is the Mary River Wildlife Ranch Pty Ltd (No. 1631) for the whole area, except for a small portion of Crown Lease (CLP1617) held by the Moline Golf Club (Inc).

Figure 1 shows the location of MLN41.

5 GEOLOGICAL SETTING

5.1 GEOLOGY

MLN 41 is situated within the Pine Creek Orogen, a tightly folded sequence of Lower Proterozoic rocks, up to 14km in thickness, laid down on a rifted granitic Archaean basement during the interval ~2.2-1.87Ga. Geology of the area has been described by Stuart-Smith et al. (1987) and Ahmad et al. (1993). The sequence is dominated by pelitic and psammitic (continental shelf shallow marine) sediments with locally significant inter-layered tuff units. Pre-orogenic mafic sills of the Zamu Dolerite event (~1.87Ga) intruded the lower formations of the South Alligator Group.

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 batholiths into the sequence in the period ~1.84-1.74Ga. 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 Geosyncline lithologies. Recent scree deposits 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. Some of the gold mineralisation appears to be related to the I-type members of Cullen Batholith, formed during the evolution of hydrothermal fluids as a result of fractionation and differentiation processes (Bajwah, 1994).

The tenement is located northern Part of Mount Evelyn 1: 250 000 sheet (Pine Creek Orogen), which is characterised by open to tight, upright N to NW-trending folds of lower Proterozoic meta-sedimentary and volcanic rocks (Ferenczi and Sweet, 2005). The geology (from the 1:250,000 map) within the tenement areas is shown in Figure 1. The Koolpin Formation meta-sediments dominate the tenement. Surrounded by Gerowie Tuff and Mount Bonnie Formation, the sequence has been intruded by the Allamby Springs Granites on the east. This has introduced a strong contact aureole in the strata, marked by the presence of skarn mineralisation.

MLN 41 and surrounding is host to gold and base metal mineralisation. Further south, well known Moline Gold Field is located which was discovered in 1882 by Chinese and since then has produced 2.5 of gold. A skarn gold prospect (Dustbowl) lies in the close proximity of the tenement (Figure 2). The host rock is vein quartz within calc-silicate skarns

assigned to the Koolpin Formation. Initial rock chip assays of up to 42.7 g/t Au were not substantiated in follow-up programs (Fitzgerald 1989).

