

TABLE OF CONTENTS

SUMMARY
1.0 INTRODUCTION
2.0 TENEMENT AND OWNERSHIP
3.0 PREVIOUS WORD
4.0 LAND ACCESS
5.0 GEOLOGY AND MINERALISATION
6.0 GEOPHYSICS
7.0 DIAMOND SEARCH (ZEPHYR MINERALS NL)
8.0 EXPENDITURES
9.0 REFERENCES

TABLES

Table 1 EXPENDITURES

FIGURES

Figure 1 LOCATION MAP
Figure 2 TENEMENTS IN THE BONAPARTE REGION
Figure 3 FACIES MODELS
Figure 4 MARGINAL TRACT SEISMIC DATA - BASE OF MILLIGANS FORMATION

APPENDICES

Appendix 1 GRAVITY SURVEY - REPORT BY HUNGERFORD GEOPHYSICS
Appendix 2 TEM SOUNDINGS - REPORT BY HUNGERFORD GEOPHYSICS
SUMMARY

Wilga Mines holds extensive areas in the eastern part of the Bonaparte Gulf Basin for exploration for carbonate hosted Zn-Pb mineralisation, and has been exploring areas adjacent to EL8677 since 1992.

A joint venture has been entered into with Zephyr Minerals on EL8677 in order to extend the area of exploration.

An initial programme of soil sampling and gas vapour phase (GVP) geochemistry was undertaken in EL 8677 in 1995 with encouraging results initially, but follow up however, down-graded the significance of the GVP results.

A semi-detailed gravity survey was carried out over the eastern part of the EL in 1996 as part of a regional programme to determine the sub-surface structure of the Burt Range Formation carbonates. Results of this are appended.
1.0 INTRODUCTION

The Bonaparte Gulf Basin ("BGB") has been the subject of exploration for carbonate-hosted Zn-Pb deposits since the discovery of outcropping mineralisation at Sorby Hills in 1971. Early in this phase of exploration, surface showings of mineralisation were found at Spirit Hill, Sandy Creek and near the Ochre Mine on the eastern margin of the basin.

Following early drilling success at Sorby Hills in 1972 and the subsequent delineation of a Pb-Zn-Ag resource there (Jorgensen, 1990), exploration on the eastern margin of the basin was allocated a lower priority and the Bundaberg Bore area (including mineralisation near the Orchre Mine) was abandoned in the 1980's.

Wilga Mines NL initially acquired ground in the area in 1992 and subsequently extended its interests to cover most of the prospective ground on the eastern margin of the basin.

A joint venture with Zephyr Minerals was entered into in May 1995 to explore parts of EL8677 adjacent to Wilga's EL7832 for carbonate hosted Zn-Pb.

Zephyr has retained the right to diamonds in EL8677 and a report on Zephyr's diamond search programme is included.

2.0 TENEMENT AND OWNERSHIP

EL8677, which was granted on October 8, 1994, is held by Zephyr Minerals NL primarily for its diamond potential. Wilga Mines NL, a wholly owned subsidiary of Delta Gold NL, pursuant to a letter agreement of May 18 has the right to earn a 75% interest in base metals in EL8677.

The area EL8677 is 9 graticular blocks and the current (Year 2) expenditure requirement is $14,000.

3.0 PREVIOUS WORK

Previous work in the area was outlined by Wilga in the 1994-1995 Annual Report on this EL.

Wilga's work in the basin (Gellatly 1993; Vincent 1994, Gellatly and Vincent 1995) has included reinterpretation of the geology of the area, photogeological interpretation, regional soil sampling, using both conventional geochemical analysis and gas vapour phase (GVP) analysis, IP and gravity surveys and diamond drilling.
FIGURE 1  LOCATION MAP  (After Jorgensen et al 1990)
As a result of this work, extensive Zn and Pb soil geochemical anomalies have been generated which indicate that substantial areas of the basin contain significant base metal mineralisation. To date this has not been explored systematically away from the areas of surface anomalism.

4.0 LAND ACCESS

Land access in the area is constrained locally by the requirements of the Aboriginal Heritage Act.

Wilga Mines funded an Aboriginal Site identification survey in 1994 and also made small compensation payments to the Marralam Community in order to gain access for the 1995 programme.

