ANNUAL REPORT ON THE

MINING ACTIVITIES IN MLN 766,

HOWLEY PROJECT AREA - 1989/90.
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MLN 766, HOWLEY PROJECT AREA - 1989/90.

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CONTENTS

1 SUMMARY . . . . . . . . . . . . . . . . . . 3
2 INTRODUCTION . . . . . . . . . . . . . . . . . . 4
3 GRAVEL DEPOSITS IN MLN 766 . . . . . . . . . . 4
4 HISTORY OF EXPLORATION . . . . . . . . . . . . 6
5 MINING OPERATION . . . . . . . . . . . . . . . . . . 6

FIGURE

FIGURE No. Page No.

1 Location Map . . . . . . . . . . . . . . . . . . . 5

ENCLOSURE

ENCLOSURE 1 Alluvial Deposits in MLN 766, Bridge Creek, Howley Project Area.
SUMMARY

The Mining Lease MLN 766 covers a part of the Bridge Creek alluvial deposit in the northern part of the Howley Project Area. The lease lies on the western side of the Howley Ridge in the Bridge Creek catchment. The gravels are shedding from the ridge immediately east of where the Stuart Highway crosses Bridge Creek (an area called 'Bridge Creek'). The mining activities of the past year in the Howley Project Area have been focussed on the claims in this area, including MLN 766.

MLN 766 is an old claim in the Howley Project Area which pre-dates the granting of the main exploration leases. It covers only a small part of the Bridge Creek orebody, so a larger ML covering the whole area was applied for and granted in August, 1988. This MLN 1060 completely surrounds MLN 766 and the work done in 766 must be seen in the wider context of the total mining programme at Bridge Creek.

Commissioning of the wet treatment plant at Bridge Creek began in March 1988 and mining continued through the period covered by this report. A total of 390,552 LCM's was extracted from the Bridge Creek area and stockpiled. Two water holding dams were constructed. An average grade of 0.3 g/LCM has been obtained from the gold bearing gravels. A total of 70,000 LCM's were extracted from ML 766 in the year 1989-90 averaging 0.3 g/LCM.
2 INTRODUCTION

The Howley Project Area is situated about 30km southeast of Adelaide River on the Stuart Highway (Fig. 1). It consists of a group of Exploration Leases, Mining Leases and Claims held by Northern Gold N.L. Metana Minerals have negotiated a production agreement with Northern Gold for the alluvial mining rights. Alluvial mining began in 1986 using a 100 cubic metre per hour plant situated about 1km east of Chinese Howley. Ore was run through the plant which had been mined from mining claims in close proximity to the plant site. In 1987, a second 100 cubic metres per hour plant was added giving an annual mining capacity of 800,000 cubic metres.

Exploration for more gravels in the surrounding EL's has continued and in 1988, one of the treatment plants was moved to Bridge Creek. The plant was commissioned in August of that year following the granting of the mining lease MLN 1066. This report deals with the mining activity in the MLN 766, an older claim which covers a small part of the Bridge Creek deposit and is completely enclosed by the larger MLN 1066.

3 GRAVEL DEPOSITS IN MLN 766

Initial photo-mapping was based on 1:15,000 colour air photographs and was carried out as part of an overall survey covering the whole Project Area. The photo-mapping focussed on geomorphological features and the mapping was carefully checked in the field and corrected where necessary. The mapping shows extensive alluvial tracts in the valley floors with fluvioglacial deposits extending onto the Howley Ridge in headwaters of the Howley and Bridge Creeks where MLN 766 is located. From the mapping and a detailed examination of the gravels in cosean exposures and in creek incisions, it has been concluded that the alluvial deposits are poly-cyclic with two main phases of deposition:

i) An early alluvial phase in which a thick layer of coarse, poorly sorted material was deposited. Matrices are clay-rich and the gravels are indurated and compact. Gold occurs throughout the profile but the best results are obtained on or near the floor. Grades of 0.6 LCM have been obtained in this material. Most of the material in the lower parts of the Bridge Creek gravel profile consists of this 'old' material.

ii) A later fluvioglacial phase in which a thinner, better sorted layer of gravels was laid down. These materials are lighter and more rounded than the older gravels, matrices are sandy and the gravels are loosely compacted. Good gold grades are panned from the contact between the upper and lower gravel layers (about 0.3 to
Fig. 1  Location Map
0.6 g/LCM) but higher in the upper gravel layer, the grades drop off. Much of the surface gravels in the Bridge Creek area and the materials in the narrow headwater creeks consist of this 'younger' material.

4 HISTORY OF EXPLORATION

The Bridge Creek alluvial gold bearing gravels occur on a right bank tributary of the main Bridge Creek. The gravels are shed from mineralised zones along the Howley Anticline where Northern Gold N.L. have conducted drilling to assess the hardrock potential. The Bridge Creek deposit occurs within EL 4737 and is covered by MLN 1066. The older mining lease with which this report is concerned, ML 766, is located within this area (Enclosure 1). Eleven costeans were cut by Northern Gold in 1985 to test the thickness and areal extent of the gravels. Several of these costeans cross MLN 766. Thirty 'bulk' samples were taken during this programme of between 4.5 and 10 cubic metres. Metana's work in 1986 and '87 has involved air photo and field mapping of the deposits and a geomorphological evaluation. The areal limits of the resource were defined and the origin of the different types of gravel evaluated. Five bulk sample pits were excavated from which a total of 20,040 LCM's were extracted in nine samples. An average grade of about 0.38 g/LCM was obtained. The results of the mapping and the location of the gravel body together with all the exploration activities are shown on Enclosure 1 at the rear of this report. Details of the gravels and their distribution are presented in the report 'Mining Proposal, Bridge Creek Alluvial Deposit', 7th March 1988.

5 MINING ACTIVITIES

Mining in ML 766 has been carried out as part of Metana's wider mining programme in MLN 1066 at Bridge Creek. Prior to mining, the bulk sampling programme mentioned above was carried out on the gravels to establish grade and volume. Two of the bulk samples, pit 5 from which 2,300 LCM's were extracted, and pit 9, from which 3110 LCM's were extracted, occur within MLN 766. Mining began in MLN 766 in the year 1989/90 and was completed in the claim in the same year. Total volume of gravels mined from the MLN in the year 1989/90 was 70,000 LCM's grading 0.3 g/LCM.