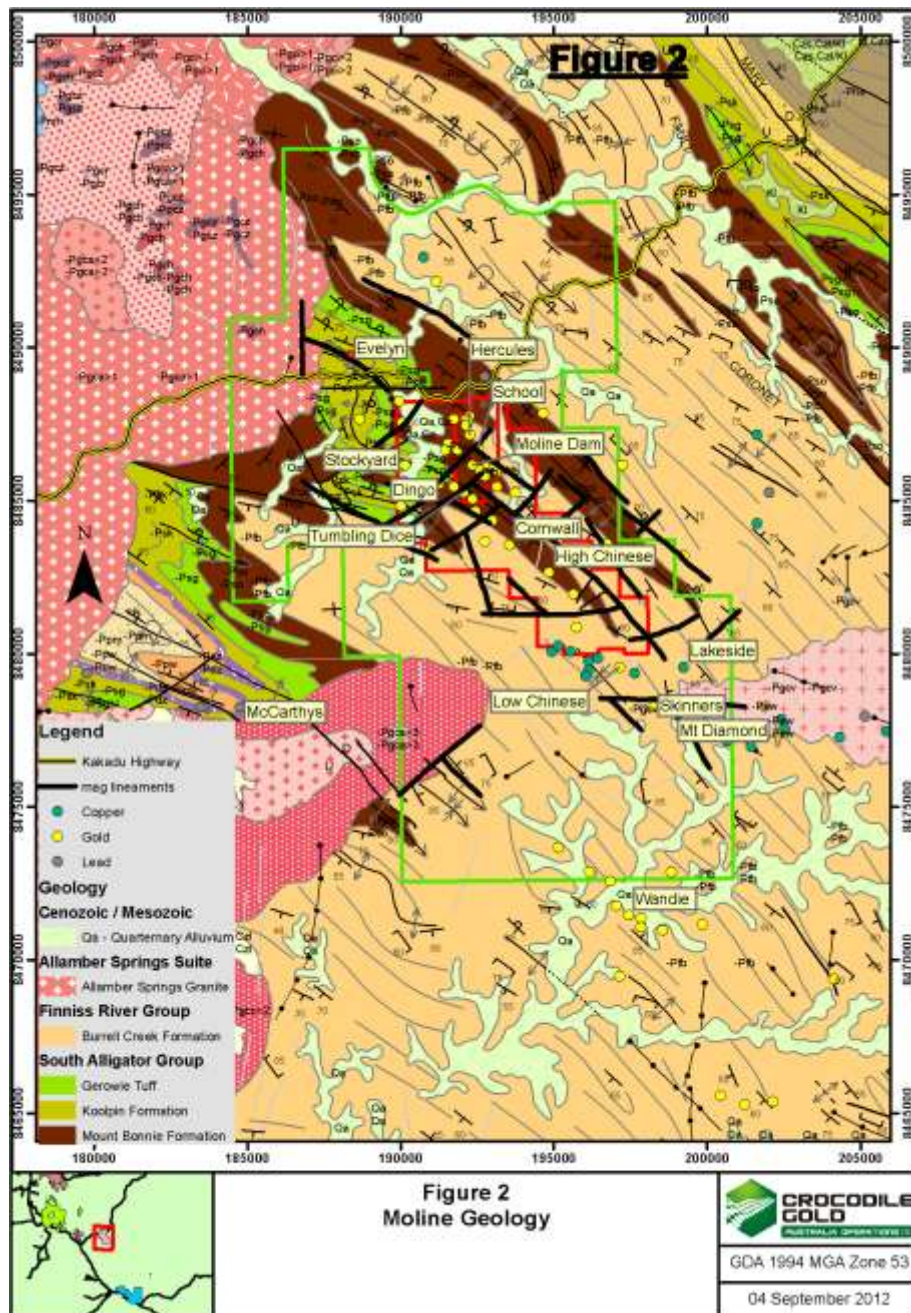


Figure 2: Moline District Geology

5.2 MINERALISATION AND PROSPECTIVITY

The tabular, north-trending ($340\text{--}010^\circ$) lodes dip about 80° to the east and are up to 4.5 m wide and 80 m long. These lodes are widest at their northern end, narrowing southwards, and at depth are known to pinch and swell. The host rocks strike westerly

(290°) and dip 50° to the north. Faulting is common in the vicinity and appears to control the orientation and strike extent of the ore-bodies.

A number of base metal deposits/prospects are located around the tenement which is hosted by marble and calc-silicate hornfels of the Koolpin Formation, adjacent to the Allamber Springs Granite (Figure 1). Evelyn lead-zinc-silver mine is the largest deposit of this class and was initially worked during 1886–1889, producing 610 t Pb and 2.8 t Ag (Hossfeld et al. 1937). Mining was intermittent between 1894 and 1948, producing 4149 tonnes of ore (Bagas 1983). United Uranium NL reopened the mine in 1966, producing 81 554 tonnes of ore grading 5.5% Pb, 7.5% Zn and 276 g/t Ag until mine closure in August 1970 (NT DPIFM Mine Production Records 1966–1970). Some 54 t of cadmium and 56.6 kg of gold were extracted as by-products (Bagas 1983). A remaining indicated resource of 7420 t at 6.7% Pb, 3.7% Zn and 343 g/t Ag was reported at the time of mine closure.

Geological setting of the area shows that tenement and surroundings (EL 28616, Crocodile Gold manager) has significant potential for gold and base metal mineralisation. Presence of the Koolpin Formation and Allamber Springs Granite further point towards the presence of uranium mineralisation as found on the western side of the granite body.

North Evelyn and Northwest Evelyn are located respectively 400 m and 500 m northwest of the Evelyn mine. About 500 t of high-grade silver-lead ore was extracted from each open cut by United Uranium NL in 1967–1968. The rich pods were 0.5–1 m wide and continuous over a strike distance of 40 m. Weathered shale and calc-silicate hornfels formed the wall-rock. A combined remaining resource of 38 100 t at 3.7% Pb and 193 g/t Ag has been estimated for the deposits (Williams 1998).

6 PREVIOUS EXPLORATION

Previous exploration activities have been closely related to historical mining activities which are outlined below. Below is extracted from Butler 1994

The Evelyn Ag-Pb-Zn mine was first worked in the 1880's (Ellis, 1926) and was intermittently operated until 1966 when total recorded production was approximately 2,200 tonnes with 600 tonnes of lead and 89,000 ozs of silver (Walpole, 1968). Most of the early production was from the oxidised zone of nine separate outcropping lodes.

