

OPEN FILE

ZAPOPAN NL

EL 5423

DOCTOR ABBOTT'S BORE
TANAMI REGION
NORTHERN TERRITORY

FINAL REPORT

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1. INTRODUCTION

1.1 EL 5423

Exploration Licence 5423 was granted on 3rd May 1989, for a term of six years over an area of 196 graticular blocks covering approximately 632 square kilometres. Grant was made to Harlock Pty Ltd (100%) and subsequently full interest was transferred to Zapopan NL.

A deferral of reduction was granted at the end of Year 2, while at the end of Year 3 the statutory 50% reduction was carried out, resulting in a total of 98 blocks remaining for Year 4 (Figure 1).

Based on the negative results of exploration undertaken during the four year life of the licence, EL 5423 was surrendered on 12th March 1993.

1.2 Scope of Report

This report forms the final report for EL 5423. A summary of all exploration carried out during the first three years is included, together with details of exploration undertaken during the fourth and final year.

1.3 Location and Access

EL 5423 was located 25 - 70 kilometres southeast of Tanami Downs Homestead. There are two means of access to the EL. The first is by road from Rabbit Flat to Tanami Downs Homestead, and then 45 kilometres by station track, south east past Doctor Abbott's Bore, at which point the track enters the northern part of the licence area. The second is by an old track which leaves the Tanami-Alice Springs road 22 kilometres southeast of The Granites Gold Mine. It travels 20 kilometres southwest to Sangsters Bore, thence 10 kilometres to the northwest where it enters the eastern boundary of EL 5423.

Access within the licence area is good, as the country is flat, with virtually treeless spinifex-covered sand plains and rare outcrops of sandstone.

2. PREVIOUS WORK

- | | |
|------|---|
| 1900 | A gold prospecting expedition led by Davidson discovered gold at Tanami and The Granites, and named several topographic features. |
| 1909 | Brown visited the mines at Tanami and made geological notes of the country to the north and north-east. |
| 1910 | Gee visited the Tanami goldfield. He noted the prospecting being carried out south and east of Tanami especially at The Granites. |

- 1914 Jensen travelled from Pine Creek to Tanami and described the geology in the vicinity of the gold workings and along his route between Hooker Creek and Tanami. He named the metamorphic rocks at Tanami the "Tanami Metamorphic Series".
- 1928 Terry led a prospecting expedition from Halls Creek to Tanami via the Gardner Range, and explored the country to the south and southeast as far as The Granites (then also known as Bugagee).
- 1937-38 The Aerial Geological and Geophysical Survey of Northern Australia (AGGSNA) carried out geological investigations in the Tanami and The Granites goldfields. The results were reported by Hossfeld who later suggested an Early Proterozoic age for the low-grade metamorphic rocks at the two localities.
- 1959-62 Consolidated Zinc Pty Ltd investigated parts of Tanami and The Granites Sheet areas.
- 1962 BMR carried out an airborne magnetic and radiometric survey of Tanami and The Granites Sheet area.
- 1967 BMR carried out a reconnaissance gravity survey of The Granites Sheet area.
- 1970 Geopeko carried out limited exploration in the Tanami - The Granites region primarily targeting magnetic anomalies.
- 1972 BMR geologically mapped the area as part of a larger mapping program covering The Granites - Tanami block. At the same time as the geological mapping, a program of shallow stratigraphic drilling was carried out by BMR drilling crews.

3. GEOLOGY

Cainozoic deposits of aeolian sand, minor laterite, lacustrine clays, silts and evaporites dominate the surficial geology of EL 5423. These sediments obscure the underlying geology which is poorly understood.

The regional geology report and map produced by the BMR does not show any Lower Proterozoic rocks outcropping within EL 5423. However the aeromagnetic data shows a large (5 x 5 kilometre) intense magnetic bulls-eye high within the north-central part of the EL area, which was interpreted as possibly part of the Lower Proterozoic Tanami Complex.

Three stratigraphic drillholes sunk by the BMR in 1973 in the eastern part of the licence area penetrated an unnamed granite assigned to the Lower Proterozoic.

Upper Proterozoic Muriel Range Sandstone crops out in several places in the northern and eastern parts of the licence area. This formation consists predominantly of sublithic arenite and quartz arenite, but also includes minor siltstone, shale, arkose, conglomerate, and breccia. The Granites 1:250,000 Sheet geological map shows that some of the sandstones are folded into open synclines and anticlines with gentle 5° - 15° dips to the south.

