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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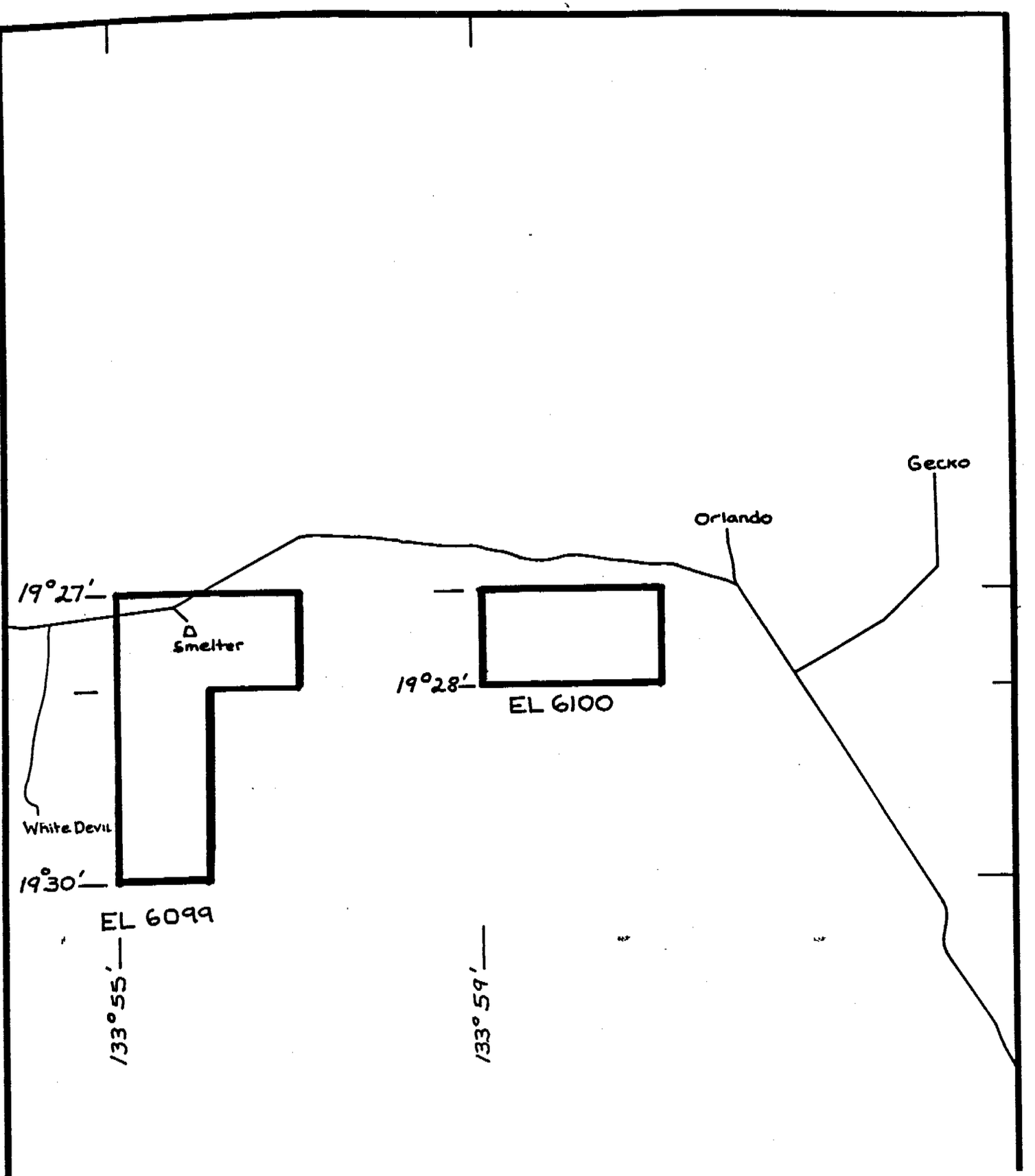
SUMMARY

