FINAL REPORT FOR
MCCs 1141 TO 1144 INCLUSIVE
WHITE HILL PROSPECT
FOR THE PERIOD 1 JANUARY 1998 TO 8 FEBRUARY 1999
Tennent Creek Map Sheet SE53-14
VOLUME 1 OF 1

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EXPLORATION GEOLOGIST

DATE: MARCH 1999

AUTHORISED BY: [Signature]

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MCCs 1141-1144 (White Hill) are centered eight kilometres northwest of the township of Tennant Creek. Access to the tenements is gained via the sealed Warrego Road and minor tracks.

This report covers exploration undertaken on the leases between 1 January 1998 (date of renewal) and 8 February 1999 (date of surrender). Work completed on the leases included a prospectivity review.

The residual prospectivity of the tenements is considered to be minimal. Geochemical anomalism is explained by proximal colluvium, derived from mineralised outcrops adjacent to the area of the tenements. There is no geological, geophysical or geochemical evidence of mineralisation in the basement.

The leases were therefore surrendered on 8 February 1999.
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1 CONCLUSIONS & RECOMMENDATIONS

The residual prospectivity of the tenements is considered to be minimal. Geochemical anomalism is explained by proximal colluvium, derived from mineralised outcrops adjacent to the area of the tenements. There is no geological, geophysical or geochemical evidence of mineralisation in the basement. Therefore, it was recommended that the tenements be relinquished.

2 INTRODUCTION

This report covers exploration undertaken on MCCs 1141 to 1144 inclusive during the period 1 January 1998 (date of renewal) to 8 February 1999 (date of surrender).

3 LOCATION & ACCESS

MCCs 1141-1144 (White Hill) are centered 8km NW of the township of Tennant Creek (Figure 1). Access to the tenements is gained via Warrego Road and minor tracks.

The climate of the Tennant Creek district is mild and dry through most of the autumn to spring months. The summer period is hot with seasonal heavy rainfall between January and March making access very difficult during these periods.

4 TENURE

Mineral Claims Central 1141-1143 form a contiguous block of 101 hectares area (34, 34 and 25 ha respectively). MCC 1144 has an area of 34 ha and is separated from the other tenements, one kilometre to NE (Figure 1). The tenements were granted to Normandy Tennant Creek Pty Limited (Normandy) on 30 December 1993 for a period of four years.

The claims are within the Warumungu Aboriginal Land Trust. Normandy has been negotiating with the Central Land Council and traditional owners to reach agreement on access issues since 1995.

In accordance with section 68 (2) of the Mining Act a report was submitted in 1997 (Clifford, 1997) in support of renewal of Mineral Claims Central 1141-1144 covering the period from 30 December 1993 to 31 December 1997. The leases were surrendered on 8 February 1999

5 REGIONAL GEOLOGY

The geological understanding of the Tennant Creek Inlier has been recently advanced by detailed geological mapping over the Tennant Creek and Flynn 1:100,000 map sheets (Donnellan et. al. 1995), precision dating of stratigraphic components of the region (Compston, 1995) and regional geophysical interpretations.

The oldest exposed Proterozoic lithofacies in the Tennant Creek Inlier are the metasedimentary rocks of the Warramunga Formation, which are the hosts to the ironstone Au-Cu-Bi mineralisation of the Tennant Creek Goldfield. These Palaeoproterozoic metasediments were deposited approximately 1860 Ma. Deformation and intrusion of the Warramunga Formation by voluminous porphyries and granitoids occurred during the Barramundi Orogeny (1858 Ma to 1845 Ma).
Following deformation and uplift the volcanics and volcaniclastics of the Flynn Sub-Group were erupted (1845 Ma to 1827 Ma), with intrusion of porphyries and minor granitoids into the Warramunga Formation. An additional deformation event preceded the deposition of the Hatches Creek Group/Tomkinson Creek Sub-Group (1820 Ma to 1785 Ma) and the intrusion of late-stage granitoids and porphyries into both the Warramunga Formation and Flynn Sub-Group at 1650-1712 Ma.

6 LOCAL GEOLOGY

The Proterozoic geology of the area of the tenements is entirely concealed below Cenozoic colluvial cover. However, prominent outcrop to subcrop of Proterozoic Warramunga Formation is present, adjacent to the tenements. In addition, geophysical interpretation and drill testing indicates the presence of metasedimentary rocks of the Warramunga Formation and Proterozoic porphyritic intrusives. Geophysical interpretation suggests the presence of NW trending faults within the Proterozoic basement (Clifford, 1997).

7 PREVIOUS WORK

The BMR investigated the Tennant Creek area in the early 1960s and a precise geological description of the White Hill area is given in Crohn & Oldershaw (1964). PosGold Limited (PosGold, now Normandy Tennant Creek Pty Limited) explored the ground over MCCs 1141-1144 under Exploration Licence 5133 between 1987 and 1993. Exploration conducted over the area of MCCs 1141-1144 under this previous title included a soil BLEG programme, a vacuum drilling programme, a regional aeromagnetic survey and a regional gravity survey. The soil BLEG programme (500 x 500m grid) identified geochemical anomalies (Au 1.17-1.83ppb) in areas adjacent to and within the tenements. The vacuum drilling bedrock and geochemistry testing (110 holes for 254m) identified anomalous (13-90ppb Au, 210-935ppm Cu) geochemistry in heavy mineral concentrate samples only.

