PARTIAL REDUCTION REPORT

EL 24151

Northern Territory

Darwin SD5204  1:250,000
Noonamah 5172  1:100,000

Titleholders: Crocodile Gold Australia Pty Ltd

Distribution:
- DOR Darwin, NT
- Crocodile Gold Australia P/L, Humpty Doo
- Crocodile Gold Australia P/L, Brocks Creek

Report No: PC/BJV/10-40

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SUMMARY

EL 24151 is an important tenement within Crocodile Gold Australia’s port folio, which is located about 75km SE of Darwin, Northern Territory. Toms Gully Mine and processing facility is about 20 kilometers south-east of the project area. The tenement was granted initially to Renison Consolidated Mines NL and was acquired by GBS Gold Australia Pty Ltd in 2007. GBS Gold Australia went into voluntary administration on 15 September 2008, and all assets including EL 24251 were acquired by Crocodile gold Australia on 6 November 2009. To comply with the Mining Act NT, crocodile Gold Australia decided to surrender 4 eastern blocks of the EL.

The Project area is located within the central northern portion of the Proterozoic Pine Creek Orogen. The Palaeoproterozoic rocks of the region include Mount Partridge Group – the Wildman Siltstone which is unconformably overlain by South Alligator Group, which comprises the Koolpin Formation, Gerowie Tuff and Mount Bonnie Formation. The Finniss River Group – Burrell Creek Formation, lies conformably over the South Alligator Group. These meta-sediments are strongly folded along a NNE trending anticlinal and synclinal axis.

During the term of relinquished blocks, no significant exploration work was undertaken apart from high resolution geophysical survey and a technical review. These studies did not identify any mineral potential of the surrender blocks and therefore, it was decided to surrender these blocks.
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1.0 INTRODUCTION

EL 24151 is situated within the Pine Creek Orogen, and lies adjacent to several gold prospect and deposits and south of the west of the Kakadu National Park. This report covers the work undertaken covering the 4 relinquished blocks of the tenements.

2.0 LOCATION AND ACCESS

EL 24151 is located about 75km SE of Darwin, Northern Territory, and 20 kilometres north west of the Toms Gully Mine Site on the Arnhem Highway.

The Arnhem Highway bounds the tenement to the north (Figure 1). The tenement encompasses Leaning Tree Lagoon and is two kilometres east of the Adelaide River. The north and north west of the tenement are marked as old river beds and black soil plains making access difficult in this region. The tenement falls on the Darwin 1:250,000 sheet and on the Noonamah 1:100,000 sheet.

3.0 TENEMENT STATUS AND OWNERSHIP

EL24151 was granted on 2 August 2007 and expires on 1 August 2013. It comprises 25 graticular blocks that cover approximately 56.01 km. EL24151 was registered in the name of Renison Consolidated Mines NL and was acquired by GBS Gold Australia Pty Ltd in the third quarter of 2007. Underlying cadastre (NTP 1731) belongs to private party.

However, on 15 September 2008, GBS Gold Australia went into voluntary administration and as result of that all exploration and mining assets were placed under care and maintenance. In June 2009, Crocodile Gold Australia announced to purchase all assets
held by liquidated GBS Gold Australia in the Northern Territory. After meeting statuary and regulatory requirements, these assets including EL 24151 were transferred to Crocodile Gold Australia on 6 November 2009.

Crocodile Gold Australia decided to surrender 4 eastern blocks (SD52642X, SD52642W, SD52642V AND SD52641P) to comply with the Mining Act.