The main shaft was reported to be 35m deep with north and south drives (35m and 43m long respectively) and an eastern cross cut (blocked at 18m) at the IOm level (Ellis, 1926). The lode was stoped at the IOm level where it was reportedly 5.5m wide (Ellis, 1926). The remaining lodes have been worked by surface cuts or shallow shafts.

The Aerial Geological and Geophysical Survey of Northern Australian conducted both potential ratio and self potential surveys over the area which indicated zones of high conductivity north-west of_ the mine (AGGSNA, Bulletin No.26).

In 1956, the BMR carried out a geophysical survey utilising electromagnetic, magnetic and self potential methods (BMR Record 1957/101). Six electromagnetic anomalies

were located, three of which were considered to be significant. Trenching and some drilling was recommended, however it is not known whether they were carried out.

There appeared to be no spatial relationship between the electromagnetic results and the lodes, while weak self potential anomalies were found to be associated with, but limited to the known sulphide lodes.

Between 1966 and 1970, United Uranium NL mined and treated 82,889 tonnes of ore from the Evelyn Mine at an average grade of 260.2 g/t Ag, 5.8% Pb and 6.1% Zn, from a combination of underground and open cut workings. The underground workings comprised a main shaft and 3 levels at 30m, 67m and 104m over a strike length of approximately 110m.

In September 1970, three diamond drill holes were drilled from the 104m level to determine the feasibility of further development (Cox, 1970). The mineralisation intersections are summarised in Table 1. Total ore reserves were calculated to be 7,420 tonnes with an average grade of 11.2 oz/ton Ag, 6.7% Pb and 3.7% Zn. It was concluded that the tonnage and grade of ore was insufficient to influence plans to phase out production at the Evelyn Mine (Cox, 1970).

DRILL HOLE INTERSECTIONS			ASSAY RESULTS				
Hole No.	From-To	True Width	Au (g/t)	Ag (g/t)	Pb%	Zn%	Cu%
94	24.89m-25.4m	0.24m	0.58	465	8.1	7.5	0.85
	24.89m-26.85m	0.98m	0.46	228.8	3.2	5.1	0.42
95	25.3m-25.8m	0.24m	0.31	2297.1	49.6	9.5	0.79
	23.47m-26.09m	1.31m	0.23	527	9.49	3.25	0.27
96	33.35m-33.83m	0.26m	15.61	765.7	12.4	6.1	2.36
	32.79m-34.14m	0.67m	5.66	434	6.6	6.0	1.07

At the time of closure, stated reserves indicated by diamond drilling were 7,420 tonnes @ 342.9g/t Ag, 6.7% Pb and 3.7% Zn (source: "United Uranium NL, Summary of Holdings").

7 EXPLORATION ACTIVITY 1 JANUARY 2011 TO 31 DECEMBER 2011

During the reporting period several field trips were taken to Evelyn, on one trip three samples were collected from around the tenement, no co-ordinates were taken as the material was most likely loose from previous mining activities. The results can be seen in table 2 below

Sample_ID	Sample_Type	Au	Au1	Pd	Ni	Co	Cu
		PPM	PPM	ppm	ppm	ppm	ppm
		0.01	0.01	0.01	2	2	1
Method		FA50	FA50	FA50	G300I	G300I	G300I
EYV001	Grab	0.32		L	L	2	8,228
EYV002	Grab	0.53	0.6	L	4	6	8,273
EYV003	Grab	0.14		L	247	22	390
Sample_ID	Cr	Mn	As	Zn	Pb	Ag	Bi
	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	2	1	10	2	5	1	5
Method	G300I	G300I	G300I	G300I	G300I	G300I	G300I
EYV001	3	147	899	143,112	18,662	51	L
EYV002	3	525	3,950	113,124	25,992	239	21

Table 2: Results from grab sampling at Evelyn

During the year a VTEM survey was also conducted over the Moline Project including MLN41. This survey has now been reviewed with several targets identified for further work. This will include a review of past geophysical and geochemical surveys around the deposit.

At least two targets around the Evelyn mine have been identified for follow up work as shown below.

