

OPEN FILE

E.L. 2099, NORTHERN TERRITORY

Final Report on Relinquishment of Tenure

CR82/353

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DMELIBRARY
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SCANNED

1.0 INTRODUCTION

Exploration Licence 2099, in the Northern Territory, was granted to Pan d'Or Mining N.L. on the 18th June 1981. It encompassed an area of some 53 square miles and was held beneficially for a joint venture between Pan d'Or Mining and Jimberlana Minerals Ltd. Text Figure 1 illustrates the true extent and location of the Licence along with some topocadastral features of the area.

Acquisition of the title formed an integral portion of a wide-based study of the Lower Proterozoic succession of the part of the Northern Territory - centred on a large scale exploratory programme conducted around Mt. Bunday on the Arnhem Highway. As such, its exploration was not considered to be a discrete programme, but rather a portion of the wider scale effort to more fully define the potential for mineralisation of a section of the Lower Proterozoic infill of the Pine Creek geosyncline. Therefore, although separated from the Mt. Bunday group of licences, its examination must be viewed in the light of progress in that area. Although work was limited information available on the area has been increased, making the investigation of this licence of value both to our organisation and to the mining industry in general.

In the light of limited results achieved from uranium exploration over other licences, the field investigation of E.L. 2099 was limited to ground reconnaissance. No mineralisation of significance was located and, chiefly because covenanted expenditure had not been reached, a request was made to the Department of Mines that our Company be allowed to relinquish tenure prior to the anniversary date of the licence (correspondence Feb/March 1982). It was noted in correspondence that the limited work effected had achieved no results of significance and that further costs were not warranted.

131°15'

131°20'

Scarce outcrop of
L. Proterozoic sediments
no mineralisation of
note recorded - cps
generally low

■ Humpty Doo

Beatrice Hill

Predominant alluvial
cover - occasional
siltstone rubble, some
associated rise in cps

12°42' +

Access poor
Alluvial cover
relatively thick

■ Mantons Hill

Marrakai Ck.

Adelaide
River

N

EL 2099

SCALE = 1:100,000

GEOLOGICAL NOTES

12°50' +

2.0 GEOLOGY AND MINERAL POTENTIAL

The area encompassed by the licence lies within a region which is, to a large degree, underlain by Lower Proterozoic metasediments of the Pine Creek geosyncline - this being a shallow, composite basin intracratonic within Archaean metamorphics and granites. Under recent B.M.R. reclassification of the stratigraphy of the Pine Creek geosyncline, the area under study is primarily underlain by sediments belonging to the Lower Proterozoic South Alligator and Finnis River Groups.

The sedimentary units represented lie at a level in the succession that is associated elsewhere in the geosyncline with uranium mineralisation. Although local conditions, of metamorphic grade and basement geology, differ considerably from those portions of the geosyncline in which economically viable deposits have been proven, it was considered that the licence in question demonstrated a potential for uranium. If anomalous quantities of that mineral were syngenetically incorporated into the Lower Proterozoic succession, throughout the geosyncline, subsequent pervasive orogenies may have provided structural traps for remobilised material. Such traps may have a wide aerial as well as stratigraphic distribution - thus the decision to effect exploration at scattered localities within the geosyncline.

3.0 WORK CARRIED OUT

As mentioned above, the investigation of E.L. 2099 has formed an integral part of a wide scale investigation of the Lower Proterozoic succession. Much of the regional work effected has therefore been of direct relevance to its exploration. Considerable research was carried out prior to the onset of fieldwork,

Careful examinations being made of past work in all of the areas concerned. Although considerable work was carried out previously, most was geared to exploration for base metals and it was considered unlikely that potential for uranium had been adequately tested.

Fieldwork in the Mt. Bunday area, although showing that a portion of the Lower Proterozoic succession (the Koolpin Formation) was characterised by generally higher than background radioactivity, downgraded potential for significant uranium mineralisation in stratigraphic or structural traps. Certain base metal concentrations, which remain of interest to the joint venture partners, were located (see Mt. Bunday exploration reports). These however appear to occur in direct relation to the Carpentarian granite intrusive present in the area. Consequently the possible potential displayed by E.L. 2099 was downgraded. A recommendation for immediate relinquishment of the licence was not accepted and it was decided that reconnaissance fieldwork be carried out.

Where access allowed, vehicle and foot traverses were carried out across the licence, generally perpendicular to geological strike. As the area had been adequately mapped by the Bureau of Mineral Resources, no geological mapping was effected. A visual examination of outcropping lithologies was made and radioactivity levels measured by hand-held gamma-ray scintillometer. Occasional rock samples were taken from localities of geological interest. Rock outcrop in the area is scarce and the area could be relatively rapidly covered. This work was carried out in the latter part of 1981, in order to allow sufficient time for follow up surveys, if required, prior to the licence expiring in June of 1982.

4.0 DISCUSSION OF RESULTS

No significant mineralisation, either of uranium or base metals, was located during the ground survey; and no anomalous assay values were returned for the occasional rock samples submitted. Variations in radioactivity measured were attributed more to lithologic variation than anomalous mineralisation. For example, relatively high background radioactivity was often measured over thick surficial cover - which was taken to indicate the presence of iron-rich sediments in the soil profile, which may have acted as scavengers of uranium present in groundwater. No economic significance is postulated.

Geological horizons examined showed similarity in many ways to lithologies mapped in the Mt. Bundey area. Although not systematically mapped it was concluded that they do indeed lie at a similar stratigraphic level. However, no gossanous textures and secondary minerals that may be taken as indicative of base metal concentration were observed.

Undoubtedly, it is possible that geological and/or mineralogical features that may be indicative of mineralisation may have been missed during the reconnaissance effected. However the lack of obvious potential did not warrant further expenditure.

As mentioned above, permission was requested of the Northern Territory Department of Mines for relinquishment of E.L. 2099 prior to the expiry of its first twelve month period of tenure. Expenditure to that date had not reached the covenanted level of \$30 000-00 - this being the prime reason for early relinquishment. It was noted at the time that application for the licence was made prior to the current author's employment with Pan d'Or Mining, and that the covenanted expenditure was considered excessive for the programmes proposed.

5.0 EXPENDITURE

Accounting of expenditure on E.L. 2099 was not kept separate from that incurred on the Company's major prospects around Mt. Bundey. The following figures are calculated, therefore, from time spent on the programme, its interpretation and planning :

a) Salaries : research	\$ 1 000-00
fieldwork	\$ 2 100-00
reporting	\$ 600-00
b) Vehicle fuel and maintenance	\$ 700-00
c) Instrument rental	\$ 250-00
d) Damages bond	\$ 2 000-00
e) Fees, administrative and office costs	\$ 1 200-00
<u>TOTAL</u>	\$ 7 850-00

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