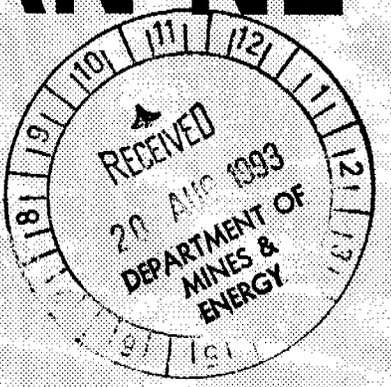
OPEN FILE

ZAPOPAN NL



EL 6800 - BLACK MOUNTAIN
MOUNT TODD DISTRICT, NT

RELINQUISHMENT REPORT FOR
YEAR ENDING 28 MAY 1993

Distribution:
NTDME x 1
Zapopan Mt Todd x 1
Billiton Darwin x 1

Author: Rod Poxon
Date: August, 1993
Ref: 93.053 RP:CL

CR93/537

CONTENTS

FIGURES

1. INTRODUCTION

Exploration Licence 6800 (Black Mountain) was granted to the Shell Company of Australia Ltd (Shell) on 29 May, 1990 for a period of five (5) years. A Joint Venture Agreement (Shotgun Joint Venture) between Shell and Zapopan NL was executed on 18 June, 1992 to explore EL 6800. Initially Shell acted as Managers of the Joint Venture; however from 1 October, 1992 Zapopan assumed the role of Manager.

In accordance with the Conditions of Tenure, four of the original nine graticular blocks of EL 6800 were relinquished during May 1992. Similarly during May 1993, a further 2 blocks were relinquished (Figure 1).

This report details the work completed and results obtained within the 2 blocks relinquished at the end of year 3, up until 29 May, 1993.

2. LOCATION AND ACCESS

EL 6800 (Black Mountain) is situated approximately 55 km north of Katherine and 17 km to the northeast of the Mt Todd Gold Mine (Figure 1). Access is gained along gravel tracks north from the Edith Falls Road, via the abandoned Emerald Creek Mining Centre. Topography within the tenement is generally of moderate relief, steeply incised by creeks to the east, and lightly timbered.

3. REGIONAL GEOLOGY

Black Mountain is situated within the southeastern portion of the Early Proterozoic Pine Creek Geosyncline. Meta-sediments, granitoids, basic intrusives, acid and intermediate volcanic rocks occur within this geological province.

Within the Mt Todd region, the oldest outcropping rocks are assigned to the Burrell Creek Formation. These rocks consist primarily of interbedded greywackes, siltstones, and shales of turbidite affinity, which are interdispersed with minor volcanics.

Rocks of the Burrell Creek Formation have been folded about northerly trending F1 fold axes. The folds are closed to open style and have moderately westerly dipping axial planes with some rocks being overturned. A later north-south compression event resulted in east-west trending open style upright D2 folds.

Meta-sediments of the Burrell Creek Formation outcrop extensively throughout EL 6800. Ridges host well exposed metasediments hornfelsed to hornblende facies metamorphic grade. Sporadic quartz veining is apparent occurring both as narrow quartz, carbonate, muscovite, goethite veinlets and also as milky white massive "buck" quartz veins.

4. WORK COMPLETED

Exploration undertaken within the 2 relinquished blocks has involved geologic reconnaissance, stream sediment sampling, and minor rock chip sampling.

Stream sediment sampling was conducted as an initial test of the prospectivity of the area for gold mineralisation. Approximately 5kg of material from 3 sites across each drainage was sieved to -2mm in the field. Samples were assayed by Assaycorp Pty Ltd (Pine Creek) using the BLEG technique for gold (0.1 ppb detection limit). Stream sediment samples were also analysed for Cu, Pb, Zn, As and Bi. For these elements, a -80# fraction was produced in the laboratory and the detection limit was 1-2 ppm. A total of 32 stream sediment samples were collected and assayed (Figure 3).

A limited number (2) of rock chip samples were collected from within the two relinquished blocks. These samples were assayed for the following elements:

Element	Detection Limit
Au	0.01 g/t
Cu	1 ppm
Pb	2 ppm
Zn	1 ppm
As	50 ppm
Ag	1 g/t
Bi	10 ppm

Rock chip locations are shown in Figure 5.

