ANNUAL EXPLORATION REPORT
ERL130
ESMERALDA
(UNION REEF PROJECT)
YEAR ENDING 16 December 2009

Pine Creek 1:250,000 SD5208
Pine Creek 1:100,000 5270

Tenement Holder: Crocodile Gold Australia Pty Ltd

Distribution:-

1. DRDPIFR Darwin NT
2. Crocodile Gold Australia Humpty Doo
3. Burnside Operations P/L Brocks Creek
4. Union Reefs, Pine Creek

GBS Report Number: PC/BJV/09-51

Zia U. Bajwah
December 2009
**SUMMARY**

ERL (Exploration Retention Licence) 130 is a significant tenement within Crocodile Gold Australia’s portfolio, and is located about 210 km SE of Darwin, NT, and 8km north east of Pine Creek. Crocodile Gold Australia Pty Ltd acquired the tenement in November 2009 as part of the acquisition of all assets held by GBS Gold Australia Pty Ltd (liquidated) in the Northern Territory.

Previous exploration by Cyprus Gold Corporation and Acacia Resources had outlined two significant adjacent and sub parallel gold resources (A and B), known as Esmeralda deposit which is located some 4km south of the Union Reefs mill. AngloGold estimated that the deposit at 0.7g/t cut-off, contains a combined inferred resource of 1.26Mt @ 1.62g/t Au. (66,000oz). Within the project area geology is dominated by clastic rocks of the Mt Bonnie Formation that is the uppermost formation of the South Alligator Group, and the Burrell Creek Formation which is the lowest unit of the Finniss River Group. They have been intruded by the Palaeoproterozoic granites such as Allamber Springs towards east and Tabletop Granite towards west.

During the reporting period, GBS Gold Australia went into voluntary administration, and as a result of that all assets including ERL 130 were placed under care and maintenance. Several Administrators embarked to restructure the company or prepare assets for sale. Most of reporting year was spent in tenement valuation, technical review and ranking exercise in order to prepare assets for sale. In March 2009, Crocodile Gold Australia acquired all assets held by GBS Gold Australia (liquidated) in the Northern Territory. After meeting all statutory and regulatory requirements, these assets were transferred to Crocodile Gold Australia on 9 November 2009.

In the next reporting period, resource and ore body modelling of gold mineralisation present within ERL 130 will be undertaken, which will help to understand resource present more accurately. It will also help to identify mineralisation trend within the project area. A program of soil/rock chip sampling will also be undertaken, and if encouraging result received, it will lead to RC drilling.
TABLE OF CONTENTS

SUMMARY
1.0 INTRODUCTION ...................................................................................................4
2.0 LOCATION AND ACCESS ...................................................................................4
3.0 TENEMENT DETAILS ..........................................................................................4
4.0 GEOLOGICAL SETTING......................................................................................6
5.0 PREVIOUS EXPLORATION ACTIVITY.............................................................7
6.0 EXPLORATION YEAR ENDING 16 NOVEMBER 2009....................................14
8.0 FORWARD PROGRAMME year ending 16 November 2010 ..............................16
9.0 REFERENCES .......................................................................................................16

LIST OF FIGURES
Figure 1: Location of ERL 130
Figure 2: Geological Setting of the Project Area
Figure 3: TMI Image of the Project Area

LIST OF TABLE
TABLE 1: Esmeralda Deposit - Mineral Resources at 31 December 2002

LIST OF APPENDIX
Appendix 1: Mineral Exploration Expenditure Statement for ERL 130
1.0 INTRODUCTION

ERL 130 is located approximately 8km north of the Pine Creek township and 4km southeast of the Union Reefs Gold Mine, and occupies one of the most prospective areas of gold mineralisation in the Pine Creek Orogen. This report documents the exploration activity conducted during the reporting period 2007-08.

2.0 LOCATION AND ACCESS

ERL 130 (Esmeralda) is located approximately 210 km south of Darwin and about 8km north of the township of Pine Creek in the Northern Territory. The licence area can be accessed via the Frances Creek Road, turning north off the Kakadu Highway approximately 3km east of Pine Creek. Further access for light vehicles is gained via a dirt track turning north-west adjacent to the Darwin - Amadeus Basin Gas Pipeline. The climate is hot with periodic monsoonal rains between November and May. For the remainder of the year it is warm to hot and largely dry.