Conductor #	SG Priority	Croc Priority	Length m	Surface Work	Host Formation	Comments
MOLT008	1	1	200	Yes	Koolpin	Near granite contact, immediately south of Evelyn Mine, magnetic destruction
MOLT055	NP	2	800-1000	no	Koolpin	Both 055 and 056 are close to Gerowie tuff contact. Possibly Evelyn mine environment. Distinct magnetic low. Several circular magnetic features. Look at 056 first

Table 3: VTEM targets requiring future work around Evelyn Mine (Nielsen, 2012)

The reported expenditure for the VTEM data capture and analysis by Southern Geoscience is in the order of \$90. The low costs are due to the small nature of the title with respect to the larger exploration title surrounding it. Assaying of samples is around \$95.

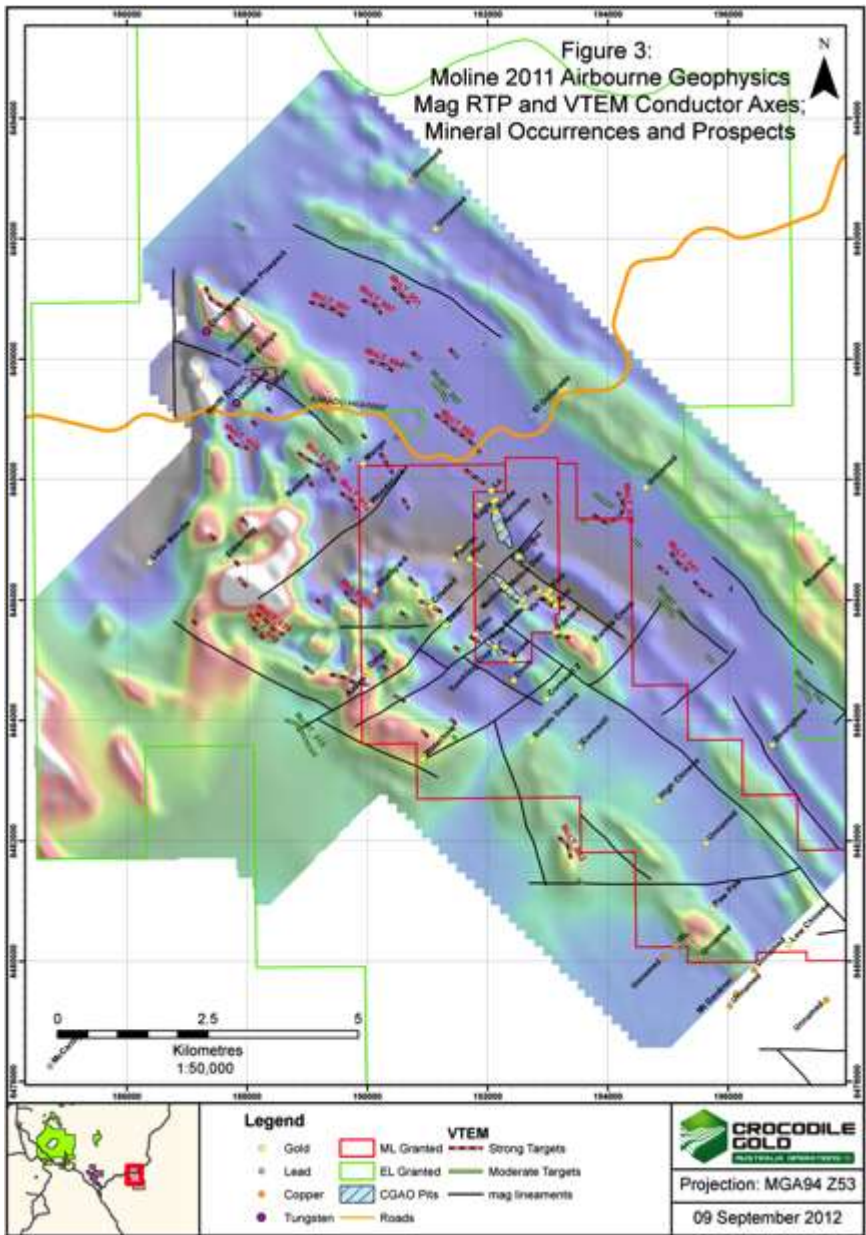


Figure 3: VTEM survey over Moline Project

8 RECOMMENDATIONS AND CONCLUSION

Since the capture of the VTEM data several targets around the Moline Project have been identified, these will require follow up mapping and sampling. This includes some areas around MLN41.

The Evelyn prospect is also historically significant in this area and more data review and research is required to understand the history of the deposit. This will play a key part in all future exploration activities in the area.

A budget of \$1,000 is planned for this title

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