GEOPEKO

TENNANT CREEK

A DIVISION OF PEKO-WALLSEND OPERATIONS LIMITED

ANNUAL REPORT ON

EXPLORATION LICENCE 1849

COMPiled BY: JOHN MAIN
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1. INTRODUCTION

Exploration Licence No. 1849 was granted to Geopeko Limited (60%) Australian Ores and Minerals (20%) and Shell Minerals Exploration (Aust) Pty. Ltd. (20%), on the 31st October, 1978. It covers an area of 471.4 square kilometers with the coordinates of the northwestern corner being 19° 52' S, 139° 25'E.

Access to the area from Tennant Creek is via the bitumen road to Warrego Mine, west from there for approximately 10 kilometers and then south to the Rover camp along a moderate quality dirt track for 65 kilometers. The location boundaries and access are shown on Figure 1.

2. EXPLORATION PHILOSOPHY

A low level airborne magnetometric survey was flown by the previous licence holders. Several magnetic anomalies were detected.

These were subsequently located on the ground, gridded and resurveyed magnetically. Several were checked by exploratory drilling.

The mineralised bodies located are essentially of the Tennant Creek type; copper, gold and bismuth mineralisation hosted predominantly in magnetite gangue and occur beneath the flat lying cover rocks in rocks of the Warramunga group.

Each of the magnetic anomalies was covered by Mineral Leases as the Licence or part of the Licence area was relinquished.

The current Licence holders adopt the philosophy that the mineralisation is not necessarily confined to magnetite-bearing host rock, and that gravimetric surveys may outline such mineralisation if the density contrast and volume of the non-magnetic host rocks or of the mineralisation itself is sufficient.

The post Warramunga cover rocks preclude the use of direct examination and of electrical methods as exploration techniques.

3. GRIDDING

A regional grid was established with an East West baseline 26.7 kilometers in length and with North South grid lines 5000 meters long every 2500 meters along the base line. Stations at 100 metre intervals were levelled along the base line and the grid lines. A total of 94.2 line kilometers was surveyed to give 944 levelled stations. See plan T.F. 2128 accompanying this report.

4. GRAVIMETRIC SURVEY

Gravimetric readings were made of each of the 944 grid stations established.

After appropriate terrain corrections the gravimetric data was plotted and presented as a contoured plan. See plan T.F. 2128 accompanying this report.
The survey is designed to give regional gravity data and to outline areas of gravity contrast. It represents the first stage of the overall gravity survey as the perturbations in the gravity contours can now be checked with more detailed surveys and their significance assessed.

From an examination of plan T.F. 2128 it can be seen that a relief of 110 microgals exists from north east to south west.

Disturbances to the gravity contours can be seen between grid-lines 10000E and 15000E, north of the base line between 5000E and 7500E and north of the base line between 5000W and 10000W.

The significance of these disturbances will be assessed by modelling various combinations of volumes and density contrasts that would be capable of producing such contour patterns.

5. EXPENDITURE

Total expenditure on the Exploration Licence 1849 for the 12 months ending 31st October, 1979 was $37,366.

Breakdown of this expenditure is as follows:-

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Contract Gridding</td>
<td>$ 28,738</td>
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<td>Salaries and Wages</td>
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<td>Geophysical Surveys</td>
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<td>Travel and Accommodation</td>
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<tr>
<td><strong>Total</strong></td>
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