ANNUAL REPORT FOR
EXPLORATION LICENCE 8199
CARLSBURG PROSPECT

TENNANT CREEK 1:250,000 MAP SHEET NO SE53-14
VOLUME 1 OF 1

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DATE: APRIL 2000

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EL 8199 lies approximately 18 km E of the Tennant Creek township. Access is via the sealed Peko Roads and the gazetted Gosse River Road.

This report details exploration undertaken for the period from 8 March 1999 to 7 March 2000.

Exploration conducted over the tenement has included a high-resolution airborne magnetics survey in 1998, the signing of the agreement to access Warrumungu Land Trust areas and ongoing environmental review.
1 CONCLUSIONS & RECOMMENDATIONS

Exploration conducted over the tenement has included a high-resolution airborne magnetics survey in 1998, the signing of the agreement to access Warrumungu Land Trust areas and ongoing environmental review.

The 1998 Nobline airborne geophysical survey will play an integral role in the delineation of new exploration targets. A total of 8,200 line kilometres were flown for the aeromagnetic survey.

Exploration planned for next year will include target generation using the recently acquired geophysical and geochemical data sets. Detailed structural and alteration mapping will be used to assist in target generation modeling. Drill testing will follow for any suitably prospective targets.

2 INTRODUCTION

This report details exploration undertaken by Normandy Tennant Creek Pty Ltd (Normandy) on EL 8199 for the period from 8 March 1999 to 7 March 2000.

3 LOCATION, ACCESS AND CLIMATE

EL 8199 lies approximately 18 km E of the Tennant Creek township. Access is via the sealed Peko Roads and the gazetted Gosse River Road. A well-developed network of gravel tracks extends from these roads to provide good vehicular access (Figure 1).

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

EL 8199 was applied for in 13 May 1993 and approval to negotiate was given on the 24 November 1993.

EL 8199 was granted on the 8 March 1999 after the signing of an agreement with the Central Land Council on the 9 December 1998 (Area of Interest Deed of Terms & Conditions for Exploration). The exploration licence covers an area of 1 graticular block (3.2 km²).
5 REGIONAL GEOLOGY

The geological understanding of the Tennant Creek Inlier has been 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 lithologies in the Tennant Creek Inlier are the metasedimentary rocks of the Warramunga Formation, which host the Au-Cu-Bi mineralisation of the Tennant Creek Goldfield. These Proterozoic sediments were deposited approximately 1860 Ma. Deformation and intrusion of the Warramunga Formation by porphyries and granitoids occurred during the Barramundi Orogeny (1858 Ma to 1845 Ma).

Deposition of the volcanics and volcaniclastics of the Flynn Sub-Group followed the Barramundi Orogeny between 1845 Ma and 1827 Ma. 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 geology of EL 8199 comprises of Warramunga Group siltstone, shale and sandstone with intruding porphyries. This stratigraphy hosts the hydrothermal ironstones that contain most of the gold mineralisation in the area. Rock types include sandstone, carbonaceous siltstone, pyritic shale and haematite shale units, quartz dolerite dykes that trends NNW to north south with subvertical dips. A number of small E-W fold hinges are displayed within the Warramunga sediments. Aeolian sands or alluvial material obscures large areas of bedrock (Ward, 1997).

Mineralisation styles are varied and include auriferous quartz veins with quartz porphyry host (Dolomite and Pup Mines), shear hosted haematite-talc-chlorite ironstone (Pinnacles, Ajax, Fassifern and Southern Star Mines) and massive magnetite-chlorite ironstone (Argo Mine and Explorer 38).

7 PREVIOUS WORK

Peko-Wallsend held the area of this lease from the 25/7/84 to 24/8/1987 under EL4536 which had an original area of 432 graticular blocks. A number of prospects were discovered in EL 4536 including Metallic Hill (Lowe, 1986) but no prospects were discovered in the area of EL 8199.

Metana Minerals applied for this area on the 24 August 1987, granted on the 15 March 1988 and surrendered this lease on the 26/2/1990. However no reports were available for perusal.
WORK CARRIED OUT DURING THE REPORTING PERIOD

The Nobline airborne geophysical survey was completed in October 1998 by Kevron Geophysics Pty Limited for a total of 8,200 line km (diagram attached). The areas that were targeted were the Peko leases (Hill, 1999).

Information gained from the survey included aeromagnetic, radiometric and digital elevation data. Lines were flown north – south, 50m apart at an average flight height of 40m. Aeromagnetic readings were taken every 7m and radiometric and altitude readings were taken every 49m. Tie lines were flown east – west every 500m. EL 8199 aeromagnetic contours are presented in Figure 2 and digital data presented in Appendix 1.

An agreement, The Area of Interest Agreement, with the Central Land Council was signed on 9 December 1998. This agreement, between Central Land Council, Traditional Landowners and Normandy, establishes land access for mineral exploration upon Warrumungu Land Trust areas.

While field activities have been restricted during the wet season, work has concentrated on the systematic consolidation of all exploration data to facilitate target generation. This has included validation of the Datamine database and compilation of a GIS database. Exploration in the area has been focussed on target generation.

An environmental audit was completed at the end of 1999 and covered all historical mining and exploration sites in the Tennant Creek mineral field. The audit located and detailed all occurrences of disturbance including mine workings, tracks, dumps, drillholes, excavations, buildings and rubbish.


During the reporting period of tenure, EL 8199 incurred an expenditure of $4,630. A breakdown of this expenditure follows (Table 1):

Table 1: Exploration Expenditure for EL 8199
for the period 8/3/1999 to 7/3/2000

<table>
<thead>
<tr>
<th>EXPENSE</th>
<th>COST</th>
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<tr>
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<td>Specialist Services</td>
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<td>Rehabilitation</td>
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<td><strong>TOTAL</strong></td>
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Tenement rental for the year to March 2000 was $10 and the Total Expenditure is $4,640

Proposed exploration activities for the period 8 March 2000 to 7 March 2001 will involve assessing the 1998 high resolution magnetics data for target generation and detailed structural mapping.

Exploration planned for the next year includes continued compilation and researching of available data and delineation of exploration targets.

The proposed exploration expenditure for EL 8199 for the next year of tenure is as follows (Table 2):

Table 2: Proposed Exploration Expenditure for EL 8199

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<tr>
<th>EXPENSE</th>
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<tr>
<td>Employee Costs</td>
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<td>Tenement Costs</td>
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Tenement rental for the year to March 2001 is $10 and the Total Proposed Expenditure is $5,415.

11 ENVIRONMENTAL / REHABILITATION REPORT

Because no on-ground work that could cause substantial disturbances has been conducted on EL 8199, no environmental rehabilitation has occurred during the reporting period. With regards to rehabilitation of ground disturbance caused by historical mining and exploration activities, Normandy’s ongoing rehabilitation program is described below.

Normandy has commenced an active rehabilitation program 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.

Several active rehabilitation programs are currently being undertaken in the Tennant Creek field. These include programs at Nobles Nob, Eldorado, White Devil, Orlando, Ivanhoe 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 programs and mining operations.
REFERENCES


APPENDIX ONE

1998 AEROMAGNETIC SURVEY DIGITAL DATA
APPENDIX TWO

BIBLIOGRAPHIC DATA SHEET
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