Permian-age Pedestal Beds form minor outcrop in the west-central part of the licence. This formation comprises quartzose sandstone with minor conglomerate and siltstone.

4. EXPLORATION COMPLETED

4.1 Exploration - Year 1

During the first year of tenure, the following exploration was undertaken on EL 5423, and is detailed in the "First Annual Report for EL 5423".

- acquisition of colour aerial photography over the licence area;
- compilation and evaluation of available open file reports, aeromagnetic data, Landsat imagery and aerial photography;
- assessment of the Licence area using a prospectivity index;
- Aboriginal Sacred Site clearances;
- helicopter-borne reconnaissance and surface geochemical sampling (no samples collected within the EL area due to total coverage by aeolian sand); and
- airborne magnetic survey by Geoterrex Pty Ltd.

4.2 Exploration - Year 2

During the second year of tenure, a reconnaissance ground magnetic survey was commenced over the 5 kilometre x 5 kilometre magnetic anomaly which underlies the north-central part of the licence area. Equipment failures caused the survey to be suspended after 4.8 line kilometres were completed.

4.3 Exploration - Year 3

Exploration completed in Year 3 comprised office studies only. This work was aimed at obtaining a better understanding of the geological structures of the licence area and to screen areas for statutory reduction of the licence area.

The studies showed that any exploration activities within the licence area would be extremely difficult due to extensive cover of aeolian sand and the presence of palaeochannels. Modelling of a large magnetic anomaly occurring at the intersection of regional lineaments indicated it to be at great depth, however it was considered possible that the weathered top of the anomaly could show no magnetism and be relatively shallower. It was postulated that the rocks were of kimberlitic or carbonatitic affinity.

4.4 Exploration - Year 4

Exploration undertaken during the fourth year of tenure consisted of drilling two Reverse Circulation drill holes. These holes were designed to test the source of the large, bullseye aeromagnetic high modelled in Year 3, through lithological identification of the basement rock at depth.

HOLE NO.	DEPTH (m)	DIP	NORTING AMG	EASTING AMG
ES1	90	90°	52771022	614820
ES2	102	90°	527703007	614820

Both these stratigraphic holes were collared and drilled entirely in Muriel Range Sandstone, a non-prospective sequence which elsewhere in the region is known to unconformably overlie the Tanami Complex. The drill holes passed from weathered into fresh rock between 30 - 50 metres below surface. Rock types intersected include an interbedded sequence of siltstone, sandstone and quartzite, with an unexpected 15 metre thickness of massive, unaltered basalt in ES2. Neither hole intersected rocks of the Tanami Complex.

Samples were obtained and logged at one metre intervals. Three metre composite samples were then collected and submitted to the Tanami Minesite laboratory for gold analysis by fire assay. No anomalous results were returned, which was consistent with the geological logging. Cross sections are displayed in Figures 3 and 4.