3.0 TENEMENT DETAILS

ERL 130 comprises 834 hectares and was granted to Sovereign Gold NL (a wholly owned subsidiary of Astron Resources NL) and Solomon Pacific Resources NL on 17 November 1993 for a period of 5 years. Acacia Resources, a party to the Esmeralda Joint Venture, subsequently acquired 100% of the JV tenements and, in turn, was taken over by AngloGold (Ashanti) Limited in 1999. The first renewal application was granted on 9 September 1998 for the period ending 16 November 2000. A second renewal was granted on the 22 Aug 2000 ending 16 Nov 2002.
Figure 1: Location of ERL 130
A third renewal was granted on 14 October 2002 ending 16 November 2004. A covenant of $181,000 was set by the NTDME for the two year extension period. A fourth renewal application, this time on behalf of the Burnside Joint Venture, was lodged on 26 July 2004. The annual covenant for 2005 was set at $1,600.00. The tenement is on Mary River West Station owned by Equest Pty Ltd. During 2005-2006, GBS Gold Pty Ltd successfully made a takeover of Northern Gold NL and has purchased Harmony Gold (through subsidiary Buffalo Creek Mines) 50% share of the Burnside Project as of 1 April 2006.

4.0 GEOLOGICAL SETTING

Regional Geology

Regional geology is outlined in many publications, notably Ahmad et al. (1993), Needham and Stuart-Smith (1984) and Needham et al. (1988). The tenements are within the Pine Creek Orogen, a folded sequence of Palaeoproterozoic pelitic and psammitic sediments, with interlayered cherty tuff units. These rocks have been intruded by the late-orogenic Palaeoproterozoic granites, causing widespread contact/thermal aureole which contains most of the gold mineralisation in the Orogen (Bajwah, 1994). An important tectonic feature – the Pine Creek Shear zone runs through the area, which is known to host gold mineralisation in the area.

Less deformed Mesoproterozoic sedimentary and volcanic sequences unconformably overlie the Palaeoproterozoic rocks and is overlain by Cambrian-Ordovician lavas, sediments and Cretaceous strata. Cainozoic sediments, laterite and recent alluvium may obscure parts of the Orogen lithologies.
Figure 2: Geological Setting of the Project Area
Local Geology

The Union Reefs gold mining centre, including the ERL 130 (Esmeralda) and Caroline tenements lie on the eastern margin of a north-west trending corridor that has been the focus of intense deformation. This strike-extensive feature is termed the Pine Creek Shear Zone which in this area has been developed in rocks of the South Alligator Group and Finniss River Group. Clastic rocks of the Mt Bonnie Formation that is the uppermost formation of the South Alligator Group, and the Burrell Creek Formation which is the lowest unit of the Finniss River Group, dominate the stratigraphy of the Union Reef field (Figure 2). The tectonic corridor is confined to the east (Allamber Springs Granite) and west by lobes of the Cullen Batholith and rocks within this zone have been tightly folded and in high strain areas, subjected to fold limb failure. Axial planes and bedding tend to dip steep westerly. The area of the Esmeralda and Caroline leases is dominated by Mt Bonnie Formation, a marine platform sequence consisting of interbedded cream to purple iron-stained mudstone and siltstone and subordinate greywacke. The unit is punctuated by horizons of chert and tuffite as well as thin distinctive banded iron formation facies. Thin tourmalinites have been recorded in the area.