5. RESULTS

A number of anomalous values for gold were returned from the stream sediment sampling programme. Six samples produced assays greater than 5 ppb Au with a maximum of 20 ppb achieved. Generally, a high gold background or threshold is a characteristic of the area (Figure 4). However, high gold values are sporadic and not clustered, suggesting that the source of the gold anomalism is of little economic significance.

No significant anomalies were generated for Cu, Pb, Zn, As, Bi. The ranges for all stream sediment analyses are presented below:

Element	Range
Au	0.6 - 20.0 ppb
Cu	<1 - 50 ppm
Pb	8 - 133 ppm
Zn	10 - 131 ppm
As	11 - 48 ppm
Bi	all <1 ppm

Of the two rock chip samples collected, one produced moderately anomalous results for Au and As, and slightly elevated Pb. Samples consisted of quartz veined, hornfelsed metasediments with minor goethite possibly after pyrite. Results are listed below and shown in Figure 5.

SAMPLE NO.	Au	Cu	Pb	Zn	As	Ag	Bi
241766	0.19	110	240	69	1510	<1	70
241767	<0.01	14	26	12	<50	<1	<10

6. CONCLUSIONS AND RECOMMENDATIONS

The two blocks within EL 6800 under review have been subjected to detailed, close-spaced stream sediment sampling. Whilst anomalous gold results as high as 20.0 ppb have been generated from this work, the higher values are not supported by neighbouring samples and occur as sporadic, isolated anomalies. It is concluded then that the source of this anomalism must relate to small, discontinuous, and sporadic zones of quartz veining which are interpreted to have no economic significance.

It is recommended that the two blocks which are the subject of this report be relinquished.

