FINAL REPORT FOR

EXPLORATION LICENCE 9362

FOR THE PERIOD 29/11/1995 TO 24/11/1999

TENNANT CREEK DISTRICT, NORTHERN TERRITORY

ASTROBLOME PROSPECT

TENNANT CREEK 1:250,000 SHEET SE 53-14

VOLUME 1 OF 1

AUTHOR:  
B CLIFFORD  
SENIOR GEOLOGIST

V ORTON  
TENEMENT MANAGEMENT GEOLOGIST

DATE:  
JANUARY 2000

AUTHORISED BY:  
B CLIFFORD  
SENIOR GEOLOGIST

DISTRIBUTION:  
□ NT DEPARTMENT OF MINES AND ENERGY  
- TENNANT CREEK/DARWIN OFFICE  
1

□ NORMANDY TENNANT CREEK PTY LTD  
- TENNANT CREEK OFFICE  
1

□ NORMANDY EXPLORATION LIMITED  
- KENT TOWN LIBRARY  
1

□ ACACIA RESOURCES LIMITED  
1

The contents of this report remain the property of Normandy Gold Pty Limited and may not be published in whole or in part nor used in a company prospectus without the written consent of the Company.

Tennant Creek Library No: 99086

Kent Town Library No: 25768
Exploration Licence 9362 (Astrobleme) is located approximately 35 km southwest of the Tennant Creek township and lies within NT Portion 494. Access to the tenement is gained via the Stuart Highway and a track turning westward 35 km south of Tennant Creek.

Aeolian sands, some alluvium, minor laterite surfaces and local basement outcrop dominate the physiography of the area including EL 9362. The outcropping basement occurs as low hills and breakaway surfaces with exposed rock aged from Cambrian to Early Proterozoic.

Exploration Licence 9362 was granted on 29 November 1995 for a period of six years. The licence is managed by a joint venture consisting of Normandy Gold Pty Limited (51.4%) and Acacia Resources Limited (48.8%) known as the Desertex Joint Venture. This report details work completed on EL 9362 (Astrobleme) during the period 29 November 1995 to 24 November 1999.
CONTENTS

1 CONCLUSIONS & RECOMMENDATIONS 1
2 INTRODUCTION 1
3 LOCATION & ACCESS 1
4 TENURE 1
5 REGIONAL GEOLOGY 1
6 LOCAL GEOLOGY 2
7 PREVIOUS WORK 2
8 WORK CARRIED OUT DURING REPORTING PERIOD 4
9 EXPLORATION EXPENDITURE FOR THE PERIOD 29/11/1995 TO 24/11/1999 4
10 ENVIRONMENTAL / REHABILITATION REPORT 5
11 REFERENCES 6

LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure No</th>
<th>Title</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EL 9362, BTRC-006 Location Plan</td>
<td>1:250,000</td>
</tr>
</tbody>
</table>

LIST OF TABLES

<table>
<thead>
<tr>
<th>Table No</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exploration Expenditure for EL 9362 from 29/11/1995 to 24/11/1999</td>
<td>4</td>
</tr>
</tbody>
</table>

LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Appendix No</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RC Drilling Digital Data</td>
</tr>
<tr>
<td>2</td>
<td>Bibliographic Data Sheet</td>
</tr>
</tbody>
</table>
CONCLUSIONS & RECOMMENDATIONS

During the four years of tenure the following work was completed: a review and interpretation of the geophysical data, a reconnaissance geological field trip and the drill testing of the most attractive magnetic target (RC hole, 364 metres). The drilling was completed by the end of September. Samples were assayed for Au, Cu, Pb, Zn, Bi, Co, Fe and Mn.

All rehabilitation has been completed on EL 9362.

INTRODUCTION

This report details work completed on EL 9362 (Astrobleme) during the period 29 November 1995 to 24 November 1999. This eighteen graticular blocks licence is managed by a joint venture consisting of Normandy Gold Pty Limited (51.4%) and Acacia Resources Limited (48.6%), known as the Desertex Joint Venture. Exploration in this area is targeting Tennant Creek style ironstones for Au/Cu mineralisation.