ERL130 and the Caroline leases have been intruded by a major sub vertical intermediate dyke that sub parallels the stratigraphy. The dyke is deeply weathered and strikes 310°. It has been traced along much of the Pine Creek Tectonic corridor. This dyke event also passes through the Woolwonga deposit some 50 kilometers to the north-west. Within ERL 130 the Allamber Springs Granite of the Cullen Suite contacts the Mt Bonnie Formation and has hornfelsed and silicified the unit to slate and amphibolitic hornfels within 200m of the contact. Gold mineralisation has been focused within ‘Lens A’ and ‘Lens B’ (Esmeralda Deposit, Figure 2) in the sheared axial zones of two adjacent faulted antiforms that strike 310 magnetic. The deposits occupy ridges up to 40m high. The north eastern Lens (A) is within 300m of the contact and lies within the outer metamorphic aureole of the granite. It dips steeply SW, is heavily impregnated with tourmaline and silica and has been significantly silicified and brecciated. Chert facies rocks are reported to coincide with the mineralised zones which locally contain visible gold. Hewson in his
analysis (1997), described Lens A as being situated on the east limb of a regional antiform with the bedding dips being 40-90 degrees to the east. The deposit dips 60 degrees to the west and steepens at depth. It is loosely related to antiform geometry as a reverse fault oblique to the axial plane. Hewson described Lens B as being within an antiformal closure with a long steep west limb and a short sub vertical to overturned east limb. There is a variable plunge towards the north. Mineralisation is in both bedding parallel and foliation planar sites. There is dip slip movement with east block up. Mineralisation is associated with silica-pyrite-arsenopyrite veins with K-feldspar, tourmaline and sericite. Rather then one continuous lens, the zone A deposit was interpreted by Acacia-Billiton to comprise several lenses offset en echelon (perhaps under the influence of the 290 degree oblique cross faulting interpreted from SPOT imagery by Shaw 2004). Extreme hardness due to hornfelsing has been mentioned in some diamond drilling reports starting from 30m-50m downhole. There are extensive soil covered areas on the flats littered with quartz and silicified cobbles. These may suggest underlying quartz veining or merely more resistant transported gravels. Tertiary lateritic duricrust is commonly preserved on ridge flanks, but has been washed away in gullies and stripped from the ridges.

5.0 PREVIOUS EXPLORATION ACTIVITY SUMMARY

Cyprus Gold Australia Corporation 1991-1993
In 1990-1991 zones “A” and “B” were defined by Cyprus within EL6880 by a soil geochemical survey. Zone A was judged to be very interesting with 1000m of strike within the 50ppb contour and 850m within the 100ppb contour. A further 500m was anomalous. The maximum arsenic value was 360ppm. The Amadeus Basin-Darwin gas pipeline crosses the eastern flank of the anomaly. At zone B the gold anomaly was 700m in length but of lower order. Arsenic values were higher, peaking at 1600ppm. Rock chips at zone B were up to 11.0g/t gold, and arsenic up to 1.3%. On a tenement wide basis the Zone B mineralisation as well as the Caroline prospects lie within an arsenic in soil halo of plus 200ppm. This halo measures 5km by 1km. Zone A falls outside this envelope. Rock chip sampling followed on from the soil work. A total of 985m of
costeans were dug on zone A over a strike of 750m. These were mapped and sampled. The better intervals included:

12m @ 2.11g/t Au, and 15m @ 1.32g/t Au.

The multi-client airborne magnetics acquired by Cyprus showed a weak high (<100nT) coinciding with zone B, with a weaker signal coinciding with the strongest gold values.

Gold was described as being associated with a smoky grey quartz-limonite, pyrite tourmaline veining and kaolin-pyrite alteration of an argillite-tourmalinitic chert sequence. At zone B the association was similar, though tourmaline was not as abundant and arsenopyrite was more important. At zone A it was speculated that tourmaline could be both syn-genetic and re-mobilised as well as hydrothermal.

In 1991-1992 Cyprus Gold drilled 25 RC drill holes into the prospect (ERC0001-ERC0025). The holes were allocated to zone A (ERC0001-ERC0010) and to zone B (ERC0011-16). This drilling program was completed in two phases: a 16 hole/1110m phase followed by a 9 hole/740m phase. The initial phase was targeted on soil and rock anomalies, the second phase providing selective down dip testing of phase 1 intersections. Phase two drilling was allocated to zone B (ERC0017-ERC0019) and to zone A (ERC0020-ERC0025). The best result from zone A was 12m @ 3.03g/t from 22m in ERC0002. The best result from zone B was 13m @ 2.33g/t from 37m in ERC0023. Based on their drilling data Cyprus reported an “in-situ, undiluted geological resource of 638,000 tonnes grading 1.84 g/t (38,000 oz)” for combined zones. (Miller, 1993).

Zone “A” contained an estimated 325,154 tonnes @ 2.12 g/t, based on six 50m spaced sections, 8300N - 8500N and 8950N. Zone “B” was estimated to contain 313,546 tonnes @ 1.55 g/t based on three sections, 9350N, 9450N & 9500N. It was noted that the Darwin gas pipeline was locally within 100m of the zone A resource.

