



## 1.0 SUMMARY AND RECOMMENDATIONS

- \* Mancala Pty Ltd took up EL 23/92 to explore for gold.
- \* The potential host rocks are the Palaeozoic Mathinna Group, which consists of a folded monotonous sequence of turbiditic sandstone, siltstone and mudstone.
- \* A 4km portion of the regional gold lineament is located upon the EL. The structural setting of this region has many similarities to the New Golden Gate Mine.
- \* Individual auriferous lodes in the region have extensive strike lengths up to 600m.
- \* Mapping and sampling has conformed dextral shearing in the region.
- \* Shoots within lodes contain grades up to 106 g/t.
- \* Diamond drilling has identified a potential resource of 1,000 tonnes grading 12-15 g/t Au
- \* Additional mapping, sampling, drilling and bulk sampling is recommended.

## 2.0 INTRODUCTION

The exploration licence 23/92 extends from the Mangana region in the south to the Alberton region in the north, encompassing an area of 28 square kilometres.

The mining lease 6M/95 (formally Mancala P/L), and the EL 4/88 (Threader and Associates) are totally enclosed within the EL.

The northern portion of the EL encompasses the Alberton Goldfield, and the southern portion, a segment of the Dan's Rivulet Goldfield.

Gold is the main commodity being explored for, although historically sporadic occurrences of tin and tungsten are known, and are not excluded from the target parameters.

## 3.0 EXPLORATION OBJECTIVES AND RATIONALE

The objective of Mancala's exploration in EL 23/92 is to locate a substantial gold resource that would be amenable to a narrow vein, underground style mining. Hard rock, vein targets in the order of +5000 oz Au are sort. The prime target style is that of The New Golden Gate Mine, which produced in excess of 250,000 oz of gold.

Previous, modern exploration in the region has targeted large tonnage, relatively low grade opencut type resources. Previous production from the region has been derived from narrow vein resources and to a lesser extent alluvial workings. Extensive soil and stream sediment sampling programs of previous modern exploration companies have met with little success and have been hampered by technical difficulties.

Mancala's approach to exploration in the EL has had a basis in the extensive work undertaken in ML 6M/95, which is totally encompassed by the EL. The approach is two fold:

- 1) Specific targets generated from a combination of historical data, the application of recent generic models and detailed sampling and mapping.
- 2) Regional targets to be generated from geophysical data and a broad structural interpretation of the area.

To assist financially and to give technical advice (in relation to regional target selection) Mancala is seeking joint venture partners for EL 23/92 and for the other tenements held by the company.

#### 4.0 TENEMENT INFORMATION

Exploration Licence: 23/92  
Area: 28 square kilometres  
Land District: Cornwell and Dorset  
Vicinity: Alberton  
Municipality: Ringarooma and Fingal

#### Schedule:

Commencing at a north west corner at grid co-ordinates 566 000 metres E, 5 430 000 metres N, thence grid east to 570 000 metres E, 5 430 000 metres N, grid south to 570 000 metres E, 5 427 000 metres N, grid west to 569 000 metres E, 5 427 000 metres N, grid south to 569 000 metres E, 5 423 000 metres N, grid east to 570 000 metres E, 5 423 000 metres, grid south to 570 000 metres E, 5 421 000 metres N, grid west to 566 000 metres E, 5 421 000 metres N, grid north to the point of commencement (Figure 1).

Mancala Pty Ltd purchased the tenement from Newcrest Mining Limited in 1994. As part of the agreement between the two companies, Mancala has had to inform Newcrest of any voluntary reduction in size of the EL, and to offer the area to be relinquished to Newcrest, prior to formally reducing the area. The agreement also required Mancala to offer the total EL to Newcrest on the third anniversary of the agreement if royalty payments from production had not commenced.

#### 5.0 PREVIOUS EXPLORATION

Mancala purchased EL 23/92 from Newcrest Mining Limited in June 1994. Newcrest engaged the services of consultant geologist Lindsay Newnham who compiled an extensive review of previous exploration (Newnham, 1992). This work combined with Pearson (1993) details the previous exploration to date within the EL. Recent work by Mancala is detailed in Akerman (1996b).

#### 6.0 REGIONAL GEOLOGY

The regional geology of the EL has been detailed by geologists of the Tasmanian Mines Department on the 1:50,000 geological maps of Ben Lomond and Alberton. Recent reviews, specific to economic geology are provided by Taheri (1992 and 1993) and Keel et. al. (1994) as part of the Netgold Project.

The northern portion of the EL is located within the 70 km Mangana to Lyndhurst gold lineament. Within the approximately 2 km wide, north-westerly trending lineament, gold mineralisation is hosted by the probable Silurian to Devonian Mathinna Beds.