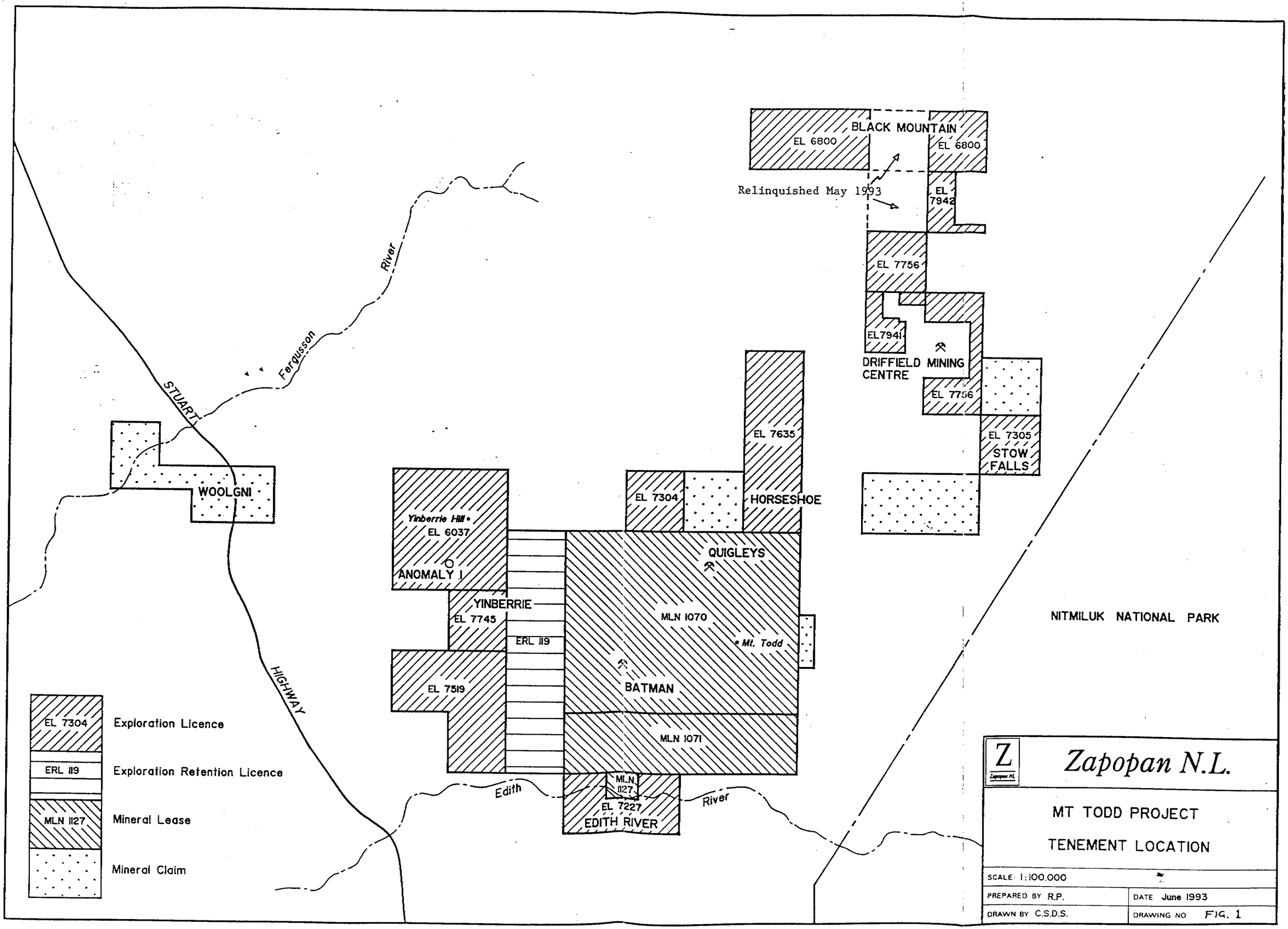
7. REHABILITATION

The exploration work programs carried out within EL 6800 have not involved any ground disturbance and hence rehabilitation is not required.

8. **EXPENDITURE STATEMENT**

Expenditure for period 29/05/91 - 28/05/93

COST DESCRIPTION	EXPENDITURE
Salaries and Wages	$ 4,396.80
Contractor - Geology	$ 1,103.84
Travel and Accommodation	$ 482.80
Consumables	$ 256.60
Equipment Hire	$ 223.30
Advertising and Dealings	$ 24.00
Tenement Costs	$ 120.00
Assaying	$ 586.00
Overheads (10%)	$ 719.33
TOTAL	**$ 7,912.67**