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
TOTAL	$ 13,046.00

MCC 1036

MCC 1035

5040N

5000 N

4960

4920N

4880

4840N

4800

19°28'

133°55·9'

M18 ANOMALY

qep

quartz scree

qv

Silt st

quartz vein

quartz eye porphry

qtz scree

760E 800 840E 880 920E 960 1000E 1040 1080 1120E 1160 1200E 1240

M 18 Magnetic ANOMALY PROSPECT GEOLOGY

so bedding

s1 foliation

Shear/fracture in-fill quartz veins

qeP — chloritic quartz-eye porphry — Early Proterozoic Carraman Fm. Black Eye Member

siltst. — fg siltstone

TCGL/PEL JV EL 6099

0 40 80m.

Fig 2.
20·8·90

133° 55' 6"

PEKO MCC 760

5360N
5320N
5280N
5240N
5200N
5160N
5120N
5080N
5040N
5000N
4960
4920N
4880
4840N
4800
4760
4720
4680
4640
4600N

760E 800 840E 880 920E 960 1000E 1040 1080E 1120 1160E

19°29·2'

M19 Magnetic ANOMALY

EL 6099

Silt st.
Silt st./gw
gw
gw/silt st.
br gw
lateritised silt st. br.

M19 PROSPECT GEOLOGY TCGL/PEL JV.

Siltstone – siltst. } Early
gw-greywacke } Prot.
BLACK EYE Member
Carraman Fm.
Warramunga Grp.

70 S0 bedding
S1 Vertical Foliation
80 S1 Foliation

0 40 80m

1:2000

Fig 3.

29·8·90

133°55'
133°56'
133°57'
133°59'
134°01'
Warrego Rd
Orlando
19°27'
19°28'
Railway
7845000N
19°30'
387000 E
Peko Smelter
Ewe
Fe st
1041
1040
M20
EL 6100
1036
1035
M18
Efp
EL 6099
M19
WD
BA
qtz-filled fault
Eg
0 1Km

ELs 6099 6100
PHOTO-GEOLOGY

Ewe - Blackeye M. Caraman Fm. Early Proterozoic
Efp - quartz feldspar porphry E. Prot.
Eg - granite E. Prot.
M18, 19, 20 Magnetic Anomalies
WD - White Devil open cut
B A - Black Angel open cut
Photo lineament
Water course
track
fence

Fig 4
4.9.90

19° 27'

133° 59'

Black Eye

Gt Western

Smelter

MCC 1041

1040

M20

EL 6100

19° 28'

M18

1036

1035

EL 6099

M19

7845000N

White Devil

7845000N

egt

PEL / TCGL JV

19° 30'

133° 55'

387800E

133° 57'

AEROMAGNETIC INTERPRETATION

M18, M19, M20 Magnetic Anomalies ≡ potential ironstone drill targets

magnetic sediment

0 500 1 Km

Fig 5

M18

M19

M20

7845000N

19° 30'

133° 55'