In the period 1992-1993 mapping and sampling was carried out in the northern sector of zone A where very high grades had been met with in rock chips and erratic values in drilling. An induced polarisation survey was carried out by Scintrex over zone A in 1992 and 1993. The deposit was found to respond well to chargeability due to sulphides or graphite. The data showed the deposit was offset to the west at the south end and did not
pass under the gas pipeline. Rehabilitation by tree planting and seeding was undertaken. Cyprus withdrew from the JV following an increase in corporate minimum target size objectives.

**Billiton/Acacia 1994-1999**

In 1994 Billiton Australia reviewed the Cyprus data and drilled 15 RC holes (EAP0001-0015) into Zone “A” for a total of 938m and a diamond tail of 21m on EAP0015 (renamed EAD0015). In 1995 Acacia drilled 40 RC holes (ERC0041-0080) into Zone “A” and “B”, for a total of 2,573m. In August 1995, a manual resource calculation was completed with the available data. Bulk densities of 2.52, weathered, and 2.74, fresh were used. This uncut geological resource estimate using an 0.7g/t cut off gave a combined inferred resource of 879,000 tonnes @ 2.0g/t Au. In 1996 Acacia completed 27 RC holes for an advance of 1,794.5m and 4 cored holes for 155.5m. Twenty three of the holes were drilled on zone A. Nine costeans were dug for 480m on the highest gold in soil sites. Gradient array IP was carried out by Zonge Engineering to complement the Cyprus surveys. A total of 9.6line/km of survey was carried out. Metallurgical test work was commissioned with Metcon Laboratories P/L to determine preliminary gravity/leach amenability on ore grade intercepts in 6 holes. Gold extraction exceeded 90% from all samples, averaging 94.1% with each sample containing free gold up to 250microns. Initial leach was fast then slowed, many requiring the full 48 hours. Better recoveries were noted at grinds to 53microns and beyond. Lime consumptions averaged 5.4kg/t while cyanide consumption was moderate.

In 1997 fifty RC holes and one re entry were completed for 4,495m. All holes were surveyed with Eastman single shot. At zone A the deposit was tested to 100m VD. A new lens 100m west of zone A was discovered on four sections. Further drilling to extend the southern limits was unsuccessful. In addition: A structural analysis of the deposits was commissioned. (Terrasearch, S.Hewson) Eight costeans were dug for 514m. An airborne radiometric/magnetic survey was completed using UTS. (50m line spacing, 60 degree orientation, 20m terrain clearance, 127sq km total.) Aerial photography and digital terrain modelling were undertaken. A resource estimate was completed using all data. M&RT consultancy defined an inferred resource of 1.26Mt @ 1.62g/t Au.
In 1998 Acacia Exploration Darwin completed a rock chip sampling program over potassium altered targets between Zone A and B. (10 samples). No significant values were met in this program. Acacia wrote a complete quality control and SG data report to back up the resource estimates. The Mining and Resource Technology resource estimates for deposits A and B, using an 0.7g/t Au cut off comprised an oxide resource of 550,000t @ 1.58g/t Au. A transition resource of 120,000t @ 1.52g/t Au, and a fresh resource of 590,000t @ 1.67g/t Au. All resources were in the inferred category. The data used included 157 RC holes, 2 diamond holes and 3 diamond tails.

A gravity survey was conducted across Acacia’s Pine Creek tenements including the Esmeralda lease. Station spacing was about 500m using a Worden gravity meter. Ten stations fell within the Esmeralda lease. It was concluded that the western side of the corridor was of higher density than the eastern.

In 1999 channel chip sampling was carried out over a thinly tested area of quartz tourmaline veining. Thirty samples were collected and twelve returned gold values of 100ppb or better. The best result was 970ppb. The results were considered not to be worthy of follow up. Ten –5mm talus samples from base of slope were collected at regular intervals. Seven of the samples returned 5ppb or better. The best was 51ppb Au.

A review of previous data was undertaken. The low gold price discouraged a drilling allocation in the budget.

In 2000-2001 AngloGold was manager of the tenement following takeover of Acacia in late 1999. No field work was undertaken in the period. In 2002 a program of rehabilitation was completed. All steel pegs were removed and holes capped below surface with concrete plugs. In addition LG pit optimisation was run on zone A and B. The optimizations suggested that some 18,000oz could potentially be mined from zone A at a profit. The relocation of part of the gas pipeline would be a prerequisite to optimising zone A.

