CENTRAL PACIFIC MINERALS N.L.

EXPLORATION LICENCE 615

NORTHERN TERRITORY

RESULTS OF EXPLORATION TO 1ST MAY 1974

16th May, 1974

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Distribution:
Mines Department N.T.
A.O.G.
C.P.M.
## CONTENTS

<table>
<thead>
<tr>
<th>SUMMARY</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>TENEMENTS</td>
<td>1</td>
</tr>
<tr>
<td>Title</td>
<td>1</td>
</tr>
<tr>
<td>PROSPECTS INVESTIGATED</td>
<td>2</td>
</tr>
<tr>
<td>CONCLUSION</td>
<td>3</td>
</tr>
</tbody>
</table>

## MAPS

<table>
<thead>
<tr>
<th>Fig. 1 / Locality Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fig. 2 / Mt. Bonnie Prospect (from Horizon Exploration's Report)</td>
</tr>
</tbody>
</table>
SUMMARY

1. Exploration Licence 615 - of 135 sq. miles - expired on 1st May. Application for 6 sq. miles has been lodged.

2. Two prospects were examined - Mt. Bonnie and a Lead Prospect. The latter is of minor significance.

3. Horizon Exploration and Jingellic Minerals optioned 6 sq. miles of the Exploration Licence and drilled six diamond drill holes to test down-dip occurrences of the Mt. Bonnie copper-silver lead-zinc prospect.

INTRODUCTION

This report sets out the results of follow-up field work completed since the date of expiry of Prospecting Authority 1959 to the date of reapplication of renewal of Exploration Licence 615.


On 27th June, 1973 Horizon Exploration Limited and Jingellic Minerals N.L. were granted an option over approximately 6 square miles surrounding the Mt. Bonnie mineral lease, selected as the most promising part of the licence area. In the agreement Horizon and Jingellic undertook to meet commitments on E.L. 615. The results of this work have been reported separately to the Mines Branch in Report No. 63 entitled:-

Mt. Bonnie Prospect,
Progress Report No. 1
by A.R. McNeill

This report sets out the results of exploration completed in E.L. 615 during the tenure of the licence.

The concession originally formed part of Authority to Prospect 1959 which expired on 10th December 1972.

It was several months before the area was granted as an exploration licence on 2nd May 1973 largely due to unwarranted objections.

TENEMENTS

<table>
<thead>
<tr>
<th>Exploration Licence</th>
<th>615</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Grant</td>
<td>2nd May 1973</td>
</tr>
<tr>
<td>Period</td>
<td>12 months</td>
</tr>
<tr>
<td>Area</td>
<td>135 square miles</td>
</tr>
</tbody>
</table>

Conflicting Concessions - A mineral lease of 16 acres, ML 1278, is held around the Mt. Bonnie copper-lead-zinc prospect and supersedes Central Pacific Minerals' application.

Title

The title is held by Magellan Petroleum (Australia) Limited and Central Pacific Minerals N.L. Magellan withdrew in 1972 and beneficial ownership is now held by Central Pacific 50% and A.O.G. Minerals Pty Ltd. 50%.
PROSPECTS INVESTIGATED

Mt. Bonnie Prospect

The results of work by Horizon and Jingellic are reported as follows:-

A programme of detailed geological mapping and diamond drilling over and surrounding the old Mount Bonnie Mine, 130 miles south of Darwin, N.T. was accomplished by Horizon Exploration Limited on behalf of Horizon Ventures N.L. and Jingellic Minerals N.L. in the period April to October 1973 (See Fig. 2).

The Mount Bonnie lode was discovered in the late 1890's and actively worked from 1912 to 1917. Gold and lead appear to have been the metals sought and mining activities were restricted to the oxidized portion of the lode.

The prospect area lies in the central portion of the lower Proterozoic, Pine Creek Geosyncline and includes rocks of the Golden Dyke Formation (which consists of calcareous and carbonaceous siltstones and shales, sedimentary breccia, and dolomite) and the Masson Formation (which consists of turbidite-formed greywackes and siltstones). The prospect area has been intruded by amphibolite dykes and sills.

Structurally the Mount Bonnie lode lies within sedimentary rocks of the Golden Dyke Formation and an amphibolite sill. The sedimentary rocks at this locality have attitudes ranging from 020° to 040° strike and 30° W to 80° W dip. Several periods of faulting are represented which have affected the lode to varying degrees. Thrust faulting parallel to the lode has caused pinching and swelling; high-angle cross faults and shears have displaced portions of the lode; and secondary dip-slip faults have affected its hanging wall. Despite the effects of faulting the top of the lode has a relatively uniform 020°, 40° W attitude, but pinching and swelling have caused major variations in its thickness which ranges from 0.03 m to 16 m.

Mineralogically the lode consists of pyrrhotite, pyrite, sphalerite, galena, arsenopyrite, chalcopyrite and minor silver and antimony sulphides which occur in a gangue of dolomite, chlorite, talc, actinolite and quartz.

Six holes were diamond drilled and all were collared in Exploration Licence 615.

They outlined a possible 480,000 resources tons averaging 7.67% Zinc, 0.4% Copper, 1.8% Lead, 0.91% Arsenic, 6.0 ounces per tonne Silver and 1 dwt per tonne Gold.

Lead Prospect (Crove Hill Prospect)

The position of this prospect is shown on Fig. 1.

The mineralization occurs as several veins of pyromorphite of maximum width 6 inches within a clay filled zone 48 inches wide. This zone can be traced on the surface for a bare 20 feet, although the occurrence is in an area of ample outcrop. The localized nature of the lead mineralization was further confirmed by the lack of high soil lead values along the strike. An approximately 4 inch diameter lump of coarse galena crystals contained 50 ppm Ag, whereas a sample of pyromorphite contained 5.0 ppm Ag.
Because of the obviously localized nature of the mineralization, the occurrence is of no further interest.

CONCLUSION

The investigations completed show that Exploration Licence 615 should be reduced to 6 square miles to cover the area under option to Horizon Explorations and Jingelic Minerals.