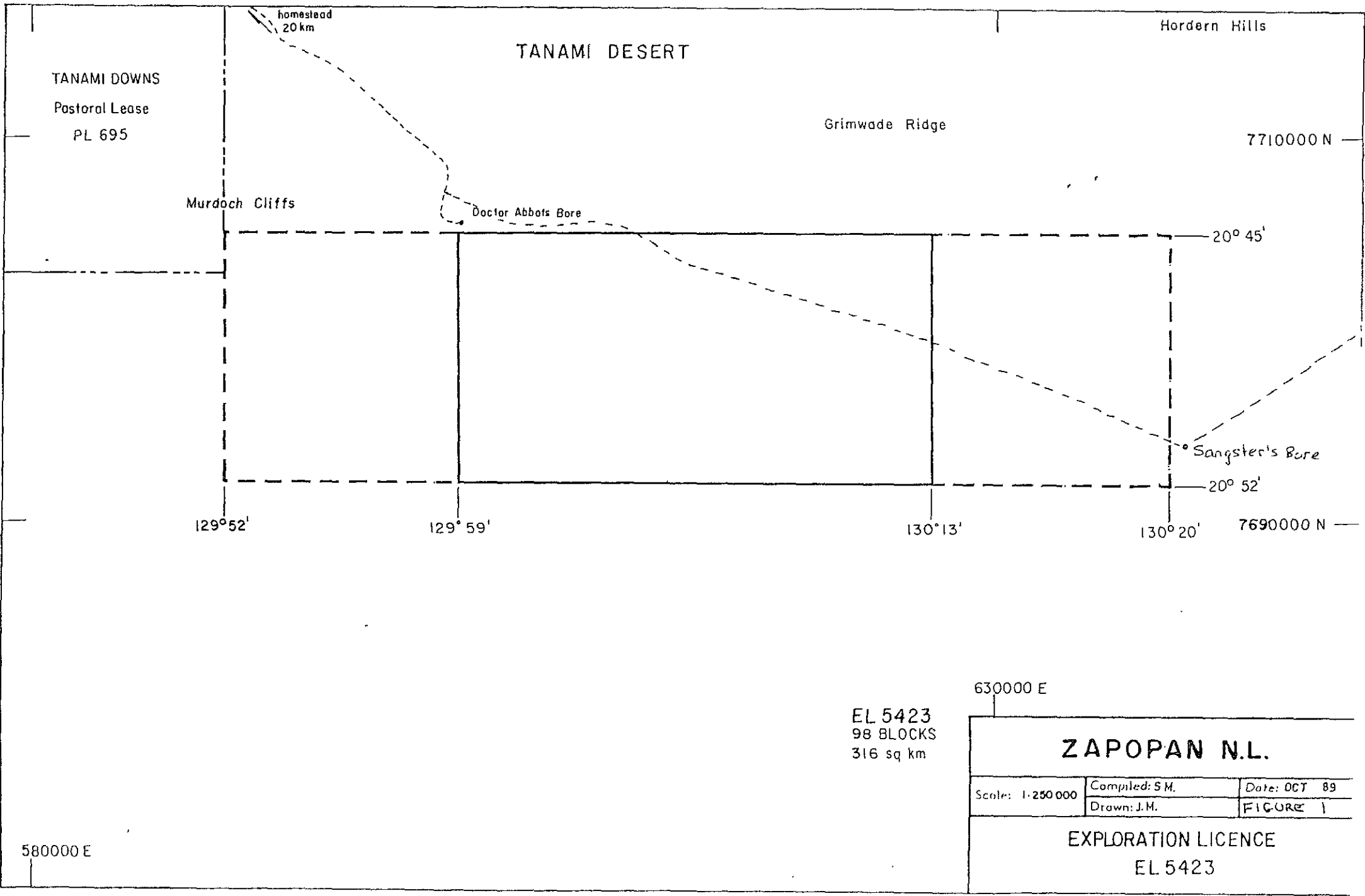
5. CONCLUSIONS

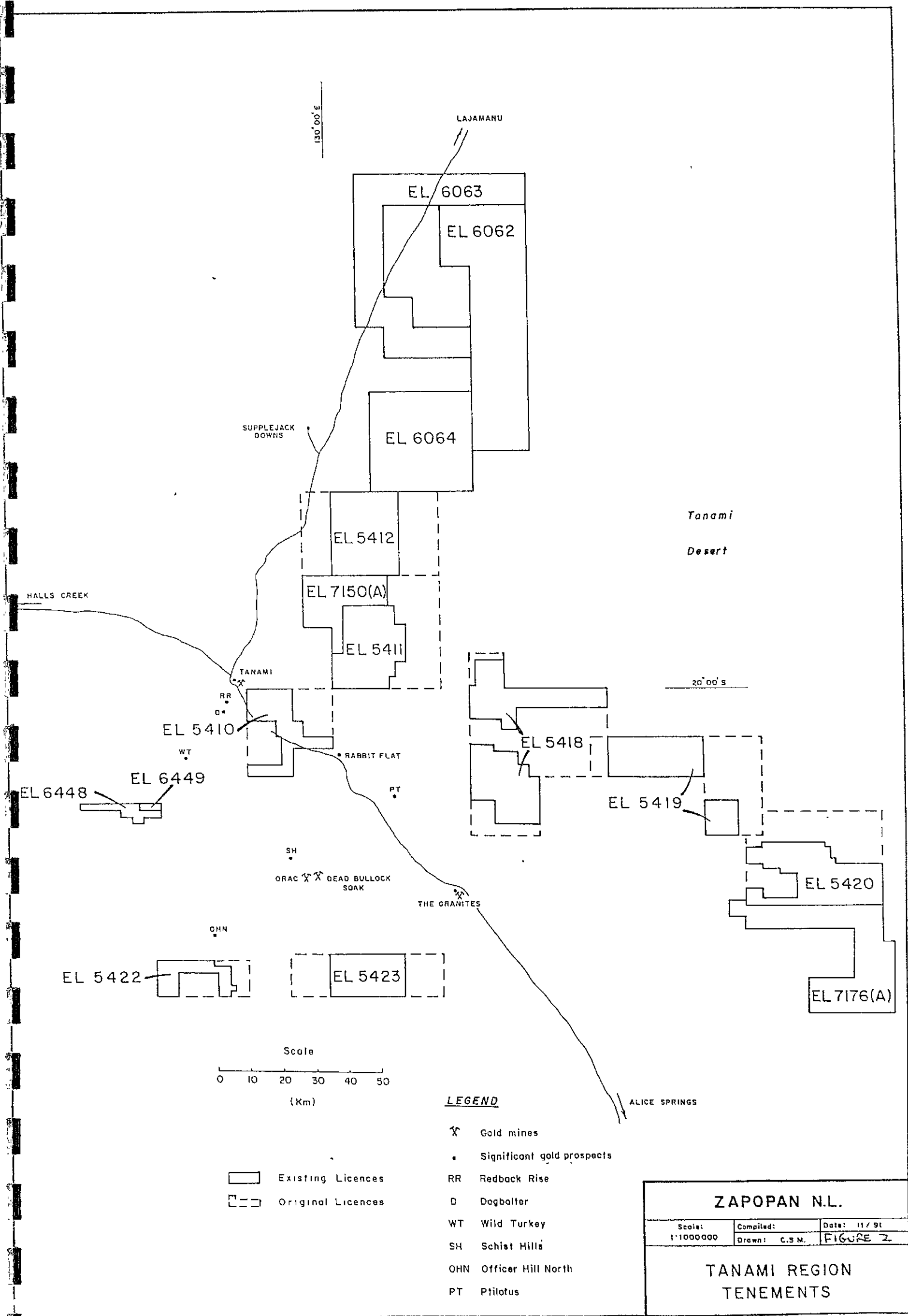
All exploration carried out during the four year life of EL 5423 indicated the non-prospective nature of this area. It was considered that there was no potential for shallow, open pitable gold mineralisation within the licence area and further exploration was not justified. Consequently EL 5423 was relinquished on 12th March 1993.