In July 2003 AngloGold closed the mining operation at Union Reefs and put the project up for sale. During 2004, in the four months following the purchase of the Union Reefs project by the Burnside JV, work comprised a brief data review and a structural interpretation using SPOT imagery.
During the 2005 period, Bill Makar, previously an AngloGold geologist, who worked on the Union Reefs project, was commissioned to conduct a technical geological and mining review of the Esmeralda gold resources, Zone A and Zone B. An extract from the report is presented.

Resources and Reserves

The estimated total Inferred Resource (Global) at Esmeralda is 1.26 million tonnes at a grade of 1.62 g/t (66,000 ounces). Work was carried out by MRT (now Golders) using MIK interpolation. The mineral resources are summarised below.

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Gold tonnes</th>
<th>Grade (g/t)</th>
<th>Gold (oz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lens A</td>
<td>Inferred</td>
<td>842 000</td>
<td>1.77</td>
<td>480 00</td>
</tr>
<tr>
<td>Lens B</td>
<td>Inferred</td>
<td>413 000</td>
<td>1.4</td>
<td>180 00</td>
</tr>
<tr>
<td>Total</td>
<td>Inferred</td>
<td>1260 000</td>
<td>1.62</td>
<td>660 00</td>
</tr>
</tbody>
</table>

Notes: 0.7g/t cut-off grade using MIK interpolation.

No reserves have been estimated but initial optimisation studies were carried out by consultants Golder Associates in September 2000 were based on the 1998 resource models.

During the reporting period, a technical review of the project area was undertaken. Apart from having a significant gold resource (1260 000 tonnes @ 1.62 g/t for 660 000 oz), the area still holds potential for additional gold resources. Geochemical sampling programs conducted in the project area have identified some anomalous gold values in the project area. However, it appears that these programs have not targetted to the potential gold bearing horizons. For this purpose a geophysical approach has been undertaken. In particular, magnetic anomalies identified by TMI data have been successful in identifying new targets in the Pine Creek Orogen.
TMI image of the project area (Figure 3) shows that Pine Creek Shear Zone runs through ERL 130 which appears to be one of the controlling factors in hosting gold mineralisation at various stratigraphic horizons in the Orogen. The Shear Zone is characterised by low to moderate magnetic highs which host many gold deposits in the Orogen.

6.0 EXPLORATION YEAR ENDING 16 NOVEMBER 2009

On September 2008 GBS Gold Australia went into voluntary administration, and as a result of that all assets including ERL 130 were placed under care and maintenance. Several Administrators embarked to restructure the company or prepare assets for sale. Most of reporting year was spent in tenement valuation, technical review and ranking exercise in order to prepare assets for sale. In March 2009, Crocodile Gold Australia acquired all assets held by GBS Gold Australia (liquidated) in the Northern Territory. After meeting all statutory and regulatory requirements, these assets were transferred to Crocodile Gold Australia on 9 November 2009. Crocodile Gold Australia has commenced exploration and mining activities in the Pine Creek region and first gold pour is expected at the end of December 2009. Other activities during the reporting period are:

- Report preparation
- Reconnaissance visit
- Tenement administration
- Planning for upcoming field season

An expenditure of $7290.00 incurred on this exploration activity and details are given in Appendix 1.
Figure 3: TMI Image of the Project Area
8.0 FORWARD PROGRAMME year ending 16 November 2010

Esmeralda gold deposit is located within ERL 130 and has significant resource which can supplement ore feed stock at Union Reefs Gold processing facility. Considering its location in a close proximity to the Union Reefs plant, Crocodile Gold realises its importance for gold production in the long run.

In the next reporting period, resource and ore body modelling of gold mineralisation present within ERL 130 will be undertaken, which will help to understand resource more accurately. It will also help to identify mineralisation trend within the project area. A program of soil/rock chip sampling will also be undertaken, and if encouraging result received, it will lead to RC drilling. A minimum budget of $12500.00 has been set-aside for the program.

9.0 REFERENCES


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MILLER, G.; 1993; Final Report - EL6880 Esmeralda, by Cyprus Gold Australia Corporation, Unpublished report for NTDME


SEWELL, D. & VELA, N.; 1998; Esmeralda Project, Geology, Drilling, Quality Control & SG Data to accompany Geological resource Estimate, unpublished report for Acacia Resources Ltd, report No. 08.8969


