ANNUAL REPORT

OCTOBER, 1982

OONAGALABI PROSPECT

EL 1337

HARTS RANGE, NORTHERN TERRITORY

Kinex Pty Limited
784 Pacific Highway
GORDON 2072

June, 1983.

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INTRODUCTION

The geology comprising the Oonagalabi Prospect is being understood a little more clearly as a result of further traverses and continual reexamination of the core located at Alice Springs core shed.

The stratigraphic sequence below the Mt Riddock Amphibolite clearly represents the final exhalative component of the depositional cycle. The textural and mineralogical studies indicate that this part of the sequence and the middle component as represented by the outcropping and subcropping mineralisations are indications that the overall sequence is right way up.

Continual laboratory studies have been conducted at the Bureau of Mineral Resources and Geophysics, Canberra by A.N. Yeates and by Professor R.L. Stanton, University of New England, Armidale. It is thought that the results of their respective research projects will become available in 1984.

Effort during this last licence period was also directed at correlating the later Induced Polarisation Survey with the surface and sub surface geology. The results of this correlation study are included on the enclosed map. In addition research was conducted into the suitability of advanced loop EM systems but these systems were regrettably rejected because of the fact that their penetration does not appear capable of reaching below 300m.

The expenditure for the licence period ending October, 26 1982 was $66,400.
GEOLOGY AND GEOPHYSICS

The broad scale geology at Oonagalabi has been described in some detail in earlier reports. Particular attention has been directed, especially during the last twelve months of the licence period, at reaching a greater understanding of the significance of the relic textures present in the various rock units. Initial investigations suggest that the textures are relic volcanic textures viz. porphyritic tuffs in the more felsic units and evidence of flow textures in the more mafic units. Some very fine original tuffaceous sediments are present, in particular, south west of drill hole PD K & L and outcropping in the nearest costean in this direction from the above mentioned drill holes.

A closer interpretation of the ground magnetics provided evidence of magnetite settling in the mafic units. One magnetic response in particular lies at a shallow depth adjacent to the baseline of the survey grid. Investigations of the core from ONT 79-2 revealed that with successive amphibolite horizons the lower part of the amphibolite charateristically contained higher amounts of magnetite. The magnetic response was found to be quite shallow and had no bearing on the future methods of exploration proposed for this area.

Preliminary investigations by Professor R. L. Stanton, University of New England, indicate that the outcropping mineralisation is sulphide deficient in that
significant amounts of zinc spinels, especially gahnite, are present in most of the mineralised horizons. The previous digestive methods of using aqua regia as the main metallic ion release method prior to the use of AAS resulted in some highly anomalous results for zinc which could not be readily reproduced from subsequent sampling. However, check assays by XRF suggests that the zinc values should, in general, be much higher. This is encouraging as it raises the overall metal content above its present level of grade.
FORWARD PROGRAMME

Though the research work being conducted by Professor Stanton will not be available for publication for some time some broad informal interpretations can be drawn at this stage. The first of these interpretations is that the outcropping and near surface mineralisation though not currently of economic significance belongs to systems which are common worldwide, in similar Proterozoic environments - Orijavi, Finland, Saskatchewan, Canada and Namibia, South West Africa to name but a few and all of these are significant large producer base metal mines. The stratigraphic significance of the outcropping geology lies in the fact that it strongly suggest on an interpretative basis, that should an important mineralising system be developed its location should be approximately 500-750m below the current outcropping position i.e. taking OMT 79-1 as a reference point. The implications of this interpretation is that the additional exploration work will be quite time consuming and expensive.

The forward programme has two major components. The first component is to expand and strengthen, in some detail say 1:1,000 the surface geological and equally important structural mapping. This is considered to be highly important from the point of view that the penetrative structures are not readily identifiable by open space grid mapping and in fact, contributed to the failure of the last hole, in 1981, to reach a significant target. The second component is to follow
up the results of the earlier component by engaging in a stratigraphic drilling programme with the hole(s) being positioned as a result of the earlier work. It is proposed to subject the hole to down the hole geophysics and the core to intense laboratory scrutiny. From the data available it would seem that at this stage the prime target zone would be beyond the limits of depth detection of most if not all geophysical systems. Though there has been some continental studies with respect to the interpretation of lineaments by the use of gravity and magnetics the results of these works while they are intrinsically encouraging are unfortunately not definitive enough to be of any great value in the subsequent exploration programmes.

Particular attention will also be directed at determining the importance of the two geophysical (IP) zones which were brought to light during the 1981 field season.
EXPENDITURE

The expenditure listed below are the unaudited figures which have been made available from Pan d'Or Mining N.L., Sydney and Preussag, Melbourne. In the case of Pan d'Or the figures represent the carry over of the exploration programme conducted during the 1981 to 1982 licence periods. Preussag, on the other hand, expended a sum which was in the vicinity of $15,000 on some sampling and mapping on the prospect.

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$66,400