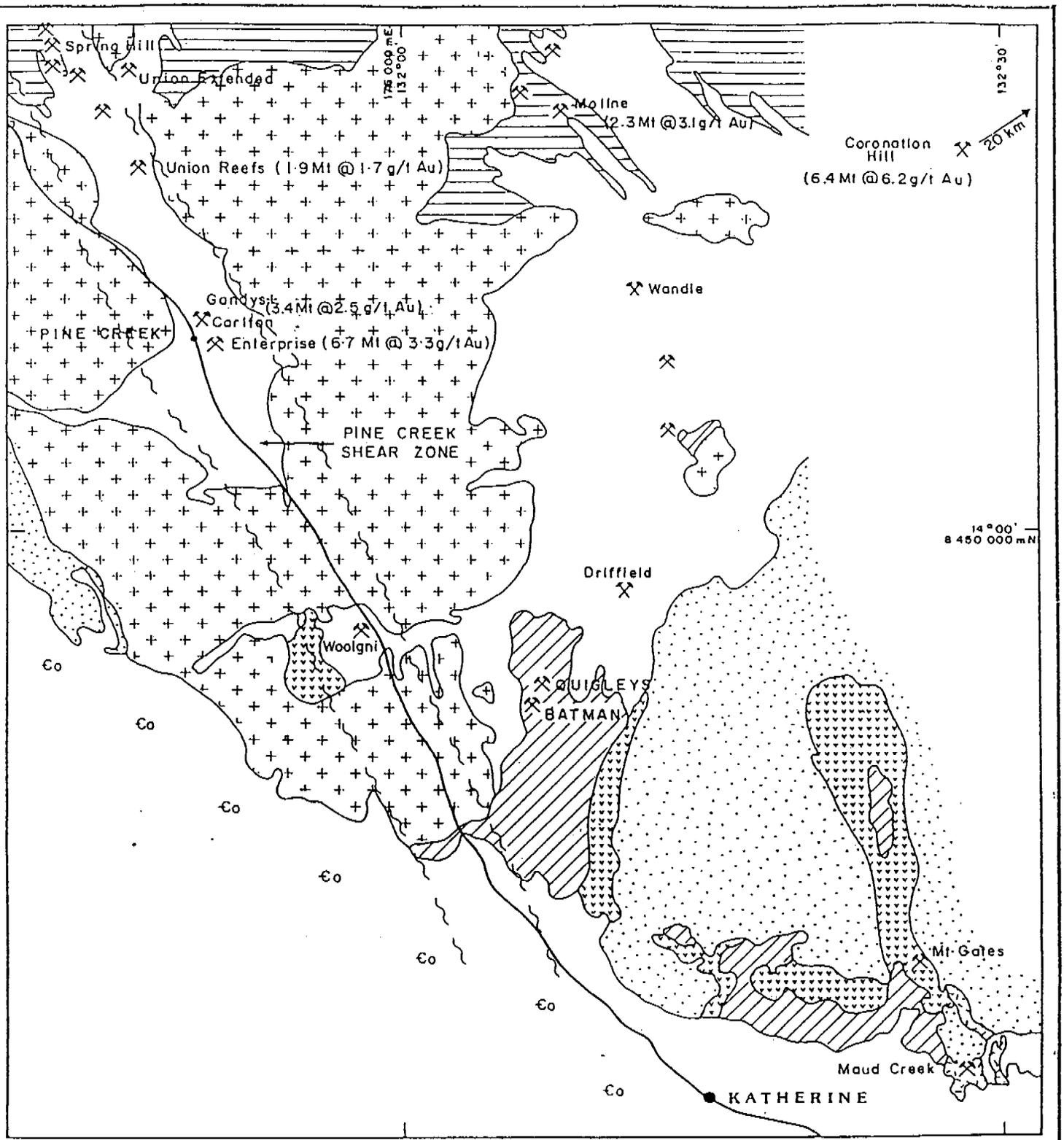


Zapopan N.L.

MT TODD PROJECT

TENEMENT LOCATION

SCALE 1:100.000	
PREPARED BY R.P.	DATE June 1993
DRAWN BY C.S.D.S.	DRAWING NO FIG. 1



Co Palaeozoic

Middle Proterozoic

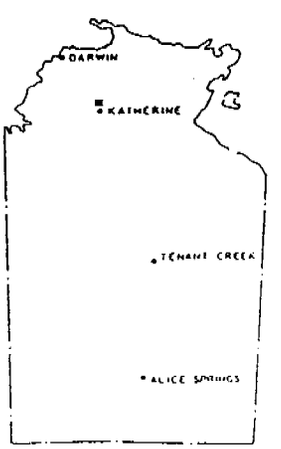
EARLY PROTEROZOIC

- Cullen Batholith
- Edith River Group (including Plum Tree Ck. volc.)
- El Sherana Group
- Burrell Creek Formation
- Pre Burrell Creek Formation

