Castile Resources Pty Ltd
(ABN 93 124 134 085)

EL26032
McArthur Basin Project
Annual Report

Reporting Period
19 December 2007 to 18 December 2008

February 2009

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1:250,000 Sheet: Bauhinia Downs SE53-03
1:100,000 Sheet: Batten 6065
Datum: GDA94
Projection: MGA
Zone: 53
Author: Richard Coles
Tenement Holders: Castile Resources Pty Ltd
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SUMMARY

This report covers exploration completed on EL26032 during the reporting period from 19 December 2007 to 18 December 2008.

The tenement is located in the Batten Fault Zone of the Proterozoic McArthur Basin in the north-eastern part of the Northern Territory, 460 kms NE of Tennant Creek, and 670 kms SE of Darwin. The tenement forms part of Castile’s McArthur Basin Project.

The tenement, covering an area of 9.9 km² (3 sub-blocks), was granted to Castile Resource Pty Ltd (a wholly-owned subsidiary of Westgold Resources Limited) on 19 December 2007. It is location within the Billengarrah Pastoral Lease, 1069, and within the proposed Limmen National Park.

Exploration for the year ending 18 December 2008 included data acquisition and interpretation and report writing. No field work was completed.

A limited program of mapping and follow-up sampling is proposed for the year ending 18 December 2009. The proposed minimum expenditure for this work will be $12,000.
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1. INTRODUCTION

EL26032 is located within the highly prospective Batten Fault Zone of the McArthur Basin, in the north-eastern part of the Northern Territory. Exploration for syn-sedimentary lead-zinc deposits has been underway since the discovery of the giant McArthur River lead-zinc deposit in the early 1950's. Lesser exploration for copper, uranium and diamonds has also been conducted in the region.

Westgold Pty Ltd, through its wholly-owned subsidiary Castile Resources Pty Ltd (Castile), has applied for a number of tenements in the region. The main exploration target is lead-zinc deposits in the shales and carbonates of the McArthur Group, with copper mineralisation being a second target mineralisation type.

Since the grant of the tenement, the economic parameters for base-metal, and indeed all, mining projects have worsened dramatically, and the work completed in the past year has been limited to data compilation and assessment, and a re-assessment of target priorities by Castile.

2. LOCATION

The tenement is located in the mid-Proterozoic McArthur Basin in the Gulf Region of the Northern Territory, immediately to the south of the southwestern corner of the Gulf of Carpentaria. It is 460 kms NE of Tennant Creek, and 670 kms SE of Darwin.

Access to the region is 280 kms east from the Stuart Highway via the Carpentaria Highway, then north for 80 kms along the Nathan River Road, then via 5-6kms to the southwest to the tenement along bush tracks. The area is quite rugged, and access through the tenement is largely on foot.

3. TENURE

EL26032 covers an area of 3 graticular blocks or approximately 9.9 square kilometres (Figure 1) and was granted on 19 December 2007.

The tenement title is held 100% by Castile Resources Pty Ltd, a wholly owned subsidiary of Westgold Resources Limited.

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EL26032 lies within the proposed Limmen National Park, and is located within Billengarrah Pastoral Lease 1069.
Figure 1 – Tenement Location Plan
4. GEOLOGY

4.1 Regional Geology

Considerable work has been completed on the geology of the McArthur Basin by NTGS and BMR investigators, and the geology descriptions are drawn from this work. In particular, the descriptions are adapted from Duffett et al (2005).

EL 26032 lies in the western-central part of the Batten Fault Zone in the mid-Proterozoic McArthur Basin. The McArthur Basin (c.1860–c.1500 Ma) is exposed over an area of about 180,000 km² in the northeastern Northern Territory. It unconformably overlies Palaeoproterozoic metamorphosed and deformed rocks of the Pine Creek Orogen to the west, Murphy Inlier to the south and Arnhem Inlier to the northeast. The McArthur Basin is amongst the most prospective regions of the North Australian Craton, hosting the world-class HYC lead-zinc-silver deposit (McArthur Mine), the Redbank Copper Mine, several smaller uranium and base metal deposits, and diamond-bearing kimberlite pipes at Merlin and Abner Range.

Seismic data indicates that the Batten Fault Zone (previously known as the Batten Trough) is not a separate depocentre within the McArthur Basin, but that the contained sequence appears to continue in both directions away from the implied boundaries of the ‘trough’, and that the Pb-Zn-mineralised McArthur Group gradually thickens to the east.

The McArthur Basin succession contains sandstone, shale, carbonate, and interbedded volcanic and intrusive igneous rocks. It is essentially horizontal and about 8 km thick. The Tawallah Group and equivalents maintain a thickness of 3-4.5 km in the fault zones and shelves, while the overlying McArthur Group and equivalents thicken to 5 km in the fault zones.

