FIRST RELINQUISHMENT REPORT

EXPLORATION LICENCE 6973

FOG BAY AREA NT

11 OCTOBER 1990 TO 10 OCTOBER 1992

BY

J. GOULEVITCH B.Sc(Hons) F.AusIMM M.MICA

OF

EUPENE EXPLORATION ENTERPRISES PTY LTD

FOR

K.F. EUPENE & J.J. SULLIVAN

FOG BAY SD52-3

FOG BAY 4972

DARWIN NT

January, 1993
TABLE OF CONTENTS

SUMMARY

1. INTRODUCTION ................................................................. 3

2. TENURE .................................................................................. 3

3. PREVIOUS EXPLORATION .................................................... 4

4. GEOLOGY ............................................................................. 5

5. WORK CARRIED OUT AND RESULTS ................................... 5

5.1 Laterite Sampling ............................................................... 5

LIST OF FIGURES

Figure 1        EL6973 Location Plan ........................................... 1:1 000 000
Figure 2        EL6973 Geology and Sample Location Plan .......... 1:25 000

LIST OF APPENDICES

Appendix 1       Analytical Results - Laterite Samples
SUMMARY

Limited laterite gravel sampling and analysis was carried out but this did not produce any anomalous results.

1. INTRODUCTION

Exploration Licence 6973 is located 70 kilometres south-west of Darwin (Figure 1) on the Fog Bay (4972-11) 1:50 000 sheet. It is accessed via the Stuart Highway, Mandorah Road and Finniss River Road. It is situated immediately to the east of Coal Leases 3 and 4 held by Messrs K. Eupene & J. Sullivan.

The licence was taken out in order to evaluate extensions of high quality peat within peaty soils located in swampy country on the western boundary and to protect access into Coal Leases 3 and 4.

This report details the work conducted in the area relinquished at the end of Year 2.

2. TENURE

Exploration Licence 6973 comprised of 6 blocks (19 square kilometres) was granted to Messrs K.F. Eupene (50%) and J.J. Sullivan (50%) on the 11th of October, 1990 for a period of four years. Three blocks were relinquished at the end of the second year of the licence.
3. PREVIOUS EXPLORATION

There has been very little systematic exploration conducted within the vicinity of EL6973, mainly because the prospective Proterozoic bedrock is obscured by a well developed lateritic regolith and younger sediments.

Hickey (1985) reported that numerous geophysical surveys (magnetics, radiometric, IP, gravity) and reconnaissance geological mapping were undertaken by the BMR during the period from 1963 to 1982. Some of these surveys included the area covered by EL6973. Esso Exploration Australia Pty Ltd (1974) carried out grid based auger drilling and geochemical sampling over the northern half of the Fog Bay 1:100 000 sheet in an attempt to locate uranium in Early Proterozoic subcrop.

Idemitsu Uranium Exploration Australia Pty Ltd carried out an intensive exploration programme east of EL6973 searching primarily for uranium of the Alligator Rivers type (Eupene, 1980) during the period 1980 to 1984. Some stratigraphic drilling was conducted as part of this programme close to the northern boundary of EL6973.

Messrs. K.F. Eupene, J.J. Sullivan and R.J. Stone carried out exploration for gold, base metals, shell grit and peat on EL4733 immediately to the east of EL6973 from 1985 to 1991. No significant base metal or gold geochemical anomalies were defined and no deposits of shell grit were located. Areas of suitable high grade peat were recognised and these areas are now covered by coal leases (CL3 and CL4).
4. GEOLOGY

The Fog Bay 1:100 000 sheet covers the north western edge of the Litchfield Province which in turn marks the western margin of the Pine Creek Geosyncline. The oldest rocks are of Early Proterozoic age. Following deposition, the rocks were folded, metamorphosed and intruded by late tectonic and post tectonic Early Proterozoic granites. Shallow marine sediments of Permian and Cretaceous ages cover much of the area. Surficial Cainozoic sediments and a lateritic duricrust form a complex regolith which obscures virtually all of the area.

The surface geology of EL6973 is dominantly comprised of a Tertiary lateritic regolith which includes a cemented pisolithic/nodular duricrust with associated ferruginous clayey sand and soils. There are small areas of black soil plain on the western and southern boundaries of the licence. The regolith is developed on Early Cretaceous sediments comprising poorly sorted gritty sandy claystone, clayey sandstone and basal conglomerate of the Bathurst Island Formation.

5. WORK CARRIED OUT AND RESULTS

5.1 laterite sampling

A total of 7 laterite samples were taken by K Eupene from the surface at approximately 250 metre intervals on an east-west line (see Figure 2 for location). Approximately 300 - 500 grams of lateritic material generally comprising ferruginous pisolites/nodules, mottled gritty duricrust and strongly ferruginised lithic fragments were collected at each site and were analysed for Ag, As, Bi, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, P, Sb, V and Zn by ICP, and Au, Pt and Pd Fire Assay/Carbon Rod AAS (Figures 3-9). The analytical results (Appendix 1) for all of these elements showed little geochemical character and are interpreted to be background values only.
AREA RETAINED

LEGEND
Qaf Clay, mud, silt, black soil plain
Qcl Sand, silt, clay
Qg Gravel, sand, silt
Czs Sand, clayey sand
Czl Laterite
KI Bathurst Island Formation
X Sample location site

EL 6973 BYNOE PROJECT - GEOLOGY & SAMPLE LOCATIONS

Figure 2
APPENDIX I

ANALYTICAL RESULTS

LATERITE SAMPLES
EUPENE EXPLORATION ENTERPRISES
4/98 WOODS STREET
DARWIN
NT 0801

ANALYSIS REPORT :

Your Reference : D/S 11717
Samples Received : 26/09/91
Number of Samples : 8

Our Reference : 1DN1288
Results Reported : 30/09/91
Report Pages : 1 to 3

This report relates specifically to the samples tested in so far as the samples supplied are truly representative of the sample source.

If you have any enquiries please contact the undersigned quoting our reference as above.

Report Codes:
N.A. -Not Analysed
L.N.R. -Listed But Not Received
I.S. -Insufficient Sample

Approved Signature:

for

ALAN CIPLYS
Manager - Darwin
CLASSIC LABORATORIES LTD

*** RELIABLE ANALYSES AND SERVICE ***
Mr Alan Ciplys  
Classic Laboratories Limited  
Marjorie Street  
BERRIMAH  
NT 0828

**FINAL ANALYSIS REPORT**

Your Order No: 1DN1288  
Our Job Number : 1AD2836

Samples received : 17-SEP-1991  
Results reported : 24-SEP-1991

No. of samples : 8  
Report comprises a cover sheet and pages 1 to 3

This report relates specifically to the samples tested in so far as that the samples as supplied are truly representative of the sample source.

**Note:**  
If you have any enquiries please contact Miss Anne Reed quoting the above job number.

Approved Signatory:

John Waters  
Laboratory Manager - Adelaide

CC  Mr Alan Ciplys  NT

**Report Codes:**  
N.A.  -  Not Analysed.
L.N.R.  -  Listed But Not Received.
I.S.  -  Insufficient Sample.

**Distribution Codes:**  
CC  -  Carbon Copy
EM  -  Electronic Media
MM  -  Magnetic Media

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