Dolerite

Gold mineralization

LOCATION PLAN



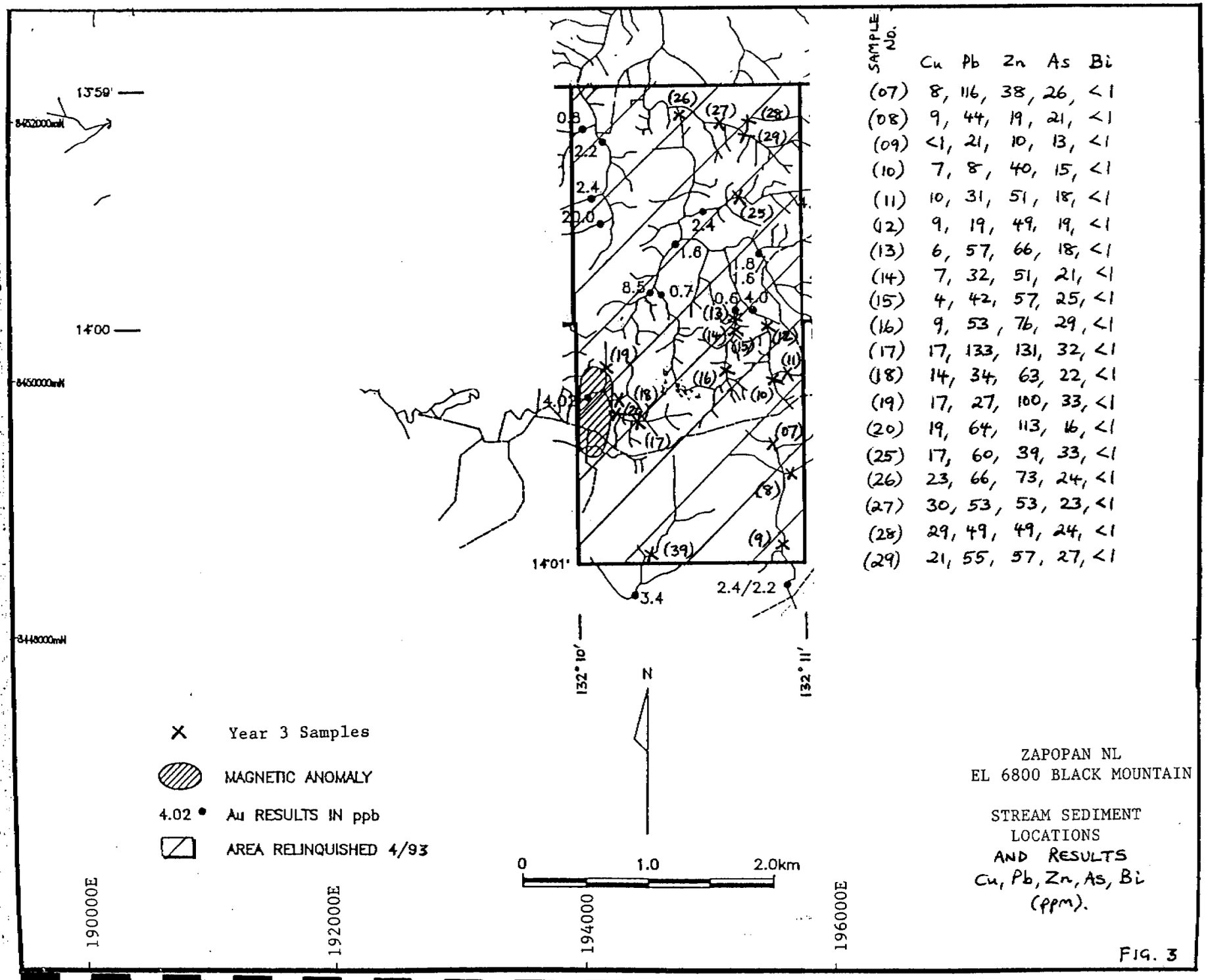
0 20 km

ZAPOPAN NL

Project: MOUNT TODD

Title: MOUNT TODD REGIONAL GEOLOGICAL SETTING

Author FF	Date 5-88	Scale 1:500 000	
Drawn I.R.B	Office Cns	Revised	Date 4/90
Drawing No.			Fig. No. 2



SAMPLE NO.	Cu	Pb	Zn	As	Bi
(07)	8,	116,	38,	26,	<1
(08)	9,	44,	19,	21,	<1
(09)	<1,	21,	10,	13,	<1
(10)	7,	8,	40,	15,	<1
(11)	10,	31,	51,	18,	<1
(12)	9,	19,	49,	19,	<1
(13)	6,	57,	66,	18,	<1
(14)	7,	32,	51,	21,	<1
(15)	4,	42,	57,	25,	<1
(16)	9,	53,	76,	29,	<1
(17)	17,	133,	131,	32,	<1
(18)	14,	34,	63,	22,	<1
(19)	17,	27,	100,	33,	<1
(20)	19,	64,	113,	16,	<1
(25)	17,	60,	39,	33,	<1
(26)	23,	66,	73,	24,	<1
(27)	30,	53,	53,	23,	<1
(28)	29,	49,	49,	24,	<1
(29)	21,	55,	57,	27,	<1

ZAPOPAN NL
EL 6800 BLACK MOUNTAIN

STREAM SEDIMENT
LOCATIONS
AND RESULTS
Cu, Pb, Zn, As, Bi
(ppm).