6. EXPENDITURE

During Year 4, an expenditure of \$21,523.83 was outlaid.

Total expenditure for the life of EL 5423 was \$108,665.26.





130° 00' E

LAJAMANU

EL 6063

EL 6062

EL 6064

SUPPLEJACK
DOWNS

Tanami
Desert

EL 5412

EL 7150(A)

EL 5411

20° 00' S

HALLS CREEK

TANAMI

EL 5410

RR

D

WT

RABBIT FLAT

PT

EL 6448

EL 6449

EL 5419

SH

ORAC X X DEAD BULLOCK
SOAK

THE GRANITES

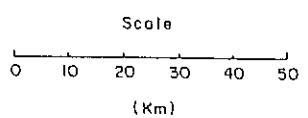
ALICE SPRINGS

EL 5420

EL 5422

EL 5423

EL 7176(A)



LEGEND

- Existing Licences
- Original Licences

- X Gold mines
- Significant gold prospects
- RR Redback Rise
- D Dogbatter
- WT Wild Turkey
- SH Schist Hills
- OHN Officer Hill North
- PT Pilotus

ZAPOPAN N.L.		
Scale: 1:1000000	Compiled: C.S.M.	Date: 11/91 FIGURE 2
TANAMI REGION TENEMENTS		

ZAPOPAN NL

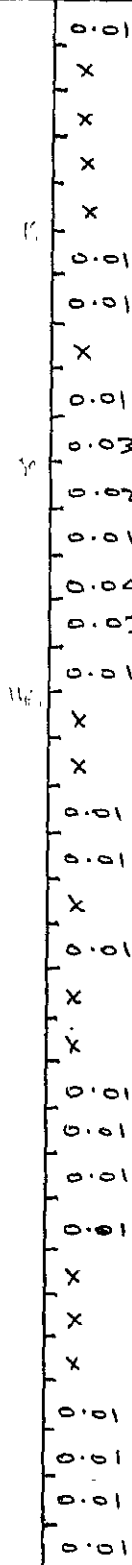
EL 5423

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FINAL REPORT

APPENDIX 1
DRILL LOGS

ES 2



102m

0.04 Gold value in ppm
X Gold value below level of detection

	Zapopan N.L.	
	EL 5423	
DRILL CROSS SECTION		
SCALE	1:500	
PREPARED BY	A.P.R.	DATE
DRAWN BY	A.P.R.	DRAWING NO FIG 4