MIM EXPLORATION PTY LTD

TECHNICAL REPORT
No. 2555

TITLE: EXPLORATION LICENCE NO. 7901
"WESTERN UNION" NORTHERN TERRITORY
FINAL REPORT
TO CANCELLATION ON GRANT OF SEL 9214 ON
22 DECEMBER, 1995

HOLDER: GIANTS REEF EXPLORATION PTY LTD
A.C.N. 009 200 346

OPERATOR: GIANTS REEF EXPLORATION PTY LTD
MIM EXPLORATION PTY LTD

1:250 000 SHEET: TENNANT CREEK SE53-14
1:100 000 SHEET: SHORT RANGE 5659

INVESTIGATIONS
CONDUCTED BY: GIANTS REEF EXPLORATION PTY LTD
MIM EXPLORATION PTY LTD

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DATE: APRIL 1996
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Figure 1: Map showing EL 7901 in relation to other EL's incorporated into SEL 9214

DRAWINGS

<table>
<thead>
<tr>
<th>DRAWING NO.</th>
<th>TITLE</th>
<th>SCALE</th>
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<tbody>
<tr>
<td>50404</td>
<td>EL 7901 Vacuum Drill Hole &amp; Pit Locations</td>
<td>1 : 5 000</td>
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EXPLORATION LICENCE No. 7901 “WESTERN UNION”
NORTHERN TERRITORY

FINAL REPORT TO CANCELLATION ON GRANT OF SEL 9214 ON
22 DECEMBER, 1995

1. INTRODUCTION

Exploration Licence 7901, Western Union, which encompasses Mineral Claims C1097 to C1110, Grand Central, is located 40 kilometres northwest from Tennant Creek.

It covers 8 blocks or part-blocks and was granted to Giants Reef Exploration Pty Ltd (Giants Reef) on 10 June 1993 for a term of 6 years. The expenditure commitment for the first year was $15,000 for the EL and $28,000 for the Mineral Claims, totalling $43,000.

Targets are gold and copper orebodies.

2. LOCATION AND ACCESS

EL 7901, Western Union, is located 40 kilometres northwest from Tennant Creek in the southeast quarter of the Short Range 1:100 000 scale map sheet.

Figure 1 shows the boundaries of the licence area, and the surrounding tenements, including Els 7686, 7688 and 7807 and Mineral Claims C1097 to C1110, Grand Central, all of which are held by Giants Reef or its subsidiary companies.

The licence area is reached from Tennant Creek by following the Warrego road to a point about 4 kilometres west of the turn-off into the abandoned smelter. From this point a straight dirt road heads north-northeast to a dam situated in the central-west part of the EL. Access into the magnetic anomaly area within the block of claims is via the survey track along the proposed route for the Alice Springs to Darwin railway. This track leaves the Warrego road about 1 kilometre west of the old Great Western mine.

The terrain is flattish to gently rolling with a few patches of low rocky rises. Much of the area is open and can be traversed with a 4WD vehicle, except for certain areas where the scrub is too thick or the ground too rocky.
3. **TENURE**

The licence is one of a group of contiguous tenements held in the Orlando-White Devil - Warrego area, collectively explored as the Great Western Project. An application was made for a Substitute Exploration Licence which covered ELS 7465, 7686, 7688, 7807 and 7901, being contiguous Licences within the Great Western Project. This was granted as SEL 9214 on 22 December, 1995.

4. **GEOLOGY**

The EL mostly consists of metasediments and tuffs assigned to the Warrego Member of the Early Proterozoic Carraman Formation, apparently with a small area of the Black Eye Member in the southwest corner. Reconnaissance examination of part of the EL, which is shown on the 1:250 000 map as mostly tuff, revealed only minor tuff and mostly metasediment. It is possibly explainable as a drafting error on the map. A major syncline, the Great Western Syncline, has its axial trace trending west north-west across the northern part of the EL, plunging to the west. At least three northeast trending faults cut across the syncline.

The area of the EL chosen in late 1995 for further work from the aeromagnetic interpretation, contains very little outcrop, and consists of densely scrub-covered ferruginised gravels, and swales of sand and silt.