The Mathinna Beds consist of a monotonous sequence of interbedded, fine to medium grained, commonly graded quartz rich sandstone beds and pelrites (Taheri, 1993). The Mathinna Beds are unconformably overlain by probable Carboniferous and Permo-Triassic sedimentary sequences of the Parmeener Supergroup.

The Mathinna Beds have been intruded by granites and graniodiorites, of Devonian age, the thermal alteration halo of which is sporadically mineralised with tin and tungsten. The age of gold mineralisation is uncertain, although it is probable that deposition occurred concurrently with folding and cleavage development, prior to the Devonian granitic intrusives.

Regionally, the Mathinna beds are folded about northwest-trending axes to form small scale and kilometre scale wavelength tight to moderate folds. Axial plane cleavage development takes the form of a slaty cleavage in the pelitic units (Taheri, 1993). Folding is asymmetric with local steep overturning to the west in some cases (Pearson, 1993). A subsequent deformation has produced regional mega kinking about steep, northeast trending kink planes, and numerous steeply dipping kink-bands with both sinistral and dextral geometry's (Goscombe and Findlay, 1989, in Taheri, 1993).

The origin of gold mineralisation and its relation to the structure of the goldfield is uncertain, with a number of theories having been forwarded. Hill (1923), Powell (1991) and Keele et. al. (1994) have all invoked deep seated thrusts models while Taheri (1993) has modelled a pre-Permian extensional dextral jog with dextral transcurrent faulting. At present little field evidence is available to support or disprove the models.

## 7.0 WORK CARRIED OUT BY MANCALA PTY LTD

No field was carried out by Mancala during the reporting period.

### Administration

The area of the lease was reduced by a voluntary partial surrender in April 1997 (Akerman, 1997). Documentation to support the surrender application was compiled and submitted to the MRT and to Newcrest. Correspondence was exchanged with Newcrest in relation to the expiry of the purchase agreement. Newcrest did not use the opportunity to re-acquire the lease.

### Acquisition of Joint Venture Partner

Following the completion of diamond drilling in 1996, Mancala has sort a JV partner to aid in the exploration of EL 23/92 (in combination with other tenements held by Mancala) and to further up grade the delineated resource.

A documentation package and presentation was prepared and either directly presented to or dispatched to four Australian based companies and one international company.

Preliminary negotiations were held with Titan Resources N.L., Goldstream N.L., Pima Mining and Meekathara Minerals. Mineral Resources Tasmania co-ordinated a presentation and site visit by Echo Bay Mines of the USA.

All companies approached failed to find sufficient interest in the area to form a joint venture. The lack of interest is exemplified by the approach by other NE gold tenement holders to Mancala to farm into their current/past holdings.

The recent restructuring of Mancala Pty Ltd resulted in a new board of directors. Company policy is directed from the board, through the executive directors. The gold exploration potential of NE Tasmania and in particular the Alberton/Mt. Victoria area was presented to the board. The aim of the presentation was to secure additional funding for further drilling at the Una and Hinemoa Prospects. The funding request was rejected with company policy directed toward base metals in line with the establishment of the Hercules Mine.

## 8.0 CONCLUSIONS

The portion of EL 23/92 located at headwaters of the Dorset River and Dan Rivulet is highly prospective for hard rock gold deposits. The regional structure in the area, postulated to be a dextral shear zone has been partially confirmed by mapping. The individual lodes of the Una and Hinemoa mine areas are extensive with strike lengths up to 550m. The setting has many similarities to the structural regime at the New Golden Gate Mine which produced over 250,000 oz of gold.

At Hinemoa, economic mineralisation has been located at the northern and southern extremities of the known workings. The prospects location, straddling the EL boundary, has precluded detailed work until a JV can be negotiated with the holder of the adjacent licence.

The area north of Hinemoa and south of Una is considered highly prospective as the regional structural elements appear to intersect in the region.

The east/west extent Una workings (50 to 70 metres) suggest that the extensive regional structure (Mangana to Lyndhurst) is confined in this region. Dextral shearing, strike extensive lode development and very high individual grades have been defined. Known individual lodes appear to be limited to 500 to 1000 tonnes of probably 15-30 g/t Au.

It is highly likely that the surface expression of the regional structure is duplicated at depth. Distinct possibilities exist of significant individual or multiply lode deposits being present at depth below the Una workings.

It is proposed that detailed creek and ridge mapping program be undertaken from the Mt. Albert Road saddle southward to the Hinemoa workings during the next reporting period. The postulated presence of C and S fabric development and its association with high grades within the shear zone will be investigated.

Diamond drilling, both shallow and deep is proposed at sites which appear prospective based upon the results of mapping.

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