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GEOPEKO LIMITED

CENTRAL AUSTRALIA

FINAL REPORT ON AREA RELINQUISHED FROM

EXPLORATION LICENCE NO.981

Compiled by

R.G.COLVILLE

TENNANT CREEK, N.T.    MAY, 1975
FINAL REPORT ON AREA RELINQUISHED FROM EXPLORATION LICENCE NO.981.

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Table 1. Regional Stratigraphy of the Relinquished Area from Exploration Licence No.981.
1. INTRODUCTION.

Exploration Licence No.981 held by Peko Mines Ltd., was granted on the 8th February, 1974 for a period of twelve months. Application for renewal for a further twelve month period was lodged with the Mines Branch on January 16th, 1975, at which time the area held under Licence was reduced from 1290 sq.kms., (498 sq.mls.,) to 647.5 sq.kms., (250 sq.mls.,). A plan of the area relinquished from the Exploration Licence is enclosed (see Fig.2) and a schedule of the area is appended (see Appendix 1).

This report outlines the exploration activities conducted over the area relinquished by Geopeko Limited, on behalf of Peko Mines Ltd., for the twelve months ending February 8th, 1975. It is submitted as the Final Report on the relinquished area in pursuance of Section 380 Sub-section (11) of the Mining Ordinance 1939-1972.

The northeastern (19°50'00", 133°10'00") corner of the relinquished area is situated approximated 92 kms on a true bearing of 258° from Tennant Creek.

Access to the area (see Fig.1) is via a bitumen road from Tennant Creek to the Warrego Mine of Peko Mines Ltd., thence 11.5 kms west along the Wimo Bore road to a formed dirt track that runs south approximately 63 kms to Geopeko Limited's Rover Camp. From the Rover Camp, a graded dirt track continues south for approximately 2 kms then turns west for 8 kms, thence south for 4 kms, thence 22 kms west to a north-south trending track. Approximately 3 kms south of the above "T" intersection an illdefined flagged vehicle track runs in a westerly direction. This east-west trending track passes through the central region of the relinquished area.

A low level aeromagnetic survey was carried out by Geometrics International Incorporated on behalf of Geopeko Limited.

An analysis of the aeromagnetic results was undertaken, these indicated there were no areas of interest within the relinquished area.
2. **TENURE.**

Six Mineral Leases are located within the relinquished area, the Leasee is Peko Mines Ltd. These leases were granted prior to the granting of Exploration Licence No.981, details are as follows:-

<table>
<thead>
<tr>
<th>Number</th>
<th>Area(ha)</th>
<th>Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML 637E</td>
<td>16</td>
<td>Explorer 108 No.1</td>
<td>Granted</td>
</tr>
<tr>
<td>ML 638E</td>
<td>16</td>
<td>Explorer 108 No.2</td>
<td>Granted</td>
</tr>
<tr>
<td>ML 639E</td>
<td>16</td>
<td>Explorer 108 No.3</td>
<td>Granted</td>
</tr>
<tr>
<td>ML 640E</td>
<td>16</td>
<td>Explorer 108 No.4</td>
<td>Granted</td>
</tr>
<tr>
<td>ML 641E</td>
<td>16</td>
<td>Explorer 108 No.5</td>
<td>Granted</td>
</tr>
<tr>
<td>ML 642E</td>
<td>16</td>
<td>Explorer 108 No.6</td>
<td>Granted</td>
</tr>
</tbody>
</table>
3. REGIONAL GEOLOGY.

With the exception of the northern third, the relinquished area is devoid of outcrop and covered with superficial sand and buckdust. Where present, outcrop consists of sandstone, siltstone, and silty dolomite of the Middle Cambrian Merrina Beds. These flatly bedded Cambrian Sediments form gently undulating hills of low relief. Sparse outcrop of Tertiary Laterite occur within the southern half of the relinquished area.

Diamond drilling at the Explorer 108 Prospect intersected a 190m thickness of Merrina Beds unconformably overlying a sequence of dolomite, jasper and chloritic rocks, thought to be part of the Lower Proterozoic Warramunga Group.

The postulated Regional Stratigraphy of the relinquished area is given below:-

**TABLE 1.**

Regional Stratigraphy of the area Relinquished from Exploration Licence No.981.

<table>
<thead>
<tr>
<th>Era</th>
<th>Period</th>
<th>Rock Unit</th>
<th>Lithology</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAINOZOIC</td>
<td>Quaternary</td>
<td>Sand, silt, laterite gravel.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tertiary</td>
<td>Pisolithic laterite</td>
<td></td>
</tr>
<tr>
<td>PALAEOZOIC</td>
<td>Middle</td>
<td>Siltstone, sandstone claystone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cambrian</td>
<td>silty dolomite</td>
<td></td>
</tr>
<tr>
<td>PRECAMBRIAN</td>
<td>Lower</td>
<td><strong>Unconformity</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proterozoic</td>
<td>Warramunga Group</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Siltstone, greywacke shale.</td>
<td></td>
</tr>
</tbody>
</table>
4. REGIONAL GEOPHYSICS.

A low level aeromagnetic survey of the area was carried out by Geometrics International Incorporated, on behalf of Geopeko Limited.

A detailed analysis of the aeromagnetic results was carried out and revealed several regional characteristics. Three major linearments transect the lower half of the relinquished area from north-east to south-west. Faults, dykes, dyke filled faults, basic to ultrabasic lavas or paramphibolites could explain these magnetic features.

The magnetic character of the areas to the north of these structures is similar to that developed in areas east of Exploration Licence No. 981 where known Middle Cambrian Merrina Beds unconformably overlie the Lower Proterozoic Warramunga Group. South of the linearments the magnetic character is featureless.

No anomalies were observed which could potentially represent a discrete magnetic body. For this reason the area was considered to have little or no potential.
5. EXPENDITURE.

The expenditure incurred solely on the area relinquished from Exploration Licence No.981 cannot be determined from the Cost Analysis System used. The differentiation of the costs to cover discrete areas is not carried out until an anomaly is granted "Prospect Status" and the "evaluation phase", that is, gridding, leasing, detailed magnetic surveys, drilling &c., has been reached.

The total expenditure for the Period February 8th, 1974 to February 7th, 1975 on Exploration Licence No.981 which includes the relinquished area was $26,669:00.
RESIDUAL MAGNETIC INTENSITY CONTOURS FOR AREAS RELINQUISHED WITHIN EXPLORATION LICENCE NO. 981

CONTOUR INTERVAL 10 GAMMAS
SHADING ON LOW SIDE 5 -
FLIGHT LINE SPACING 400 METRES
FLIGHT ALTITUDE 100 METRES A.M.T.

SURVEY & COMPLILATION BY GEOMETRICS
RESIDUAL MAGNETIC INTENSITY
CONTOURS FOR AREAS RELINQUISHED
WITHIN
EXPLORATION LICENCE No. 981

CONTOUR INTERVAL: 10 GAMMAS
SHADING ON LOW SIDE: 5
FLIGHT LINE SPACING: 400 METRES
FLIGHT ALTITUDE: 100 METRES A.M.S.

SURVEY & COMPILATION BY GEOMETRICS

FIG. 4
RESIDUAL MAGNETIC INTENSITY
CONTOURS FOR AREAS RELINQUISHED
WITHIN
EXPLORATION LICENCE Nº 981

CONTOUR INTERVAL: 10 GAUSS
SHADING ON LOW SIDE
FLIGHT LINE SPACING: 400 metres
FLIGHT ALTITUDE: 400 metres A.M.T.

SURVEY & COMPILATION BY GEOMETRICS

FIG. 5