5. **PREVIOUS EXPLORATION - GIANTS REEF EXP. PTY LTD**

Major items of exploration work carried out in the first year of tenure included a detailed low-level aeromagnetic and radiometric survey over EL 7901 and adjacent tenements, and a detailed ground exploration focussing on a strong magnetic anomaly. This involved a gravity survey, a vacuum drill geochemical sampling programme, the drilling of 4 RC percussion holes and a diamond drillhole, 4GCD. The results of this work were generally inconclusive with a dolerite body appearing to be the most likely source of the magnetic anomaly and its coincident gravity anomaly.

Elsewhere in EL 7901, some subtle anomalies were interpreted from the airborne data.

Total expenditure for the first year was $113 060.

Work carried out in the second year of tenure included a review of the magnetic data obtained from the airborne survey flown by Giants Reef during Year 1.

It was concluded that no areas for a detailed ground exploration could be decided on until the vacuum drilling and gravity survey proposed for Year 2 had been completed. This work was postponed pending the completion of negotiations by Giants Reef to farm out EL 7901, together with a number of other Exploration Licences held by the Company in the Tennant Creek goldfield.

*EL 7901 “Western Union” (Technical Report No. 2555) April, 1996*
Expenditure by Giants Reef Exploration for the second year of tenure (to 10 June, 1995) was $3, 399.

An agreement was entered into with Carpentaria Gold Pty Ltd and Giants Reef. Exploration by MIM Exploration, managers of the project, commenced over this EL and other parts of the Great Western Project in August, 1995.

6. **EXPLORATION BY MIM EXPLORATION PTY LTD**

6. 1 **Review of Previous Exploration**

During a two-week literature search at the Department of Mines and Energy in Darwin, summary data was compiled for previous exploration on this EL along with other EL’s covered by the farm-in agreement.

6. 2 **Aerial Photography**

EL 7901 and the other EL’s of the Great Western project including EL 7802, were flown by Qasco Northern Surveys Pty Ltd during August, 1995. The 1:25 000 prints were used as the basis for ground reconnaissance in the area.

6. 3 **Geophysics**

6. 3. 1 **Airborne Geophysical Survey Interpretation**

Projection of magnetic trends from outcropping parts of EL 7901 westwards into the non-outcropping belt and depletion zones across these trends, were used to isolate potential shear-zone hosted targets. Selected zones were then used as the basis for pitting to establish depth to bedrock, as a control for subsequent vacuum drilling.

6. 4 **Pitting**

Two pits were dug using a backhoe owned and operated by M. Rohrlach. The locations are shown on Drawing No. 50404. These were logged and intervals sampled around the ferruginised sand/saprolite boundary, and were used as a control on the depth of vacuum drilling required.

6. 5 **Line Clearing and gridding**

A grid known as Warrego East was established crossing from EL 7901 to EL 7686. This was positioned by clearing two access lines using the backhoe mentioned above, eastwards from the road into the Warrego western dam. Seven north-south grid lines were broken off, three of which were in EL 7901. Pegs were placed at measured 50m intervals, on lines 200m apart. The 25m intermediate sites were paced in prior to drilling.
6.6 **Vacuum Drilling**

Vacuum drilling commenced on the Warrego East grid on 1 December, 1995 and was completed on 4 December. The contractor was Jackson Drilling and the rig was mounted on a 4x4 chassis. Most holes were in the range of 3m-8m, with the deepest being 38m.

The sampling plan was to take at least a 2kg sample of the zone of maximum ferruginisation and nodule formation around the sand/saprolite transition, with generally a sample above this and below it. Samples were recovered every metre and selected heaps photographed. Samples were submitted to ALS and assayed for Cu, Pb, Zn, Ag, As, Bi, Cd, Mo, Sb, by method IC588, Fe and Mn by AA205 and Au by PM205. Results will be reported in the first report for SEL 9214.

7. **EXPENDITURE**

Expenditure by Giants Reef Exploration Pty Ltd from 11 June, 1995 to the conclusion of the EL on 22 December, 1995, was $3233.

Expenditure by MIM Exploration Pty Ltd:

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<tr>
<th>Item</th>
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<td>Drilling</td>
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<td>Technical (consultants and contractors)</td>
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<td><strong>Total</strong></td>
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8. **CONCLUSIONS AND RECOMMENDATIONS**

Further work is proposed in this area as part of SEL 9214. A thorough analysis is planned of the vacuum drilling results, and their relationship to interpreted geology from the aeromagnetics.

_Signed:_

W.G. Perkins  
Senior Geologist - Central