4.0 GEOLOGICAL SETTING

The Project area is located within the central northern portion of the Proterozoic Pine Creek Orogen. The Palaeoproterozoic rocks of the region include Mount Partridge Group – the Wildman Siltstone which is unconformably overlain by South Alligator Group that comprises the Koolpin Formation, Gerowie Tuff and Mount Bonnie Formation (Figure 2). The Finniss River Group – Burrell Creek Formation, lies conformably over the South Alligator Group. The main lithologies in the project area consist of shale, carbonaceous shale, siltstone and minor greywacke of the Koolpin Formation, siliceous tuff of the overlying Gerowie Tuff and the Mount Bonnie Formation, which is inclusive of shales, siltstone, greywacke, tuff and chert rich sediments. All the Proterozoic stratigraphic units host significant gold and/or base metal mineralisation e.g. Rustler’s Roost within the Mount Bonnie Formation, Woodcutters Base Metal Mine and Toms Gully Gold Mine are located with the Mount Partridge Group. The above sediments are strongly folded along a NNE trending anticlinal and synclinal axis.
Figure 2: Geological Setting of the project area
5.0 PREVIOUS EXPLORATION

Work commenced during the first year of tenure included a review of the previous exploration that has covered the tenements.

A to P 2049 (EL142) was explored by Geopeko. During this exploration three Uranium anomalies were identified – Quest 40, 41 & 39 and were held by Geopeko as MLN319 some seven kilometres to the south east of EL24151.

During 1973 John Snyder (Kewanee Australia) undertook exploration on EL114 (AP2605), EL515 (AP3075). EL114 was a tenement of considerable size on the Arnhem Highway. EL515 covers a slither through the central portion of EL24151. An airborne scintillometer and magnetometer survey was completed over the region (legible maps are present in reports see Figure 3). Concise geological mapping was completed over the EL24151 region. Diamond drilling and airtrac also were completed. Prospects A, B and C were highlighted. Manton Hill (to west of EL24151) was mapped as well with DDH7 & 8. Detailed drill logs are available in CR 19730058/CR19730028.

Mention is made in CR19730028 that the only prominent outcrop is located around the Leaning Tree Lagoon. Diamond Holes 9 and 10 indicate that there is approximately 20 to 35 metres of Cretaceous sandstone over Prospects A and B. “The base of the sandstone is commonly strongly stained by limonite. Secondary quartz is common along the unconformity and the sandstone commonly weathers to a light reddish sandy soil.” Prospect A had higher geochemical values were related to a massive hematite – goethite outcrop. Values included Cu at 146ppm, Pb 530ppm, Zn 590ppm, Ag 9ppm, Co 133ppm and Ni 390ppm. Copper and Cobalt highs are also related to MnO rich zones. U3O8 values also recorded which are generally not higher than 10ppm.

Eight Uranium anomalies are reported within EL114 within the Acacia Gap Tongue (silicified quartz greywacke & quartz sandstone with pyrite casts). In CR19730048 the locations are reported to be in Figure 7A but could not locate this diagram.
Kewanee is reported by INCO Australasia as having completed an extensive exploration programme in the region searching for uranium and base metals. Work included airborne radiometric and magnetic surveys, mapping, RAB and auger holes and six diamond holes. Only dolerite dykes were outlined in the magnetic survey. RAB and auger holes holes were hampered by in excess of 40 metres of overburden. 1000ppm lead is recorded from a diamond drillhole at Manton Hill (core not in existence).

**EL1468** was explored by CRA Exploration during 1978 – 1979. EL24151 covers the northern most region of EL1468. During the first year of exploration CRA undertook regional mapping and in conjunction with this they sampled ironstones for Pb, Zn, Cu, Mn, Ag, U, Au and Sn. Also a regional soil geochemistry sampling programme was completed. Lines 449 – 453 lie within EL24151. No significant Pb, Cu and Zn values were recorded. A high of 134ppm Zn was recorded in the sampling. The second year of work focused on the Manton Hill Prospect (to the west of tenement).

