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E.L. 3056

INTRODUCTION

Exploration Licence 3056 was applied for by Petrocarb Exploration N.L. on the 20th February 1981. The tenement was approved on the 3rd March 1982.

Upon grant the Exploration Licence was incorporated into a Joint Venture between Peko-Wallsend Operations Ltd. and Petrocarb Exploration N.L. and associated companies, dated 17th December 1981.

Geopeko, the exploration division of Peko-Wallsend Operations Ltd., managed the tenement on behalf of the Joint Venture until the 15th April 1984 when Peko withdrew from the Joint Venture and the management of the tenement was transferred to Petrocarb.

The tenement was relinquished on the 23rd August 1985.

This report is the Final Report for the tenement and reviews the exploration during the period of the licence. The report also serves as the Annual Report for the final year of tenure.

LOCATION

Exploration Licence 3056 is located approximately 235 kilometers north easterly from Alice Springs and 3 kilometers east of Mt. Sainthil (latitude 22° 45', longitude 135° 42') on the Huckitta 1:250,000 mapsheet (SF 53-11) and the Jinka 1:100,000 mapsheet.
TENEMENT HISTORY AND EXPENDITURE

The table below outlines the Tenure history and expenditure of Exploration Licence 3056.

<table>
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<th>Grant</th>
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Expenditure for the exploration in the vicinity of Molyhil has been costed on a project basis and distributed to Exploration Licences on the basis of their area as a proportion of the total area of tenure involved in the joint venture. During the year ending 2nd March 1985 approximately $80,000 was spent on exploration and asset maintenance of which Exploration Licence 3056 Share is $3,750.

EXPLORATION PHILOSOPHY

Exploration Licence 3056 is situated to the north of the Molyhil scheelite-molybdenite deposit. This deposit is composed of coarse scheelite and molybdenite clots within a magnetite chlorite skarn in calc-silicate rocks and high grade thermally metamorphosed sediments. The deposit occurs as an inlier in the Jinka Granite within a major linear structure called the Delny-Sainthil Fault Zone.

The aim of exploration in Exploration Licence 3056 was the discovery of addition scheelite bearing skarn deposits to add to the existing resource at Molyhil. The highly magnetic magnetite rich skarns can be located by low level aeromagnetic surveys followed by detailed ground magnetics and drilling. The exploration was designed to locate shallow open-cuttable resources that could be treated at a central milling facility.
EXPLORATION PROGRAMMES AND RESULTS

Exploration in the Molyhil district was undertaken in a regional context and activities were not constrained by the boundaries of individual exploration licences.

The first stage of exploration consisted of detailed literature review. This data has been summarised in the Annual Report to 2nd March 1983 by S. D. Turley who lists appropriate references.

Associated with the literature review a regional mapping programme was undertaken to further define the prospective geology and guide the follow-up of a coincident aero-magnetic and radiometric survey. Broad regional mapping was plotted at 1:50,000 scale from government RC9 photography, while some detailed mapping at 1:10,000 scale was completed in the immediate vicinity of Molyhil itself. Plans of this mapping are included in Turley’s report.

This mapping indicated that the E.L. was situated towards the eastern part of the Proterozoic Arunta Complex. The E.L. is traversed by the prospective Delny-Sainthill Fault zone. This fault zone, which is up to 5 kilometers wide in parts contains slivers of Harts Range Group rocks that have been enveloped by Jinka Granite and provides an ideal environment for Molyhil type skarn mineralization. Parts of this E.L. were mapped in detail because of the presence of the fault zone and the proximity of the Molyhil deposit.

Using the Molyhil deposit as a model, a detailed aeromagnetic and radiomagnetic survey was flown over a large area of prospective ground including the whole of the area of E.L. 3056.

Previously flown aeromagnetics completed by Petrocarb Exploration N.L. in 1981 has been described in the report by Turley 1983. From this survey 15 anomalies were selected for ground magnetics and airtrack percussion drilling. Results did not indicate the presence of significant min-
mineralization. Additional drilling to follow-up geological mapping of calc-silicate rocks in the Jinka Granite near Molyhil was also undertaken.

Ground follow-up of aeromagnetic anomalies consisted of ground magnetic location of the aeromagnetic feature, a detailed in field magnetic interpretation followed by percussion drilling to identify the source.

Two anomalies were tested from the results of the regional aeromagnetic survey and percussion drilling intersected calc-silicate rocks. Assays and ultra-violet light scanning did not indicate the presence of scheelite, ref. Turley 1983.

CONCLUSION

The potential of the Delny-Sainthill Fault zone and the presence of Jinka Granite make this area highly prospective. The lack of significant magnetic anomalousism that could have arisen from metasomatic action of the granite away from Molyhil itself is disappointing but the area deserves further exploration.
REFERENCES

Turley, S. D., March 1983. Exploration Licence 3056, Annual Report 3.3.82 to 2.3.83.

Geopeko, June 1984. Exploration Licence 3056, Annual Report 3.3.83 to 2.3.84.
NORTHERN TERRITORY
GEOLOGICAL SURVEY
CR8C/048

LEGEND:

Area of airborne geophysics

PROJECT
MOLYHIL

AREA
HUCKITTA 1:250,000

DATA
EXPLORATION LICENCES
3257, 3259, 3056, 3319 and 2774
LOCATION DIAGRAM

SCALE
1:250,000

COMPiled
S.D.T.

DATE
APR., 1963

DRAWn
S.T.