Figure 2: Regional Tectonic Setting, EL 26032, McArthur Basin, NT. (After Rawlings 2001)
The Batten Fault Zone contains rocks of the Scrutton Volcanics, the Tawallah Group, and the McArthur Group, and is flanked by the younger Nathan and Roper Group rocks of the Bauhinia Shelf to the west and the Wearyan Trough to the east. The oldest unit exposed in the Batten Fault Zone, the Scrutton Volcanics, is dated at 1,857 ± 30 Ma (Pietsch et al 1991) and forms the basement to the McArthur Basin in this region. It consists of thick pyroclastic sheets of K-rich dacitic and rhyodacitic composition, with minor felsic and mafic lavas.

The Tawallah Group unconformably overlies the Scrutton Volcanics, and is believed to have a depositional age range of 1,815–1,705 Ma. It is composed of sandstones with bimodal igneous intrusions and lavas, lutite, conglomerate and dolostone. Three cycles of sedimentation and igneous activity have been recognised within the Tawallah Group which may represent several superimposed basin phases.

The uncoformably overlying, carbonate-dominated, McArthur Group is divided into two subgroups. The Umbolooga Subgroup forms approximately the lower two-thirds of the McArthur Group. Although sandstone is a relatively minor constituent of the Umbolooga Subgroup, it is most common in its lower portion. Dolostone, usually fine grained, is the most prevalent lithology in the Umbolooga Subgroup. The younger Batten Subgroup is generally even more dolomitic than the Umbolooga Subgroup. The age of the Batten Subgroup is well constrained by SHRIMP zircon ages for 2 of its upper members, of 1,625 ± 2 Ma for the Stretton Sandstone and 1,614 ± 4 Ma for the Amos Formation.

Isolated outliers of Cretaceous conglomerate, sandstone, siltstone and mudstone, usually less than 20 m thick (Pietsch et al 1991), are scattered across parts of the Batten Fault Zone. Outliers of the neo-Proterozoic – Devonian Georgina Basin also overlie the southwestern parts of the McArthur Basin.

Basement to the McArthur Basin was deformed, metamorphosed and subjected to significant felsic magmatism prior to ~1,850 Ma, during the Barramundi Orogeny. The resulting structural framework controlled subsequent structural development. Various fundamental basement structures have been repeatedly reactivated during the evolution of the McArthur Basin by a succession of extension, thermal subsidence and compression regimes.

North-south extension and east-west compression, with associated block and strike-slip faulting controlled the early development of the basin. This was followed by NW-SE compression which was possibly simultaneous with HYC mineralization. N-S trending depocentres then redeveloped. A relatively quiet period of thermal subsidence followed, which controlled sediment deposition. A late NE-SW shortening event affected all Proterozoic units in the McArthur Basin. The rocks of the McArthur Basin are essentially unmetamorphosed. There are few granitic rocks in the basin, apart from microgranites associated with mafic-acid volcanism in the Tawallah Group.

In spite of a long structural history, McArthur Basin strata are generally only gently folded with shallow dips. Some exceptions exist near major faults, where bedding often steepens to 20–40°, and occasionally up to 70° (Pietsch et al 1991).

4.2 Local Geology

Mapping and geological interpretation by NTGS shows that the tenement is largely underlain by a block-faulted sequence of the Tawallah Group sediments and volcanics. This includes sandstone, dolostone, carbonaceous shale, synsedimentary basalts, dolerite sills and rhyolitic volcanics. Airborne magnetic interpretation shows the mafic igneous units to be more strongly magnetic, and confirm the geological mapping.

The north-eastern corner of the tenement is though to be underlain by dolomitic sediments of the Tooganinie Formation (McArthur Group), although much of this is covered by recent sediments. Ferruginous sandstones of the Mallapunya Formation (McArthur Group) crop out on the western boundary of the tenement. The Tawallah Group in the west of the tenement is separated from the McArthur Group in the east by the Four Archers Fault.
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<th>Map Symbol</th>
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<td>Georgina Basin</td>
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<td>N</td>
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<td>T1</td>
<td>Lower Tawallah Group</td>
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<td>U</td>
<td>Scrutton Volcanics</td>
<td>Acid-intermediate pyroclastics</td>
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**Figure 3:** Local Geological Setting, EL 26032. (After Rawlings, 2001) 1: 50,000
A NNW-trending line of base metals prospects has been located in Tooganinie Formation carbonate rocks immediately to the east of the tenement. These include, from south to north, the Johnson’s prospect (Pb, Cu), Great Scott (Pb), and Mariner (Pb). No mineralisation is known from EL26032. The massive Pb-Zn mineralisation at McArthur River occurs in McArthur Group carbonaceous shales and siltstones about 60kms to the south-east of EL26032.

4.3 Exploration History

Surficial Cu-Pb-Zn mineralisation was discovered in the area around McArthur River by Tom Lynott in 1887. This was explored in more detail by MIM in the early 1950’s, resulting in the discovery of the McArthur River Pb-Zn deposit.

The Bauhinia Downs 1:250,000 map sheet was geologically mapped in 1960 by the then BMR. (Smith, 1964)

The southern McArthur Basin was the subject of extensive geological mapping and research by government agencies in the period 1977-1982. (Jackson et al 1987)

In 1989 Aerodata completed an airborne magnetic and spectrometer survey of the Batten Trough. Lines were flown at 090° at a spacing of 500m. In 2000, Tesla Geophysics completed airborne magnetic and spectrometric surveys of that part of the Bauhinia 1:250,000 map sheet not previously covered by the Aerodata Batten Trough survey. Flight lines were at 400m spacing and oriented at 090°.