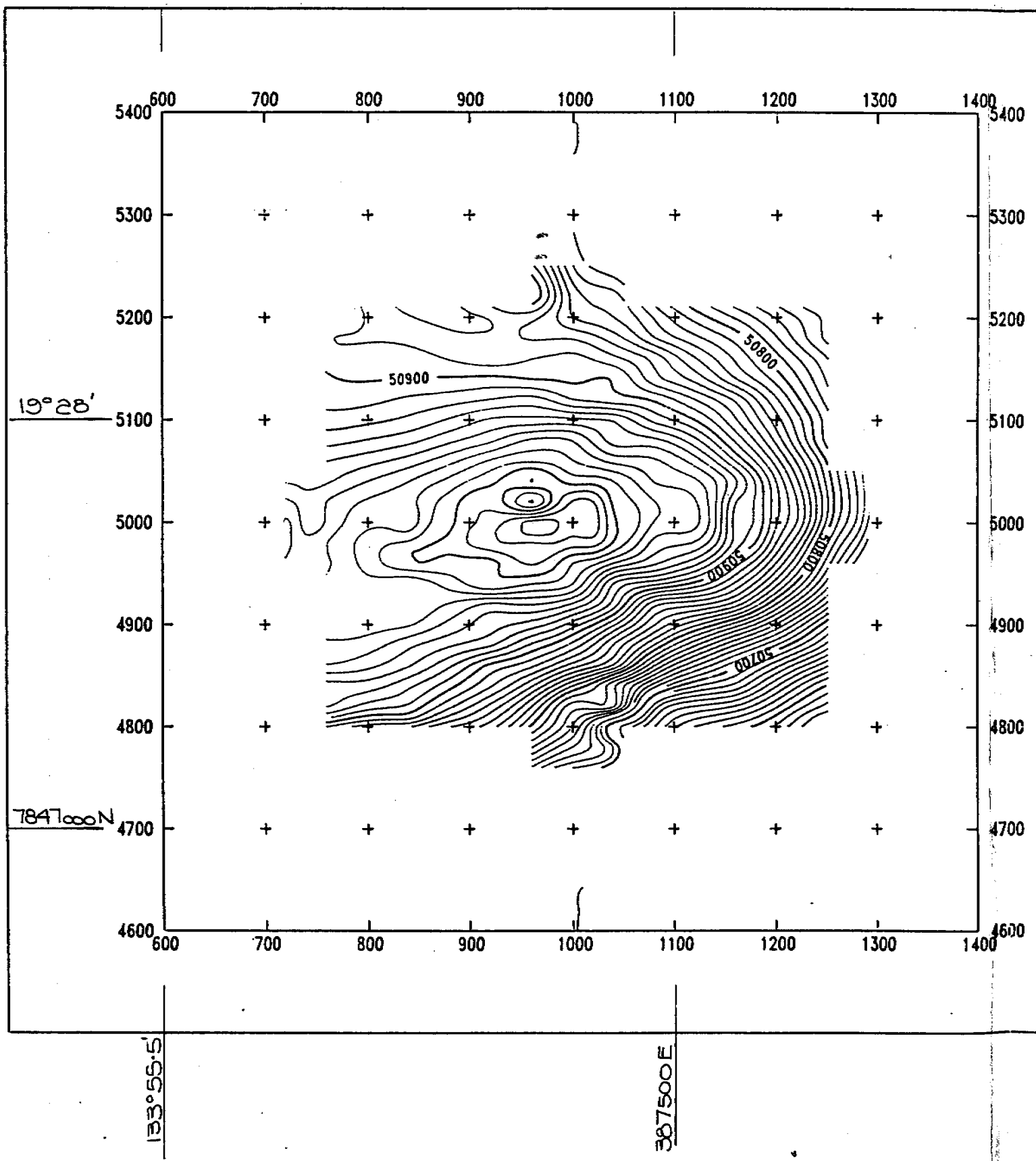
387000E

133° 56'

PEL / TCGL ELs 6099, 6100
Magnetic Contours
M18, M19, M20 Anomalies

0 500m 1Km

Fig 6.



SCALE 1:5000

0 100 200 300 400

meters

PLACER EXPLORATION LTD.

