PLACER EXPLORATION LTD
TENNANT CREEK GOLD LTD
JOINT VENTURE

EL6099

ANNUAL REPORT FOR LICENCE
YEAR ENDING AUGUST 1990

TENNANT CREEK
1:250,000 SHEET AREA

A W MACKIE
SEPTEMBER 1990
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SUMMARY

PLACER EXPLORATION LTD have remodelled existing Austerix magnetic data delineating two (2) magnetic anomalies within the area of EL6099. Both anomalies have been further refined by detailed ground magnetic surveys to the extent they now require testing in the subsurface by R.C. drilling.

Both anomalies have been geologically mapped in detail which has revealed an intrusive porphyry unit in the foot-wall of the sequence hosting M18 anomaly.
TCGL/PEL JV  EL 6099, 6100

LOCATION PLAN

0  1  2Km

Fig 1.
1. **INTRODUCTION**

EL6099 is held by TENNANT CREEK GOLD LTD. It is currently part of a joint venture agreement with PLACER EXPLORATION LTD who are managers of the project.

2. **LOCATION (Figure 1)**

EL6099 is approximately 38 kilometres NW of Tennant Creek township and covers a total of 13 square kilometres in area. Access is via the Warrego haul road to the Peko Mines smelter turn-off.

3. **EXPLORATION PROGRAMME**

3.1 **REGIONAL MAGNETIC INTERPRETATION (Figures 5 & 6)**

Computerised remodelling of Austerix data by PEL Geophysicists has delineated two (2) magnetic anomalies namely M18 & M19.

The anomalies are interpreted as primary quartz-magnetite ironstones approximately 100 metres below surface. M19 appears to be on the same magnetic trend as White Devil (400,000 tonnes @ 23 g/t, Au). Its magnetic expression is of similar magnitude as White Devil also.

3.2 **M18 GROUND MAGNETOMETER SURVEY (Figures 7 & 9)**

A 40m x 20m grid was established over the anomaly (4.1 line km). A ground magnetometer survey was conducted over the grid using a Geometrix Proton Precession magnetometer on a 40m x 5m spacing. Perusal of Figures 7 & 9 show a magnetic anomaly whose centre is located at about 950E, 5020N.

Mineral claims, MCC1036 and 1035 have been pegged to cover the areal extent of the grid over the anomaly.

3.3 **M19 GROUND MAGNETOMETER SURVEY (Figures 8 & 10)**

A 40m x 20m grid was established over the area of the anomaly (8 line km). A ground magnetometer survey was conducted over the grid on a 40m x 5m spacing. Perusal of Figures 8 & 10 show a magnetic anomaly whose centre is located at about 1000E, 4990N.

3.4 **REGIONAL GEOLOGICAL INTERPRETATION (Figure 4)**

Perusal of Figure 4 reveals a number of photo-linears none of which are particularly prominent. M19 anomaly appears to lie on a WNW trending photo-linear.
To the south of the licence area there is a large granitic intrusive body with a fault-controlled prominent north trending quartz vein. The surrounding Early Proterozoic turbidite sequence typical of Carraman Formation sediments has been intruded by this body.

3.5 M18 ANOMALY PROSPECT GEOLOGY (Figure 2)

The M18 grid was mapped at 1:1000 scale. Perusal of Figure 2 shows the prospect is dominated by an E-W trending quartz-feldspar intrusive porphyry that has been extensively sheared. The silicified, chloritic porphyry hosts a number of NE trending quartz veins thus indicating the direction of shearing.

The M18 anomaly is centred to the north of the porphyry suggesting it may form the foot-wall of the sequence hosting the anomaly. The occurrence of porphyry units in the foot-wall of White Devil is well documented.

3.6 M19 ANOMALY PROSPECT GEOLOGY (Figure 3)

The M19 grid was mapped at 1:1000 scale. The prospect comprises typical turbidite sequences ranging from finely-bedded siltstones grading through to medium to coarse-grained greywackes and sandstones. The entire sequence has been tightly folded about E-W axes forming axial plane-sheared asymmetric folds gently plunging to the west. Reverse faulting is apparent in places. This typically Tennant Creek ubiquitous sequence is assigned to the Black Eye Member of the Early Proterozoic Carraman Formation, Warramugu Group rocks, which host all known mineralised quartz-magnetite ironstones the primary source of gold and copper in the region.

Surficially there are no manifestations of the M19 anomaly causative body.

3.7 RESULTS

Two(2) magnetic anomalies namely M18 and M19 have been further refined, definitively identified and located on the ground by the detailed ground magnetometer surveys.

Geological mapping has revealed an intrusive quartz-feldspar porphyry in the foot-wall sequence of the M18 anomaly.
4. **EXPENDITURE**

- Prospect gridding
  - 12.1km @ $200/km
  - $2,420.00

- Ground Magnetic Survey
  - 3 days @ $380/day
  - 1,140.00

- Data processing & modelling
  - 2 days @ $450/day
  - 900.00

- Remodelling Austerix Data
  - 2 days @ $450/day
  - 900.00

- Mapping - Geologists field time
  - 3 days @ $400/day
  - 1,200.00

  - Geologists office time
    - 3 days @ $400/day
    - 1,200.00

  - Report writing & compilation
    - 2 days @ $400/day
    - 800.00

- Pegging MCC1035, MCC1036
  - 2 days @ $600/day
  - 1,200.00

- MCC1035 & MCC1036 rent
  - 420.00

- Food and accommodation
  - 8 days @ $80/day
  - 640.00

- Vehicle Hire
  - 3 days @ $135/day
  - 405.00

- Diesel
  - 120.00

- Overheads @ 15%
  - 1,700.00

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**TOTAL**

- $13,046.00

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M 18 Magnetic ANOMALY PROSPECT GEOLOGY

- Shear/fracture in-fill quartz veins
- Chloritic quartz-eye porphyry
- Fg siltstone
- Early Proterozoic, Carraman Fm.
- Black Eye Member

TCGL/PEL JV EL 6099

Fig 2. 20-8-90
Photo-geology

Ewe - Blackeye M. Caraman Fm. Early Proterozoic
Ef - quartz feldspar porphyry E. Prot.
Eg - granite E. Prot.
M18,19,20 - Magnetic Anomalies
 WD - White Devil opencut
 BA - Black Angel opencut

Photo lineament
Water course
Fence

Fig. 4
4.9.90

EL 6099 6100

Warrego Rd