A Native Title Claim has been lodged covering this EL by the Miriung and Gajerrong peoples, who are claiming the right to pursue traditional hunting and gathering activities. It has yet to be determined whether Native Title exists in the area or whether it has been extinguished by the grant of pastoral leases.

5.0 GEOLOGY AND MINERALISATION

The Bundaburg Bore area lies near the eastern margin of the BGB where a sequence of Palaeozoic rocks, mainly Devonian and Carboniferous is in (presumed) faulted contact with sediments (mainly arenites) of Middle or Upper Proterozoic age. The bounding fault is a major parallel splay of the Halls Creek Fault Zone. The geology of the area has been described by Veevers and Roberts (1968) Pontifex and Sweet (1972) and Jorgensen et al (1990). Details of the stratigraphy and stratigraphic correlations are given in Gelliatly and Vincent, 1995.

The Devonian-Carboniferous sequence is a mixed succession of sandstone, siltstone, conglomerate and carbonate units which locally exhibit marked facies changes due to the proximity of the basin margin.

All of the known mineralisation is associated with these carbonate units, especially the Buttons Beds and the Burt Range Formation at Sorby Hills and the Burt Range Formation in the eastern part of the basin. Near the Ochre Mine the mineralised beds have been assigned by Veevers and Roberts (1968) to the Cockatoo Formation, but interpretation by Wilga and other exploration companies places the mineralised “sandstones” of the Ochre Mine - Bundaburg Bore area in the Upper Burt Range Formation (C1b2). In part, these outcropping sandstones probably represent dolomitic sandstone or sandy dolomite from which the carbonate component has been leached.
The Burt Range Formation which contains most of the Zn-Pb mineralisation is overlain by black shales - commonly pyritic - of the Milligans Formation which is probably present sub-surface throughout most of the Bundaburg Bore EL.

There are no outcrops within EL8677 and interpretation of the geology is based on nearby outcrops to the south and east and on the results of drilling in the vicinity.

The gravity survey carried out in 1996 (see below) was designed to give further, more detailed, information on the structure of the area and subsurface distribution of carbonates, particularly to assist with evaluation of the validity of the various carbonate-unit facies models as outlined in Fig. 3.

Facies model interpretations range from extremes of:

1. A model with discrete barrier reef type carbonate bodies passing basinwards into shale units;
2. An intermediate model with massive reef zones passing basinwards into a thinned carbonate sequence interdigitating with shale units.
3. A uniform spread of carbonates throughout the basin.

These models are shown diagrammatically in Fig 3 which illustrates these variants as postulated to the western margin of the basin. These concepts illustrated are essentially identical to the models listed above for the eastern margin of the basin.

The recently-acquired gravity data suggest that models (1) or (2) are probably more appropriate to this area. However, the postulated sequences are complicated by periods of basin margin of instability which led to the deposition of beds of moderately coarse quartz sandstone due to spasmodic influxes of terrigenous material related to episodes of basin margin uplift.

Geological Structure

Three main fault trends are recognised in the area:

a) A primary northeast trend. These faults tend to be curved locally and are thought to indicate reactivation of transcurrent movement on subsidiary sub-parallel splays of the Halls Creek Fault System. It is most prominent to the southwest of Bundaburg Bore.
Figure 3  FACIES MODELS

Alternative facies models for the Carbonate units of the Bonaparte Gulf Basin. This illustrates the possible relationships for the western margin. Similar concepts apply to the eastern margin.
b) A secondary northerly trend. This is well developed in EL8677. These faults, which are more numerous than those of any other trend, are believed to be second order faults related to the Halls Creek Fault System. They are believed to have been active during basin subsidence in the Devonian-Carboniferous, and could have acted as conduits for mineralising solutions.

c) A northwesterly trend is also apparent locally in EL8677 but this trend is probably less important in relation to mineralisation.

6.0 GEOPHYSICS

(a) Seismic Interpretation

Interpretation of seismic data was carried out by Wilga on pre-existing oil exploration survey data to gain information on the structure and particularly on the location of the shelf tract marginal fault and also on possible fluid trap structures within the down throw parts of the basin.

