FINAL REPORT
FOR EXPLORATION LICENCE 9222
FOR THE PERIOD 25/8/95 TO 13/4/99
TENNANT CREEK DISTRICT, NORTHERN TERRITORY

BOSEL PROSPECT
TENNANT CREEK 1:250,000 SHEET SE 53-14
VOLUME 1 OF 1

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EXPLORATION GEOLOGIST

DATE: MAY 1999

AUTHORISED BY:

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This report details exploration work undertaken by Normandy Tennant Creek Pty Limited on EL 9222 (Bosel Prospect) during the life of tenure.

EL 9222 is located approximately 36km west of the Tennant Creek township, 8km ESE of Warrego and 3km WNW of White Devil Mine. Access is gained via sealed Warrego Road, then along the White Devil track and cross-country. The Exploration Licence was granted on 25 August 1995 for a period of two years and renewed in 1997 for another period of two years.

Work completed by Normandy Tennant Creek Pty Limited on EL 9222 during the life of tenure included a vacuum drilling programme, a data compilation, flying of a helimagnetics survey, interpretation of helimagnetics data and a prospectivity review. No magnetic anomaly warranting follow-up work is located in the exploration licence and the encountered geochemical anomaly is very subtle. There is no target matching Normandy’s current exploration model and the prospectivity of EL 9222 (Bosel) is therefore strongly reduced.

EL 9222 (Bosel) was surrendered on 13 April 1999.
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1 CONCLUSIONS & RECOMMENDATIONS

Work completed during the fourth and final year of tenure included the interpretation of the helimagnetic survey data and a review of the prospectivity of the licence. No magnetic anomaly warranting follow-up work is located in the exploration licence and the encountered geochemical anomaly is very subtle. There is no target matching our current exploration model and the prospectivity of EL 9222 (Bosel) is therefore strongly reduced.

It was therefore recommended to surrender the exploration licence.

2 INTRODUCTION

This report details exploration work undertaken by Normandy on EL 9222 (Bosel Prospect) during the life of tenure (25 August 1995 to 13 April 1999).

3 LOCATION & ACCESS

EL 9222 (Bosel) is located approximately 36km west of Tennant Creek, 8km ESE of Warrego and 3km WNW of White Devil Mine (Figure 1). Access is gained via the sealed Warrego Road, then along the White Devil track and cross-country.

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 9222 (Bosel) comprising one graticular block was granted to Normandy on 25 August 1995 for a period of two (2) years. The exploration licence was renewed for two more years in 1997.

EL 9222 was surrendered on 13 April 1999 during the fourth year of tenure.

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 volcaniclasticsof 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

EL 9222 covers an area of poor outcrop where aeolian sand cover dominates. The lithologies within EL 9222 are interpreted (from regional geological and geophysical data and vacuum data) to be Warramunga Group sediments (Ward, 1997).

7 PREVIOUS WORK

Various companies worked on the area covered by EL 9222.

During the 80s, GeoPeko Limited (GeoPeko) held this area under EL 3573 (Love, 1984). GeoPeko compiled all low level aeromagnetic contour maps (from company surveys, open file reports and BMR surveys). This was followed by an aeromagnetic survey flown in 1984 (Austrex) for GeoPeko to try and identify subsurface ironstones and to assist in defining geological boundaries.

During the late 80s to early 90s, Metana Minerals NL, later to have Placer Exploration Limited as a joint venture partner, held this ground under EL 6199. The airborne geophysical survey flown in 1984 by Austrex was reinterpreted using a second vertical derivative enhancement and the anomalies interpreted were tested with RC drilling (Pearson, 1990). In the early 90's, this area was held by North Flinders Exploration/Roebuck Resources NL under exploration title EL 7405 that became part of SEL 8276 (Crusader).

8 WORK CARRIED OUT DURING THE REPORTING PERIOD

8.1 First Year of Tenure

During the first year of tenure Normandy conducted a regional vacuum drilling program over the lease with only subdued geochemical results. The programme comprised 75 vacuum drill holes which cover the eastern 75% of the licence. Assay results were low, with no significant anomalies defined (Mouchet, 1996).

8.2 Second Year of Tenure

Work completed over EL 9222 during year two of tenure included the compilation of historical data for the Bosel area on the Normandy database and the scheduling of an aeromagnetics survey over the tenure. All work is detailed in Ward (1997).

8.3 Third Year of Tenure

Normandy conducted a regional heli-magnetics survey between Warrego and Orlando during the third year of tenure. The survey utilised Normandy's in-house equipment and was flown on NS lines, 50m apart, with a 30m sensor height. The data suggests that a NW to SE oriented shear cross cuts the tenement. All work is presented in Ward & Mouchet (1998).
11 REFERENCES


APPENDIX ONE

BIBLIOGRAPHIC DATA SHEET
BIBLIOGRAPHIC DATA SHEET

REPORT NUMBER: TENNANT CREEK: 99042  ADELAIDE: 23980


PROSPECT NAME: BOSEL

TENEMENT NUMBER: EL 9222

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: SHORT RANGE 5659

KEYWORDS: EXPLORATION REVIEW