LOCATION & ACCESS

EL 9362 (Astrobleme) is located approximately 35 kms southwest of the Tennant Creek township (Figure 1) and lies within the Tennant Creek pastoral leases. Access to the tenement is gained via the Stuart Highway and a track turning westward 35 kms south of Tennant Creek.

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.

TENURE

EL 9362 was granted on 29 November 1995 for a period of six years. The licence is managed by a joint venture consisting of Normandy Gold Limited (Normandy) and Acacia Resources Limited (Acacia) known as the Desertex JV. EL 9362 lies within the boundaries of Tennant Creek Station, which is owned by Normandy. The licence was reduced to from 36 to 18 graticular blocks at the end of the second year of tenure in accordance with Sections 26 & 27 of the Mining Act. Normandy lodged a request for a deferral of reduction at the end of the third year of tenure. EL 9362 was surrendered on the 24 November 1999.

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 volcanoclastics 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 majority of geological information in the tenure area is interpreted from aeromagnetic surveys, investigations of outcrops and minor drilling conducted in the area (Stott & Clifford, 1997).

Low hills in the east of the lease consist of flat lying massive quartz arenites interpreted as being the Devonian Lake Surprise Sandstone of the Wiso Basin Sequence. In EL 9362, the Lake Surprise Sandstone covers some areas of the lease but is thought to be a thin layer of cover, less than 10m thick, unconformably overlying the Early Proterozoic sediments.

Other hills in the lease and the exposed breakaway surface towards the west of the lease consist of steeply dipping haematite-altered greywackes with minor siltstone beds. A steep WSW oriented cleavage can generally be recognized as can bedding which also strikes WSW. The relatively coarse greywackes are turbiditic in origin and may be equivalent to the Proterozoic Flynn Sub-Group from the Tennant Creek Field that are interpreted to overlie the older Proterozoic Warramunga Formation (Donnellan et. al, 1995).

The only other outcrops in the lease consist of northwest oriented late stage quartz infilled faults and a small exposure of haematite altered volcanic tuff in the southwest of the lease. Tuffs are known to occur within the Flynn Subgroup. The physiography of the area including EL 9362 is dominated by aeolian sands, some alluvium, minor laterite surfaces and moderate outcrop. The outcrop occurs as low hills and breakaway surfaces with exposed rock aged from Early Proterozoic to Devonian.

7 PREVIOUS WORK

In 1983, this area was included in EL 2719 as part of the original Desertex Joint Venture between the Shell Company of Australia Limited and GeoPeko Limited (GeoPeko).

Exploration targeted magnetic anomalies that were interpreted to represent Tennant Creek style mineralised ironstones. Aeromagnetic data flown over the area by GeoPeko was reviewed and several magnetic anomalies south of EL 9362 were RAB drilled without success. In 1983 the portion of EL 2719 that included EL 9362 was relinquished due to lack of magnetic targets in that area (Davidson, 1984). All work completed by the joint venture partners during the period of tenure is detailed in Harbon (1982, 1983) and Davidson (1984, 1985).
PNC Exploration Pty Ltd (PNC) then carried out further exploration in 1987 and 1988. Exploration focussed on EL 5200 (Kelly), which encompassed a large area of land around and including EL 9362. PNC’s strategy in 1987 focussed on exploring for uranium deposits occurring at the unconformable contact between the Archean basement and the younger Warramunga Formation north of EL 9362.

In 1988, their exploration strategy changed to focus on anomalous magnetic features and structures that were interpreted to represent Tennant Creek style ironstones. Five magnetic anomalies were identified within EL 9362; KLB, KLC, KLD, KLE and KLF. Each anomaly was covered with a ground magnetic survey. A percussion drilling programme was undertaken on grids KLB and KLC. The percussion drill hole sat KLB and KLC intersected shale, greywacke and sandstones which were thought to represent sediments of the Warramunga Formation. Assays for Au, Ag, Cu, Pb, Zn and Bi were taken at the bottom of each hole, returning background values only (Mackie, 1989).