FIG. 3

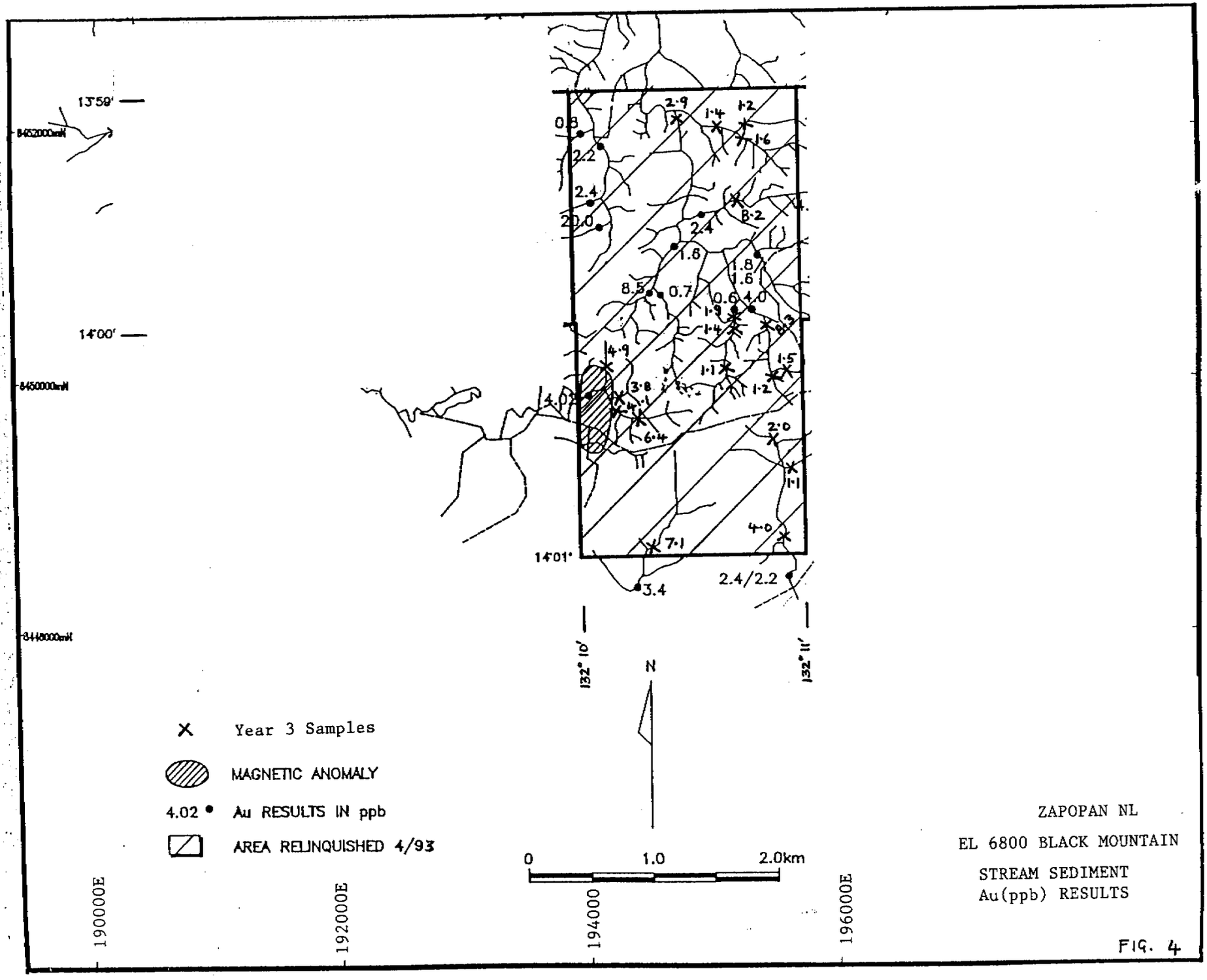
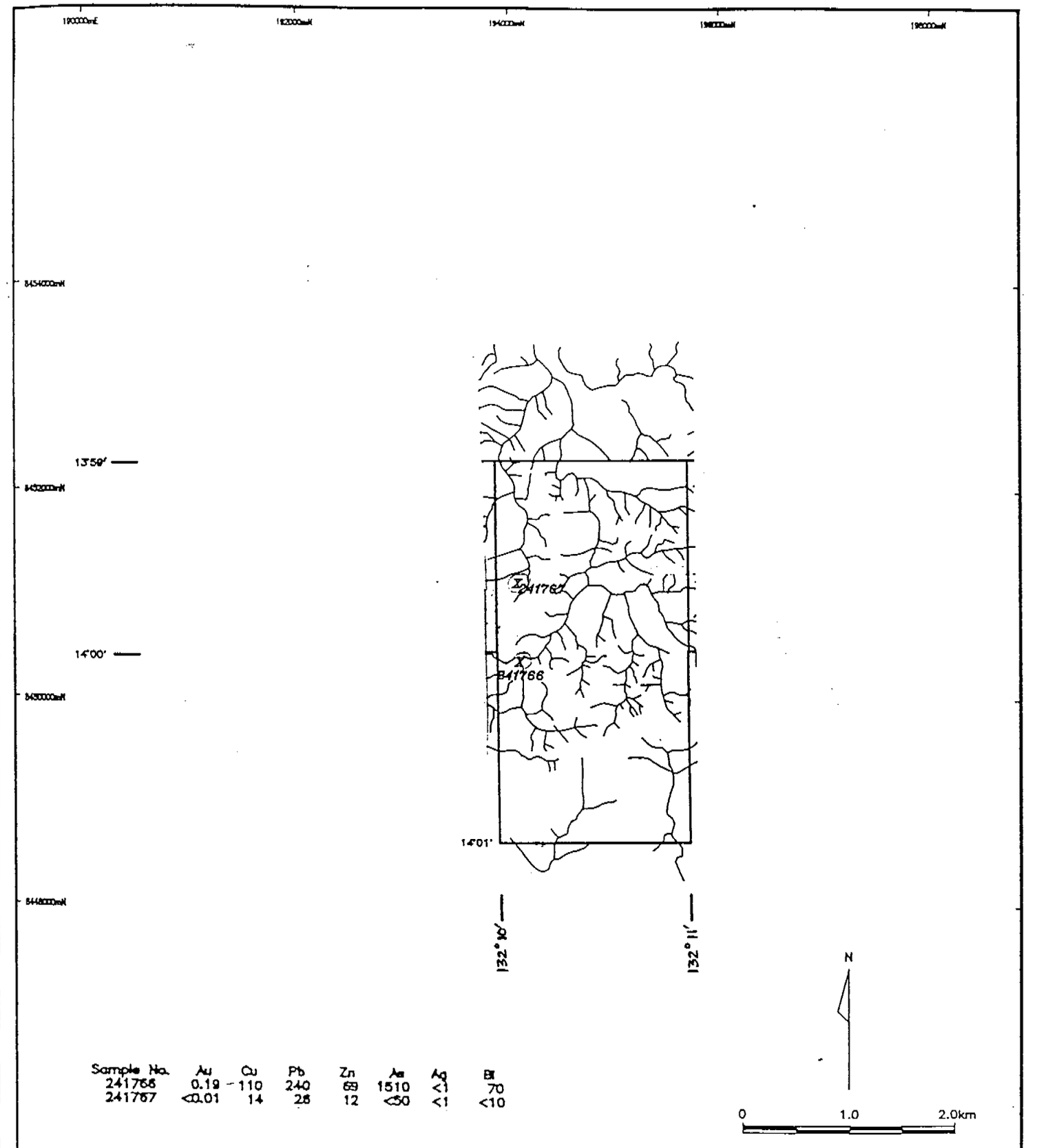