TENNANT CREEK

GROUND MAGNETIC SURVEY

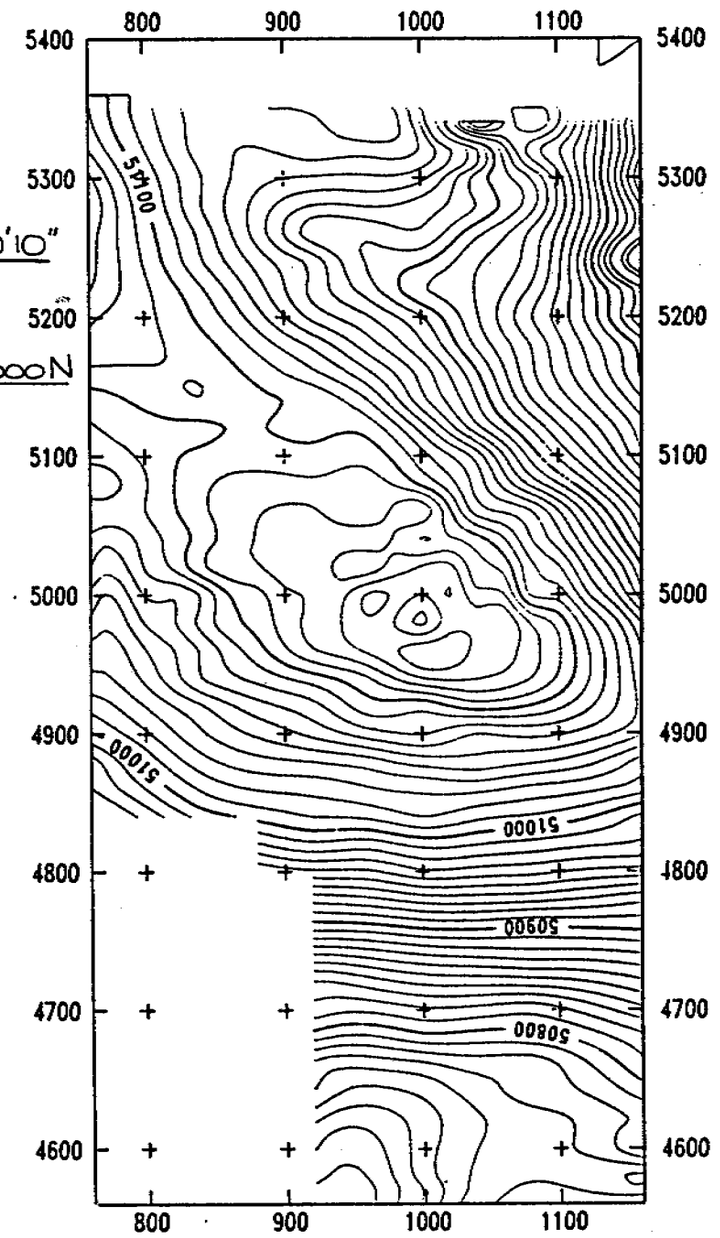
ANOMALY "M18"

CONTOURS OF T.M.I.

SCALE 1:5000	Fig 7
DRAWN BY : C.G.A.	DATE : 31/ 7/1990

133°55.5'

387500E



19°29'10"

7845000N

387000E

133°55'30"

SCALE 1:5000

0 100 200 300 400

meters

PLACER EXPLORATION LTD.