During the first year of tenure, exploration conducted over EL 9362 included reprocessing and interpretation of regional aeromagnetic data, regolith and geological mapping, rock chipping and a regional RAB drilling program of six holes for 197m (Morris, 1996). An application for an authority certificate (AAPA certificate received on 25 October 1996).

Exploration conducted over EL 9362 during the second year of tenure included both an aeromagnetic and a gravity survey over the lease. The magnetic survey revealed detailed geology and high priority magnetic targets, in the eastern and western portions of the tenement, interpreted to be hosted the Warramunga Formation. The gravity survey showed a high gravity signature in the extreme west of the lease and a system of lows in the central and western portion of the lease (Stott & Clifford, 1997).

During the third year of tenure, the following work has been completed: a review and interpretation of the geophysical data, a reconnaissance geological field trip and the drilling of the most attractive magnetic target.

One RC drill hole (BTRC-006) for 364m, was drilled to test a high priority magnetic anomaly in the Squash prospect. The target was modeled on the premise of an ironstone body hosted by Warramunga Formation (Mouchet, 1996). No ironstone or intense chloritic alteration was intersected. A broad zone from 231-325m showed local moderate chlorite alteration and trace disseminated pyrite.

A total of 121 composite samples were submitted to AMDEL (Darwin) for assay of Au (method AA7N) and Cu, Bi, Pb, Zn, Fe, Mn and Co (method AA1). Elevated Au assay results showed low-level Au anomalism only; 30-33m and 153-158m assaying 50ppb Au. Base metal and trace elements include local elevated values, but none are considered significant (Mouchet, 1996).

No on ground exploration was carried out during the fourth year of tenure.
EXPENDITURE STATEMENT FOR THE PERIOD 29/11/1995 TO 24/11/1999

During the four years of tenure, EL 9362 incurred an exploration expenditure of $102,429. A breakdown of this expenditure follows (Table 1):

<table>
<thead>
<tr>
<th>EXPENSE</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Costs</td>
<td>$41,686</td>
</tr>
<tr>
<td>Overheads</td>
<td>$11,748</td>
</tr>
<tr>
<td>Drilling</td>
<td>$2,220</td>
</tr>
<tr>
<td>Assays</td>
<td>$3,359</td>
</tr>
<tr>
<td>Operating Costs</td>
<td>$18,022</td>
</tr>
<tr>
<td>Specialist Services</td>
<td>$7,207</td>
</tr>
<tr>
<td>Geophysics</td>
<td>$17,350</td>
</tr>
<tr>
<td>Tenement Costs</td>
<td>$554</td>
</tr>
<tr>
<td>Research</td>
<td>$305</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$102,429</td>
</tr>
</tbody>
</table>

The Tenement Rental Costs incurred are $5,680; Normandy total expenditure on EL 9362 for year three tenure is $108,109.

ENVIRONMENTAL / REHABILITATION REPORT

Rehabilitation for all substantial disturbance activities have been completed including plugging of all drill holes as required by the Department of Mines and Energy and waste removed from site for EL 9362.

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, Gecko, 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

RC DRILLING
DIGITAL DATA
APPENDIX TWO

BIBLIOGRAPHIC DATA SHEET
REPORT NUMBER: TENNANT CREEK: 99086  ADELAIDE: 25768

REPORT NAME: FINAL REPORT FOR EXPLORATION LICENCE 9362 FOR THE PERIOD 29/11/1995 TO 24/1999, TENNANT CREEK DISTRICT, NORTHERN TERRITORY. ASTROBLEME PROSPECT.

PROSPECT NAME(S): ASTROBLEME

TENEMENT NUMBER(S): EL 9362

OWNER/JV PARTNERS: NORMANDY GOLD PTY LIMITED ACACIA RESOURCES LIMITED

AGREEMENT: DESERTEX JOINT VENTURE

COMMODITIES: GOLD, COPPER

TECTONIC UNITS: TENNANT CREEK INLIER

STRATIGRAPHIC UNITS: WARRAMUNGA GROUP, FLYNN SUBGROUP

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

1:100,000 MAP SHEET: KELLY 5658

KEYWORDS: EXPLORATION REVIEW