13°59'
14°00'
14°01'
8452000mN
8450000mN
8448000mN
132° 10'
132° 11'
190000E
192000E
194000
196000E
0.8
2.2
2.4
20.0
2.9
1.4
1.2
1.6
8.2
2.4
1.8
1.8
1.6
8.5
0.7
0.6
4.0
1.9
1.4
8.3
4.9
1.1
1.5
1.2
3.8
4.0
6.4
2.0
7.1
4.0
3.4
2.4/2.2
N
0
1.0
2.0km
Year 3 Samples
MAGNETIC ANOMALY
4.02 • Au RESULTS IN ppb
AREA RELINQUISHED 4/93
ZAPOPAN NL
EL 6800 BLACK MOUNTAIN
STREAM SEDIMENT
Au(ppb) RESULTS

FIG. 4



Sample No.	Au	Cu	Pb	Zn	As	Ag	Bi
241766	0.19	110	240	69	1510	<1	70
241767	<0.01	14	28	12	<50	<1	<10

ZAPOPAN NL

Project: BLACK MOUNTAIN EL 6800
NORTHERN TERRITORY

Title:

ROCK CHIP
SAMPLE LOCATIONS & RESULTS

Author	Office DWN	Scale	1:50000
Drawn	Date 4/92	Revised	Date
Plotted date	23/4/92	Report No.	
Drawing No.		Fig. No.	5