ANNUAL EXPLORATION REPORT

AN 413

YEAR ENDING 4 May 10

McKinlay River: 1:100 000
PINE CREEK: 1:250 000
Title Holder: Territory Goldfields Pty Ltd

Distribution:-

1. DOR Darwin, NT
2. Crocodile Gold Australia, Darwin
3. Crocodile Gold Australia, Brocks Creek

CGA Report No: PC/BJV/10-20

Zia U. Bajwah
June 201
SUMMARY

AN 413 is located about 140 km south of Darwin and approximately 10 km east of the Brocks Creek gold mine. The tenement was applied for on 11 February 1994 by Dominion Mining Ltd for a period of 4 years. It was granted on 5 May 2006, and will expire on 4 May 2010. A renewal application with NT Department of Resources has already been lodged. In 2008, GBS Gold Australia’s subsidiary Territory Goldfields Pty Ltd negotiated the purchase of AN 413 and tenement was transferred to Territory Goldfields by a Deed of Assignment and Assumption dated 9 August 2008. On 6 November 2009, Crocodile Gold Australia acquired the tenement after purchasing assets from GBS Gold Australia (in liquidation).

Area underlain by AN 413 mainly belongs to the Burrell Creek Formation which hosts many gold deposits in the Pine Creek Orogen. It mainly comprises interbedded shale, slate, phyllite, siltstone, greywacke and volcanilithic conglomerate and rare altered felsic to intermediate banded iron formation. The Burrell Creek Formation is conformably overlies, or is faulted against the Mt Bonnie Formation.

During most of the reporting period, AN 413 remained under administration. Under the instructions of Several Administrators, tenement was reviewed, ranked and valuated in order to prepare assets for sale. Technical review of the project area shows that it mainly covers part of crescent-shaped valley which is magnetically recessive. It may be noted that several gold deposits/prospects occur in such magnetically recessive valleys (e.g Fountain Head, The Jar, Lady Joesphine). Review undertaken shows that it has good potential in hosting gold, uranium and base metals mineralisation.

Crocodile Gold Australia regards AN 413 highly due to its potential for several commodities of interest. An exploration program has been devised to pursue identified targets in the project area. For this purpose, the area will be mapped in detail and a program of soil/rock chip sampling will be carried out. If it warranted, then a campaign of RC/RAB drilling will be undertaken.
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1.0 INTRODUCTION
AN 413 is located in one of the most prospective parts of the Pine Creek Orogen. It was applied for to cover the prospective ground which lies in between Brocks Creek, Fountain Head and Yam Creek Group of mining areas.

2.0 TENEMENT LOCATION
AN 413 covers a strategic landholding which is located about 140 km south of Darwin (Figure 1) and about 10 km east of the Brocks Creek gold mine. The tenement abuts the Burnside Project tenements package.

3.0 TENEMENT DETAILS
The tenement was applied for on 11 February 1994 by Dominion Mining Ltd for a period of 4 years. The area under application was held for sometimes due to Native Title application which expired on 13 August 2005. Application for AN 413 was again revived and advertised on 9 March 2005. On receiving no objections, tenement was granted on 5 May 2006, and will expire on 4 May 2010. In 2008, GBS Gold Australia’s subsidiary Territory Goldfields Pty Ltd negotiated the purchase of AN 413 and tenement was transferred to Territory Goldfield by a Deed of Assignment and Assumption dated 9 August 2008. Before, project area was part of Cosmo Howley Deeps exploration joint venture between Territory Goldfields Pty Ltd and Dominion Mining Ltd.

GBS Gold Australia went into voluntary administration on 15 September 2008, and as result of that all exploration and mining assets were placed under care and maintenance. In 2009, Crocodile Gold Australia announced to purchase all assets held by GBS Gold Australia (liquidated) in the Northern Territory. After meeting regulatory and statutory requirements these assets including AN 413 were transferred to Crocodile Gold Australia on 6 November 2009.

AN 413 covers 2 sub-blocks and lies within McKinlay River (1:100 000) and Pine Creek (1:250 000) sheet areas. Underlying Cadastre is held by Ban Ban Springs Station (PL 903).
Figure: Location of the Project Area
4.0 GEOLOGICAL SETTING

Regional geology is outlined in many publications, notably Ahmad et al. (1993), and Needham and Needham and Stuart-Smith (1984), and Needham et al. (1988). The tenements are within the Pine Creek Geosyncline, a folded sequence of Palaeoproterozoic pelitic and psammitic sediments, with interlayered cherty tuff units. Mafic sills of the Zamu Dolerite (~1.87Ga) intruded lower formations of the South Alligator Group.

