CALLINA N.L.
MINING & EXPLORATION

450001

1ST FLOOR, 28 ORD ST., WEST PERTH,
WESTERN AUSTRALIA 6005.
P.O. BOX 1056,
WEST PERTH, W.A. 6005.
TEL: (61-9) 481 4080
TELEX: AA197348 TINTON FAX: (61-9) 481 4095

ANNUAL REPORT 1989-90

EXPLORATION LICENCE 24/85, WILSON RIVER

Feb 1990

CA-REP:4

450002

CONTENTS

ANNUAL REPORT 1989-90

EXPLORATION LICENCE 24/85, WILSON RIVER

INTRODUCTION

The Wilson River Exploration Licence 24/85, has been the subject of significant exploration for chromite bearing alluvials, the chromite having a premium (>60%) Cr_2O_3 content. Small poddy alluvial resources have been previously reported. These were defined at Area A (860,000 tonnes @ 2% chromite) and Area C (843,000 tonnes at 1.8% chromite). Conceptual studies for a 4–5 year operation have revealed the project to be marginally better than break even. The tight ore position is not viable in current economic conditions.

1. ACTIVITY DURING THE PERIOD

Geological and laboratory studies continued in the latter half of 1989. During the period 1.1.90 to date management and control of Callina changed. The project was reviewed from both the present data to hand and aspects of marketing of chromite. The lease area was also subject to a gold assessment with adjacent E14/86.

1.1 Chromite alluvial project

Re-examination of all data further downgraded the economic viability of a chromite alluvial mining operation. This stemmed from too high an SG value being placed on the chromite bearing alluvials, i.e. 2.4 instead of a more realistic 1.9 to 2.0. Present resource estimates can therefore be reduced by 20%. Much of the chromite has metallurgical problems, i.e. having limonite coatings.

The marketing philosophy of the past management of Callina was questioned on the basis of their dubious assumption that high quality (>50% Cr_2O_3, low SiO_2) finely granular chromite would be readily acceptable at a premium price in relatively small quantities around the world. The metallurgical and foundry sand markets would have to be eliminated on price alone; the fine grain size, low MgO and Al_2O_3 and

prevailing low price would also exclude the refractory chromite market. This would leave the chemical chrome and glass colouring markets. The chemical chrome markets are entirely overseas as present and specifications are largely controlled by standards set by the major South African producers which relate to existing processing facilities designed primarily for their lower quality (% Cr_2O_3) metallurgical and refractory chromite categories. While the Cr_2O_3 content of chemical grade chromite from South Africa may fall well short of that which could be produced from Tasmanian chromite deposits, the South African suppliers have the distinct advantage of consistency of quality and a virtually limitless supply of raw chromite ore to feed a restricted chemical chrome market, the specifications for which have been adapted to accommodate their products.

The practical difficulties of high recovery during mining and processing and further losses during handling, trucking and local and overseas shipment of fine grained, high Cr_2O_3, chromite must also be carefully assessed before assuming that a quoted high premium for high Cr_2O_3 and low SiO_2 is indeed attractive.

A geological review of the lease has generated secondary targets for exploration. Initially the attraction of the leases related to occurrence of ultramafics associated with the Huskisson Syncline. Exploration has shown that liberation of associated chromite (and PGM's) from weathering of ultramafics has not yielded significant (large) concentrations of these minerals in alluvial deposits. It has also been pointed out that areas outside the lease have equal if not greater prospectivity for viable concentration of chromite (PGM) mineralised alluvium (refer McIntosh Reid's "Osmiridium in Tasmania"). Most of these areas occur within the larger drainage basin of the Savage River. With the above in mind it is thought that secondary targets generated are secondary to the main exploration effort to date and that economic success of continued exploration for chromite (PGM) alluvials will be unrewarding.

1.2 Gold assessment E24/85

A review of exploration data in conjunction with data on Black Horse Mining N.L. held adjacent E14/86 was carried out based on a conceptual model to explain the reported presence of alluvial gold within E14/86. The concept being based on the premise that alluvial gold is derived from hard rock mineralisation similar in style to either the Beaconsfield or Henty models. However a study of exploration data from the Wilson River project indicates little potential for economic alluvial or hard rock gold deposits.

2. EXPENDITURE

During the reporting period $54,647 was spent on the exploration licence.