PERILYA MINES NL
ACN 009 193 695

Eighth Annual Report
to the Northern Territory
Department of Mines & Energy on

EL5650 Gorge

Batten Trough Project
EL5650 - Perilya Mines NL
recently transferred from
Noranda Pty Ltd
MIM Exploration Pty Ltd
Top End Resources NL
Quilpie Pty Ltd

Distribution:
Department of Mines & Energy
Perilya Mines NL

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Date: August 1996

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1.0 Introduction

This report details the exploration work completed by MIM Exploration Pty Ltd prior to handing it over to Perilya Mines NL and the work undertaken by Perilya Mines NL for the holders of the Exploration licence 5650 Gorge during 1995 - 1996.

In April 1995 MIM decided to withdraw from certain tenements Perilya had an interest in. These tenements, including EL5650, were returned to Perilya and transfers were finalised in early 1996.

MIM finalised its exploration at the end of August 1995 and data sets were transferred to Perilya in December 1995.

Perilya spent most of 1996 collating information and data from various sources to formulate an exploration philosophy to be able to sensibly plan an exploration programme. It had discussions with an associate company Redfire Resources NL who had exploration licences in the Batten Trough area and it was decided to merge the tenements to more effectively plan the exploration programme, including both sets of data and thus reducing administration costs.

MIM main emphasis was for large base metal deposits. Perilya main exploration interest is diamonds.

2.0 Location and Access

EL5650 Gorge is located on the Mallapunyahah 1:100,000 sheet within the Batten Trough region of the Mcarthur Basin (Bauhinia Downs 1:250,000 sheet).

The tenement is accessed from Darwin by sealed and gravel roads, although during the wet season, there are times when the roads are impassable due to rain. Access is via the Stuart Highway to Daly Waters, via the Carpentaria Highway to Cape Crawford and then along the Tablelands Highway to the Mallapunyahah Station turn-off. Access to Gorge becomes difficult having to negotiate various dirt tracks and graded fence lines and overgrown station roads. During the wet these tracks become impassable.
3.0 Tenure

The exploration licence was initially granted to Top End Resources NL and Quilpie Pty Ltd on 13 July 1988. A consortium involving Noranda Pty Ltd, Perilya Mines NL, Topend and Quilpie formed the McArthur River Joint Venture in June 1988 to explore this as well as other exploration licences in the area. MIM Ltd formed a joint venture on 14 December 1992. In April 1995 MIM withdraw as well as Noranda, Top End and Quilpie with the transfers by registered in 15 February 1996.

Perilya held discussions with Redfire Resources NL, an associate company with diamond experience. Perilya negotiated an agreement in which Redfire would explore EL5650 in conjunction with other tenements for their diamond potential for a net royalty return.

Exploration licence EL5650 was renewed for a further two years on 12 June 1996; the determination of this renewal is still pending. The location of EL5650 is seen in Figure 1.

4.0 Regional Geology

The licence occurs within the Batten Trough of the Palaeo/Meso Proterozoic McArthur Basin on the Bauhinia Downs (SE 53-3) 1:250 000 sheet and on the Mallapunyah (6065) 1:100 000 scale topographic map.


The Licence area is largely underlain by the dolomitic sedimentary sequence of the McArthur Group. Locally, inliers of the older volcanic and siliciclastic Tawallah Group and outliers of the younger, dolomitic Nathan Group and siliciclastic Roger Group are present.

Platform cover of the Cambrian Bukalara Sandstone masks the Proterozoic rocks to the east and south-east and thin (<20m) Cretaceous, terrestrial to shallow marine, sediments are locally present. Soil cover is generally thin and skeletal although laterally extensive alluvial cover is present around major drainages. Coastal sands are present on the Mount Young sheet.

Folding of the Tawallah and McArthur Group sequences is gentle to moderate, with steep dips locally developed in proximity to major faults. The Nathan and Roper Group strata are gently folded with shallow dips.
4.0 Regional Geology (continued)

The dominant structural feature within the Licence area is the Northwest trending Abner Fault which is believed to be a play of the Tawallah Fault. It is one of a series of faults delineating the Western margin of the Batten Trough.

5.0 Previous Exploration

Most of the Licence has been at least partly covered by reconnaissance level stream and soil geochemical sampling since the mid 1970's.

Perilya Mines NL conducted reconnaissance sampling and geophysics over this area as EL5650 for the McArthur River Joint Venture from 1988 (Thornett, 1989; 1990; 1991; Thornett and Kwiecien, 1992). Most of their work consisted of aerial photography, reconnaissance geology, stream sediment, soil and rock chip geochemistry and airborne magnetic and radio-metric geophysical survey. This work is detailed in previous reports.

MIM's main thrust in their exploration was to test the Barney Creek Formation for base metal mineralisation. This was done by reconnaissance soil, lag and rock chip samples. MIM felt that EL5650 had little potential for hosting significant base metal mineralisation and withdrew from the Joint Venture.

6.0 Exploration Conducted in the Current Term

MIM concluded their exploration work by August 1995. This entailed soil sampling across prospective stratigraphy and drilling 498m in four holes including 180m of diamond drilling. Much of the results of this exploration is detailed in their report submitted last year (Crabb, 1995).

The results summarised here indicated a weak lead anomaly within the soil sampling (>100 ppm). Drilling defined the following weakly mineralised zones:-

- GP1 : 4m @ 0.24% Pb from 10m
- GP2 : 2m @ 0.35% Pb and 0.25% Zn from 102m

There was no Barney Creek formation seen in EL5650.

Rehabilitation was completed in July and August 1995.
6.0 Exploration Conducted in the Current Term (continued)

With these results MIM decided that there was little potential for large base metal deposits on EL5650 and withdrew from the McArthur River Joint Venture with the recent discovery of diamonds at Dog Leg Creek just to the north of EL5650 and at Merlin and Emu to the east. Perilya decided to examine the diamond potential of the licence.

It enlisted the help of Redfire Resources NL, who also have tenements in the area. These investigations are currently underway. Perilya has pulled together information from various sources to help formulate favourable exploration target areas. Redfire has had some airborne geophysics flown over another licence. It is anticipated that the existing geophysics will now be reviewed as well as previous geological and structural mapping to set target areas for ground investigation.
## 7.0 Exploration Expenditure

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<td>Assays</td>
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<td>Overheads</td>
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<td><strong>TOTAL</strong></td>
<td><strong>$23,331.30</strong></td>
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8.0 References

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