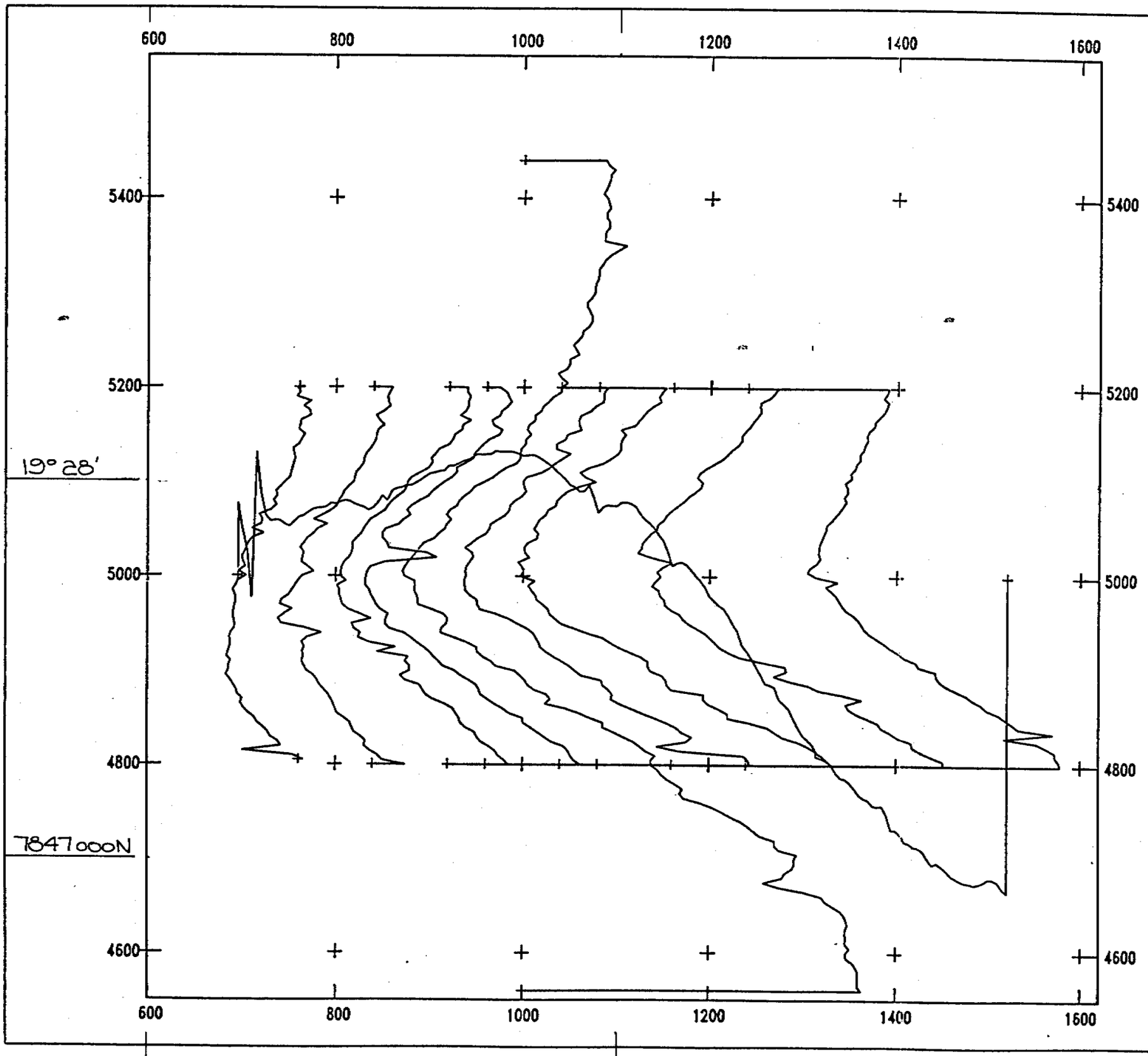
TENNANT CREEK

GROUND MAGNETIC SURVEY

ANOMALY "M19"

CONTOURS OF T.M.I.