**EL 2240** was explored for by gold and base metals by INCO Australasia Ltd during 1981. Sampling included Au, Cu, Zn, Pb, As, Ag, Co and Mn. EL2240 covers the south west portion of EL 24151. INCO Australasia undertook geological sampling and mapping. Mapping appears to have been undertaken on the current EL24151 with sampling concentrating to the south of the region on an area known as Mantons Hill as discovered by CRA exploration. (Mantons Hill and Dennys Hill are located roughly eight kilometres west of EL24151 adjacent to the Adelaide River). INCO describes the prospect as stockwork quartz system in the Koolpin Formation. Manganese values on EL 2240 were recorded up to 7850ppm and identified as pyritic sandstone (sample 317013) and 6500ppm identified as laterite cap (sample 317018).

**EL 5863** covers a slither of EL 24151 to the north. This tenement was sampled by Carpentaria Gold Ltd during 1989 for Au, Cu, Pb, Zn, Ag, As, U, Sn, Fe, Cd, Mo, Cr, and Mn. This tenement would be useful to show back ground values for the region. The gold BCL values peak at 0.25ppb Au. For stream sediments and soils all Arsenic values are below 15ppm and all base metals (Cu, Pb, Zn) are below 50ppm. Rock chips obtained results as follows – maximum gold was 0.08 g/t, Koolpin Formation returned results of
160ppm copper maximum, 1320ppm Zinc peak and 250ppm Arsenic peak. Uranium values were below 8ppm and manganese had a maximum of 330ppm.

From 1987 to 1991 Carpentaria Gold Ltd explored the area as **EL 5290**. EL24151 covers the northern most portion of the tenement. Exploration was focused on base metals and Toms Gully style mineralisation and where gold mineralisation occurs in saddle reefs and stockworks of the Pine Creek Orogen. Sampling undertaken included Au, Cu, Pb, Zn, Ag, As, Fe, Mn, Mo, Cr, Bi, Cd, Sb, Co, Ni and Sn. Carpentaria Gold completed a detailed aeromagnetic survey, rock chip, stream sediment survey (over entire tenement) and soil sampling with one prospect being identified – Robertsons Ridge plus two magnetic anomalies (all of which lie outside EL24151). With more detailed sampling the prospectivity of the region was not improved and no significant mineralisation was identified. A joint venture agreement was signed between Stockdale Prospecting Limited in October 1990 which allowed them to explore for diamonds within the lease. Stockdale investigated unsuccessfully, a dipolar magnetic anomaly in the southern part of the lease (not within EL 24151)

The most recent work available on the EL 24151 covers the southern-most portion of the tenement as part of **EL 9020**. This tenement was held by North Mining Ltd during 1995 and was applied for to explore for stratabound gold deposits in the Mount Bonnie Formation. Unfortunately the ground was relinquished as the company exploration office was closed and no work was completed.
Figure 3: Kewanee 1973 Geological and magnetic interpretation over EL24151
6.0 ACTIVITIES DURING THE PERIOD UNDER REVIEW

Previous owner GBS Gold Australia went into voluntary administration on 15 September 2008 and all assets including EL 24151 were placed under care and maintenance. After due diligence, Crocodile Gold Australia announced to purchase all assets held by GBS Gold Australia in the Northern Territory. After meeting regulatory and statutory requirements, these assets including EL 24151 were transferred to Crocodile Gold Australia. Crocodile Gold Australia immediately commenced exploration, mining and processing activities in the region. Mining started from Brocks Creek underground and Chinese South (Extension) open pit; hauling ore to Union Reefs gold mill for treatment.

Crocodile Gold Australia also commenced an in-depth technical review of the project area in order to understand the mineral potential of the area. A detailed literature search and review was undertaken which identified four eastern blocks of the tenement has no mineral potential. Processing and interpretation of geophysical did not reveal any significant anomaly which could warrant any further exploration. As a result of that it was decided to surrender four blocks (SD52642X, SD52642W, SD52642V and SD52641P) as shown in Figure 1.

8. REFERENCES


Bajwah, Z.U., 2008, Annual Exploration Report EL24151 for Period Ending 1 August 2008 NT. GBS Gold Australia Pty Ltd.