Low level multi-client aeromagnetics (Austirex, 1984) were purchased and imaged, with magnetic ridges being identified as prospective. No intense, discrete magnetic anomalies are present in the area of the prospect. The BMR regional gravity survey results were infilled and imaged by PosGold over the Tennant Creek Goldfield, including areas adjacent to the claims. The tenements occur on the gravity gradient characteristic of those adjacent to the granitoids, as would be predicted from outcrop geology. The detail of this work is presented in Davenport (1991), Lowe (1992) and Schusterbauer (1992 & 1993).

MCCs 1141-1144 were granted to PosGold on 30 December 1993 for a period of four years. Exploration conducted over the claims during the period 30 December 1993 to 30 September 1997 consisted of a vacuum drilling programme (48 holes, 232 m). A composite sample was collected from the bottom of hole cuttings and submitted to Amdel Darwin for assay on Au, Cu and Bi. The results were disappointing. A renewal application was lodged in October 1997 (Clifford, 1997b).

8 WORK CARRIED OUT DURING REPORTING PERIOD

Work completed by Normandy during the reporting period included a review of the prospectivity of the leases and an annual report (Libby & Mouchet, 1998). The exploration target is shallow oxide gold mineralisation hosted by non-magnetic,
weathered ironstone. The tenements were acquired to follow up on a soil BLEG program (500 x 500m grid) which identified geochemical anomalies (Au 1.17-1.83ppb).

The Mascot Mine (1900t @ 6g/t Au), located within the Mary Lane shear, is present on a low ridge 800m to the south of the tenement boundary. Four other small historical mines (<100oz Au total production) are within a 3km radius of the tenements. There are no historic mines or prospects present in these tenements. No anomalous magnetic targets have been defined. The residual prospectivity of the tenements is considered to be minimal.

Geochemical anomalyism is explained by proximal colluvium, derived from mineralised outcrops adjacent to the area of the tenements. There is no geological, geophysical or geochemical evidence of mineralisation in the basement. Therefore, it was recommended that the tenements be relinquished.

9 EXPENDITURE STATEMENT FOR THE PERIOD 1/1/98 TO 8/2/99

During the period 1/1/98 to 8/2/99, an estimated exploration expenditure of $2,790 was incurred. A breakdown of this expenditure follows (Table 1):

Table 1: Estimated Exploration Expenditure for MCCs 1141-1144 from 1/1/98 to .8/2/99.

<table>
<thead>
<tr>
<th>EXPENSE</th>
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<td>Employee Costs</td>
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<td>Assays</td>
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<td>Specialist Services</td>
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<tr>
<td>Tenement Costs</td>
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<td>Research</td>
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<td><strong>TOTAL</strong></td>
<td><strong>$2,790</strong></td>
</tr>
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</table>

10 ENVIRONMENTAL/REHABILITATION REPORT

Normandy has commenced an active rehabilitation programme over much of the Tennant Creek field. This commitment has been reinforced within the Normandy Group with the appointment of a Group Environmental Engineer to oversee and implement the Group's guidelines and objectives. In addition to this an Environmental Superintendent has been engaged at Tennant Creek to design and implement the Group's objectives throughout the Tennant Creek area.

As an example of the Group's commitment to environmental issues several active rehabilitation programmes are currently being undertaken in the Tennant Creek field. These include programmes at Nobles Nob, Eldorado, White Devil and Warrego.

Environmental Management Plans for the Company's Tennant Creek Operations (Fowler, 1993; Fowler et al, 1998) have been submitted to the Department of Mines and Energy under separate cover. These plans detail the strategies to be implemented over various areas following completion of exploration programmes and mining operations.
REFERENCES


APPENDIX ONE

BIBLIOGRAPHIC DATA SHEET
BIBLIOGRAPHIC DATA SHEET

REPORT NUMBER: TENNANT CREEK: 99014 ADELAIDE: 23808

REPORT NAME: FINAL REPORT FOR MCCs 1141 TO 1144 INCLUSIVE, WHITE HILL PROSPECT, FOR THE PERIOD 1 JANUARY 1998 TO 8 FEBRUARY 1999, TENNANT CREEK MAP SHEET SE53-14, VOLUME 1 OF 1.

PROSPECT NAME(S): WHITE HILL

TENEMENT NUMBER(S): MCC 1141-1144

OWNER/JV PARTNERS: NORMANDY TENNANT CREEK PTY LIMITED

AGREEMENT:

COMMODITIES: GOLD, COPPER

TECTONIC UNITS: TENNANT CREEK INLIER

STRATIGRAPHIC UNITS: WARRAMUNGA FORMATION

1:250,000 MAP SHEET: TENNANT CREEK SE53-14

1:100,000 MAP SHEET: TENNANT CREEK 5758

KEYWORDS: EXPLORATION REVIEW