SCALE 1:5000	Fig 8
DRAWN BY : C.G.A.	DATE : 31/ 7/1990



Z SCALE 1:50

100

50

0

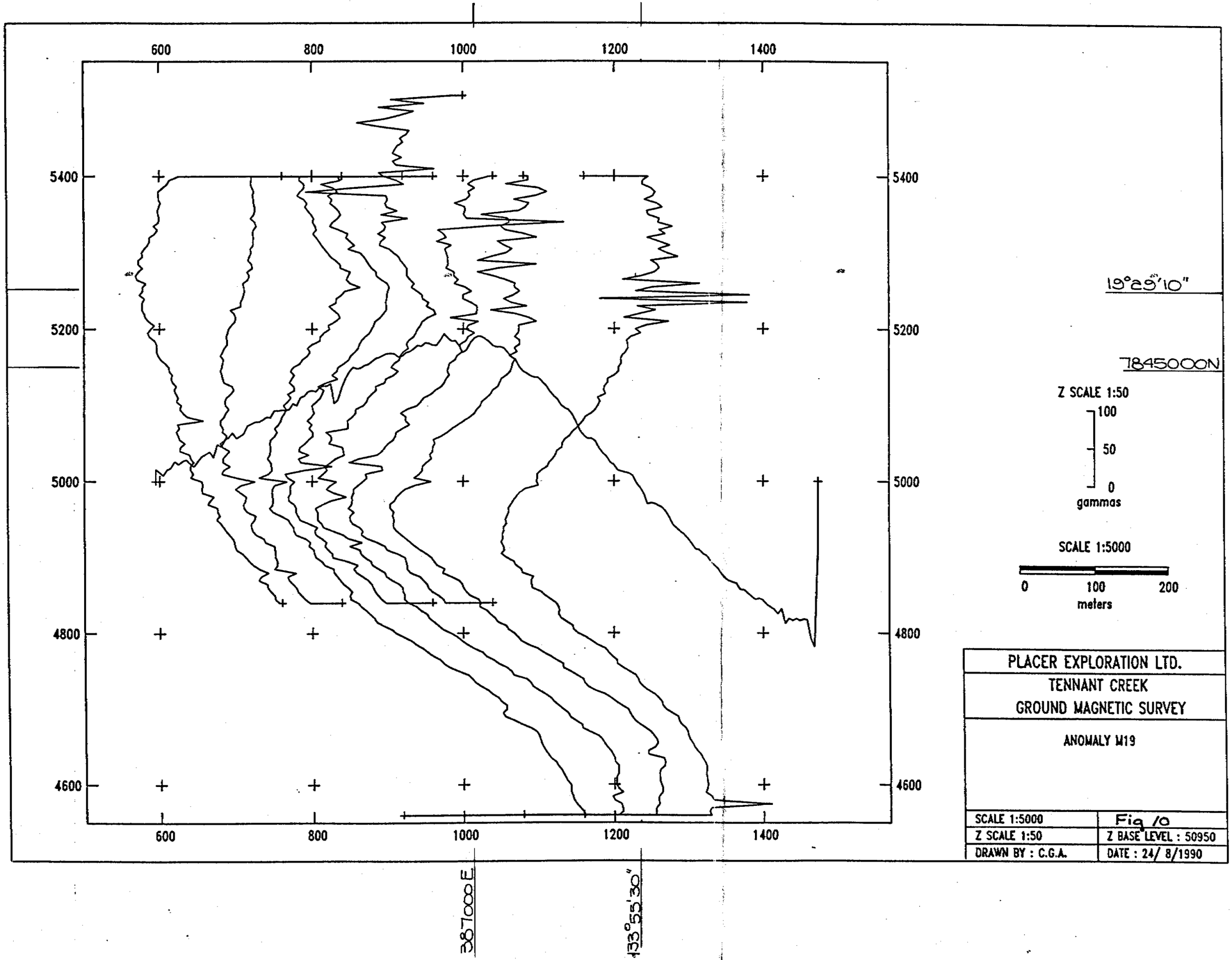
gammas

SCALE 1:5000

0 100 200

meters

PLACER EXPLORATION LTD.	
TENNANT CREEK GROUND MAGNETIC SURVEY	
ANOMALY M18	
SCALE 1:5000	Fig 9
Z SCALE 1:50	Z BASE LEVEL : 50900
DRAWN BY : C.G.A.	DATE : 24/ 8/1990


600
800
1000
1200
1400
5400
5200
5000
4800
4600
19°29'10"
7845000N
Z SCALE 1:50
100
50
0
gammas
SCALE 1:5000
0
100
200
meters
PLACER EXPLORATION LTD.
TENNANT CREEK
GROUND MAGNETIC SURVEY
ANOMALY M19
SCALE 1:5000
Fig 10
Z SCALE 1:50
Z BASE LEVEL : 50950
DRAWN BY : C.G.A.
DATE : 24/ 8/1990
387000E
133°55'30"