This work (Fig 4) indicated a possible upwarp on the down throw side of the fault within EL 8677 and it was thought that this was a possible target for base metal accumulations but required further definition by a semi-detailed gravity survey prior to drilling.

(b) Gravity Survey

A semi-detailed gravity survey was carried out over eastern Sandy Creek EL by Geoterrex on behalf of Wilga Mines. The survey was proposed and reported on by Hungerford Geophysical consultants. This was part of a larger survey which covered several of Wilga's EL's in the Bonaparte Gulf Basin.

Line spacing was 400m and spacing on lines was 200m.

The gravity survey was complemented by a number of TEM soundings to provide evidence of depth to the base of the Milligans Formation/top of the prospective Upper Burt Range formation dolomites (Clb2). One of these soundings was in EL 8677.

The gravity survey was successful in delineating numerous localised subsurface gravity high zones which are interpreted as indicating subsurface zones of Clb2 dolomites which are potential targets for future drilling.
MARGINAL TRACT
SEISMIC DATA
BASE OF MILLIGANS FORMATION

LEGEND

* Drill hole and ID

△ Trig station

Tenement boundary

Figure 4
These localised gravity highs are more prominent to the south in EL7832 and may indicate a reduction in the thickness of carbonate present in EL8677 but does not necessarily down grade its prospectivity.

The one TEM sounding within EL8677 indicated a depth to the base of the Milligans Formation of only 20 metres, shallower than would have been expected.

On the basis of this work a review of these results combined with the results of earlier drilling carried out within and adjacent to EL8677 has commenced with the objective to selecting drill targets for 1997.

7.0 DIAMOND SERACH (ZEPHYR MINERALS NL)

Two Loam samples of approximately 20-25kg each were collected from EL 8677 from the following locations.

Sample A
KE59    E535313    N8317252
KE60    E538196    N8318242

The heavy mineral faction from these samples were concentrated by Diatech Heavy Mineral Laboratories and examined for kimberlite indicator minerals. None were found.

8.0 EXPENDITURES

Expenditure on EL 8677 including both Wilga’s programme and Zephyr’s diamond search programme, amounted to $14,831.22 Details are given below in Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Staff Costs, permanent</td>
<td>4,228.53</td>
</tr>
<tr>
<td>2.</td>
<td>Staff Costs, contract</td>
<td>2020.00</td>
</tr>
<tr>
<td>3.</td>
<td>Vehicle Costs</td>
<td>676.05</td>
</tr>
<tr>
<td>4.</td>
<td>Travel and accommodation</td>
<td>292.60</td>
</tr>
<tr>
<td>5.</td>
<td>Field Consumables etc.</td>
<td>379.60</td>
</tr>
<tr>
<td>6.</td>
<td>Assaying</td>
<td>222.20</td>
</tr>
<tr>
<td>7.</td>
<td>Geology Consultants</td>
<td>270.60</td>
</tr>
<tr>
<td>8.</td>
<td>Geophysical Consultants</td>
<td>3,207.13</td>
</tr>
<tr>
<td>9.</td>
<td>Tenement Costs</td>
<td>100.00</td>
</tr>
<tr>
<td>10.</td>
<td>Diamond loam samples</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sample collection, including helicopter support.</td>
<td>1000.00</td>
</tr>
<tr>
<td></td>
<td>Processing and mineralogical examination</td>
<td>500.00</td>
</tr>
<tr>
<td></td>
<td>Sub Total</td>
<td>12896.71</td>
</tr>
<tr>
<td></td>
<td>Administration 15%</td>
<td>1934.51</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>14,831.22</td>
</tr>
</tbody>
</table>

Bundaburg Bore Annual Report October 1996
9.0 REFERENCES


Appendix 1
WILGA MINES
EAST BONAPARTE BASIN, NT
GRAVITY SURVEYS
BOUGUER GRAVITY, 2.67gm/cc

3rd ORDER TREND REMOVED
shaded from north-east
mesh=200m, random gridding
* including AGSO data

HUNGERFORD GEOPHYSICS, 8/96 fig 7

Scale 1:1000000
1000  9 1000  2000  3000  4000
(metres)
Appendix 2.