During the Top End Orogeny (Nimbuwah Event ~1.87-1.85Ga) the sequence was tightly folded and pervasively altered with metamorphic grade averaging greenschist facies to phyllite. The Cullen intrusive event introduced a suite of fractionated calc-alkaline granitic batholiths into the sequence in the period ~1.85-1.78Ga (Bajwah 1994). These high temperature I-type intrusives induced strong contact metamorphic aureoles ranging up to (garnet) amphibolite facies, and created more extensive biotite and andalusite hornfels facies.

Less deformed Neo- to Meso-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 overlie parts of the Pine Creek Orogen lithologies. Recent scree deposits occupy the lower hill slopes while fluvialite sands, gravels and black soil deposits mask the river/creek flats areas.

Area underlain by AN 413 mainly belongs to the Burrell Creek Formation (Figure 2) which hosts many gold deposits in the Pine Creek Orogen. It mainly comprises interbedded shale, slate, phyllite, siltstone, greywacke and volcanilithic conglomerate and rare altered felsic to intermediate banded iron formation. The Burrell Creek Formation is conformably overlies or is faulted against the Mt Bonnie Formation. In turn, it is overlain by Cretaceous sediments. The Pine Creek Shear Zone is the major structural feature, bisecting the formation which hosts major gold deposits in the area. AN 413 falls within this shear zone and in the immediate vicinity gold deposits/prospects such as Fountain Head, Lady Joesphine and Jar are present (Figure 2).
Figure 2: Geological Setting of the Project Area
5.0 PREVIOUS EXPLORATION HISTORY

The project area has been explored moderately in the past as part of EL 615, EL 4415 and EL 7539. Exploration programs conducted under these programs included geological mapping, geochemical sampling and drilling. Although none of drilling intersected geological setting in the project area, but these campaigns do provide important information about the project area. Similarly none of assay data fall within AN 413 but provide some information about the prospectivity of the area.

Project area falls in a triangle between Brocks Creek gold mine, Fountain Head/Tally How deposits and North Point/Princess Louise gold deposits. Pine Creek Shear Zone intersects the area which is an important feature for gold localisation within AN 413. Geochemical sampling undertaken shows elevated level of gold and arsenic values which is consistent with prospectivity of the area. Gold values as high as 7.2 ppm has been recorded (Curnow and Vooy, 1990). Geochemical sampling in EL 4415 and EL 7539 further shows a number of gold anomalous zones. It is likely that these trends extend into the project area.

During the previous exploration program a number of aerial photographic survey were also undertaken in the surrounding areas and some of these surveys cover part of AN 413. Information obtained from these surveys was mainly used for regional and detailed geological mapping and structural interpretation.

Territory Resources Pty Ltd in 1988 carried out Geo-Flite multispectral survey which identified a number of possible mineralised zones which may extend into AN 413. These are characterised by mineralised? associated alteration and weathering zones.

6.0 EXPLORATION YEAR ENDING 4 May 2010

During most the reporting period, the tenement remained under care and maintenance. Under the instructions of Several Administrators, technical review, tenement ranking and valuation was undertaken. Technical review identified potential for gold, base metals and uranium mineralisation. TMI image of the project area (Figure 3) was interpreted in order to understand geological feature below surficial cover. Figure 3 shows that project area mainly covers part of crescent-shaped valley which is
Figure 3: TMI Image of the Project Area
magnetically recessive. From geological information it appears that Burrell Creek Formation covers such magnetically recessive valleys. This could be due to de-magnetisation of rocks; process through which this occurred is not clear. However, it is important to note that several gold deposits/prospects occur in such magnetically recessive valleys (e.g Fountain Head, The Jar, Lady Joesphine). These valleys appear to be important structures for hosting gold mineralisation in the Pine Creek Orogen. Geological and structural setting of the area also appears to be fertile in hosting uranium and base metals mineralisation. In addition, a number of reconnaissance visits were undertaken along with tenement management and report writing. This activity costed $7905.00 and details are given in Appendix 1.

7.0 FORWARD PROGRAM 2010-11

Crocodile Gold Australia regards AN 413 highly due to its potential for several commodities of interest. Technical review of the project area shows that it has good potential in hosting gold, uranium and base metals mineralisation. An exploration program has been devised to pursue identified targets in the project area. For this purpose, the area will be mapped in detail and a program of soil/rock chip sampling will be carried out. If it warranted, then a campaign of RC/RAB drilling will be undertaken. A minimum budget of $15000.00 has been set-a-side for 2010-11 reporting year.

8.0 REFERENCES