The region is included in the wide-spaced Australia-wide gravity dataset. As far as can be ascertained, no detailed gravity surveys have been completed over the area.

The region surrounding EL26032 has undergone several programs of exploration since the discovery in the early 1950’s of the McArthur River lead-zinc deposit. Much of this work has been of a reconnaissance nature over considerable tenement holdings, and only a small amount of work has been completed over the EL26032 area itself.

1956/57 Mount Isa Mines carried out reconnaissance mapping and prospecting over AtoP510 which covered 2,352 square miles. (6,090 square kilometres) They concluded that the prospectivity was not great outside the McArthur River area. No specific work was done over EL26032.

1968-72 Carpentaria Exploration carried out wide-spaced stream sediment sampling on PA1748, 1879, and 3319. No samples were taken from within EL26032, although a small number were taken down-stream, just outside the tenement. No anomalies were located in the general EL26032 area, and follow-up work concentrated closer to the McArthur line of mineralisation.

1973-74 CRA pegged EL879 and completed 1:25,000 aerial photography, geological mapping and stream sediment, soil and rock sampling, concentrating on the dolomitic members of the middle McArthur Group. No samples were taken from the EL26032 area.

1977-82 CEC re-applied for the region as EL1371, and carried out reconnaissance stream sediment sampling, petrological investigations, and soil and rock-chip sampling on specific horizons. Five stream sediment samples and parts of 2 soil traverses are within EL26032.

This was followed by detailed -80# stream sediment sampling, with assays for Cu, Pb and Zn. Approximately 85 of these were collected from within EL26032, although none was strongly anomalous. CEC also completed 16 Input EM lines and 14 RC and 1 diamond drill holes at the Mariner lead Prospect, about 12 kms to the north of EL26032. Minor additional work was completed by BHP in 1982 (in joint venture with CEC), including regional geological mapping at 1:25,000 scale, and soil sampling and 1 diamond drill hole at Mariner.
1988-90 Perilya Mines Pty Ltd explored EL5605, which included the EL26032 area, in joint venture with 2 other companies. They completed landsat image interpretation, geological interpretation, and rock, soil and stream sediment sampling, and located several “gossans”. None of the work appeared to be on EL26032, and that part of their tenure was relinquished.

1994-2000 Ashton Mining carried out exploration for diamonds on EL8380. This included wide-spaced gravel sampling, which located indicator minerals and 1 microdiamond. One RC drill hole and one diamond drill hole were completed, well outside the EL26032 area.

During 1996 BHP carried out a 25hz Geotem airborne EM survey over the Ashton tenement area, at 1km line spacing. Three of these lines passed over the EL26032 area. No anomalies were recorded.

5. WORK COMPLETED DURING THE REPORTING PERIOD

No field work was carried out in EL26032 during the reporting period. Exploration activities were restricted to data compilation and interpretation and included:

- The acquisition of open file, geological, and geophysical data pertinent to the tenement through NTGS.
- Study of the previous exploration plays mounted in the general area of EL26032.
- Interpretation of the geology and prospectivity of the tenement.
- Report writing.

6. RESULTS

Despite a considerable amount of reconnaissance-style exploration in the general region of EL26032, only a limited amount of work was carried out over its area of 9.9 km².

- Detailed stream sediment sampling located low-order base-metal anomalism within the tenement area.
- Wide-spaced airborne EM (3 E-W lines) failed to register any conductors.

The tenement is underlain mainly by rocks of the Tawallah Group, with McArthur Group rocks underlying the north-eastern corner. Regionally it is believed that the McArthur Group is more prospective for base metals than the Tawallah Group, and contains all of the known mineralisation of any size.

7. ENVIRONMENTAL / REHABILITATION REPORT

No environmental rehabilitation has occurred during the reporting period as no exploration work of a ground-disturbing nature was carried out.
8. CONCLUSION AND RECOMMENDATIONS

EL26032 in the Batten Fault zone of the McArthur Basin has undergone a limited amount of surface exploration in the past 50 years. The lithologies found within the tenement are generally of the Tawallah Group, which is secondary in base-metal prospectivity to the McArthur Group in this region. However, limited follow-up is warranted.

Further analysis of the existing stream sediment results from the tenement should be undertaken, followed by ground mapping for unit verification and rock-chip sampling of prospective horizons.

The estimated cost of the programme is estimated shown below.

- Personnel – Salaries & Wages 2,000
- Travel/Accommodation 500
- Exploration Field Consumables 500
- Vehicles/Fuel 700
- Assaying – soil samples/rockchip 1,000
- Surveys – mapping & sampling 6,000

Sub-Total $10,700
- Administration/Overheads $1,300
- Total proposed programme (minimum) $12,000

9. REFERENCES


Appendix 1

BIBLIOGRAPHIC DATA SHEET

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