

WESTERN MINING CORPORATION LIMITED
EXPLORATION DIVISION

FIFTH ANNUAL REPORT
EXPLORATION LICENCE 4820
NOVEMBER 20, 1989 TO NOVEMBER 19, 1990

OPEN FILE

Ref:
1:250,000 NATMAP SE 53-14
Tennant Creek

1:100,000 DM & E 52/5
Tennant Creek

RICHARD EVANS
January, 1991

CR91-167

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1. TENURE

Exploration Licence 4820 was granted to Nick Byrne & Associates Pty. Ltd. on November 20, 1985. The E.L. covered an area of thirteen square kilometres (four blocks). This area has been subject to one reduction and one deferred reduction with the N.T. Department of Mines and Energy's approval, and the subject of this report is the remaining single block of the E.L.

On August 1, 1988, the E.L. became subject to a Joint Venture between Giant's Reef Mining Pty. limited (GRM) and Western mining Corporation Limited (WMC). The Joint Venture also includes twelve other Exploration Licences held by GRM and by N. Byrne and Associates Pty. Ltd.

Under the terms of the joint venture, WMC will manage and operate future exploration in the Tennant Creek area, and fieldwork commenced at the end of August, 1988.

2. REGIONAL GEOLOGY

Exploration Licence 4820 is underlain by the Lower Proterozoic Warramunga Group (see Table 1), part of the Tennant Creek Inlier of exposed Palaeozoic rocks. The area is also within the Black Eye Member of the Carraman Formation which hosts most orebodies in the field.

The Warramunga Group, which lies unconformably on Archean age high grade (amphibolite facies) metamorphic basement (Black & McCulloch, 1984), is a thick succession of variably iron-bearing turbiditic sediments and volcanics. This sequence has been metamorphosed to greenschist facies, folded and cleaved between two episodes of granitic intrusion at 1870 ± 20 Ma to 1846 ± 8 Ma and $1650 - 60$ Ma (Black, 1984). It is believed that formation of the massive replacement magnetite/haematite bodies and their later mineralisation occurred during and soon after folding.

These sediments are overlain by the laterally equivalent Carpentarian Tomkinson Creek Beds in the north, and the Hatches Creek Group in the south which are in turn succeeded by Cambrian lithologies.

3. WORK COMPLETED

The poor outcrop and flat aeromagnetic responses have limited the generation of targets for exploration in this Licence which has been retained in the hope that mineralised trends from the Gigantic E.R.L. (#85) may be traced along strike, or that the work there give clues about how best to target in that area. None of the regional work such as the refinement of aeromagnetic imagery, a comprehensive field-wide geo-tectonic targeting exercise, and general studies of the geology, has failed to produce any targets in the small area of this E.L.

4. EXPENDITURE

Expenditure this Exploration Licence, for the period December, 1989 to November, 1990 is as follows:

	\$
Geology	681
Geophysics	2 885
Geochemistry	1 051
Drafting	3 506
Analysis	
Leasing	80
Administration	63

	8 186

A further \$21 491 was distributed to this tenement from the general project running costs, making the annual expenditure a total of \$29 677.

TABLE 1

REGIONAL STRATIGRAPHY

CAMBRIAN

Gum Ridge Formation

Helen Springs Volcanics

CARPENTARIAN

Tomkinson Creek Beds

LOWER
PROTEROZOIC

Warramunga Group

Carraman Formation

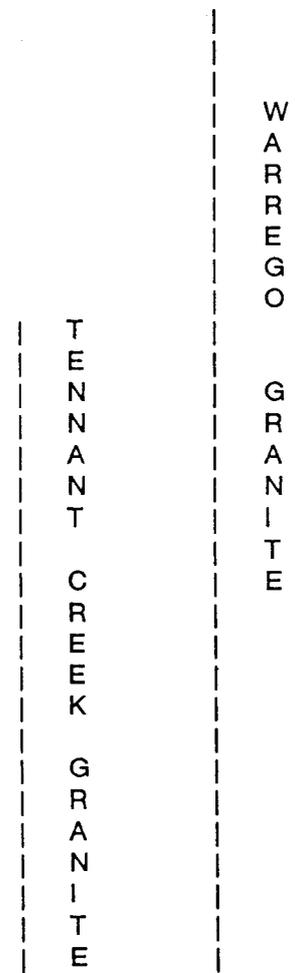
Black Eye Member

Bernborough Formation

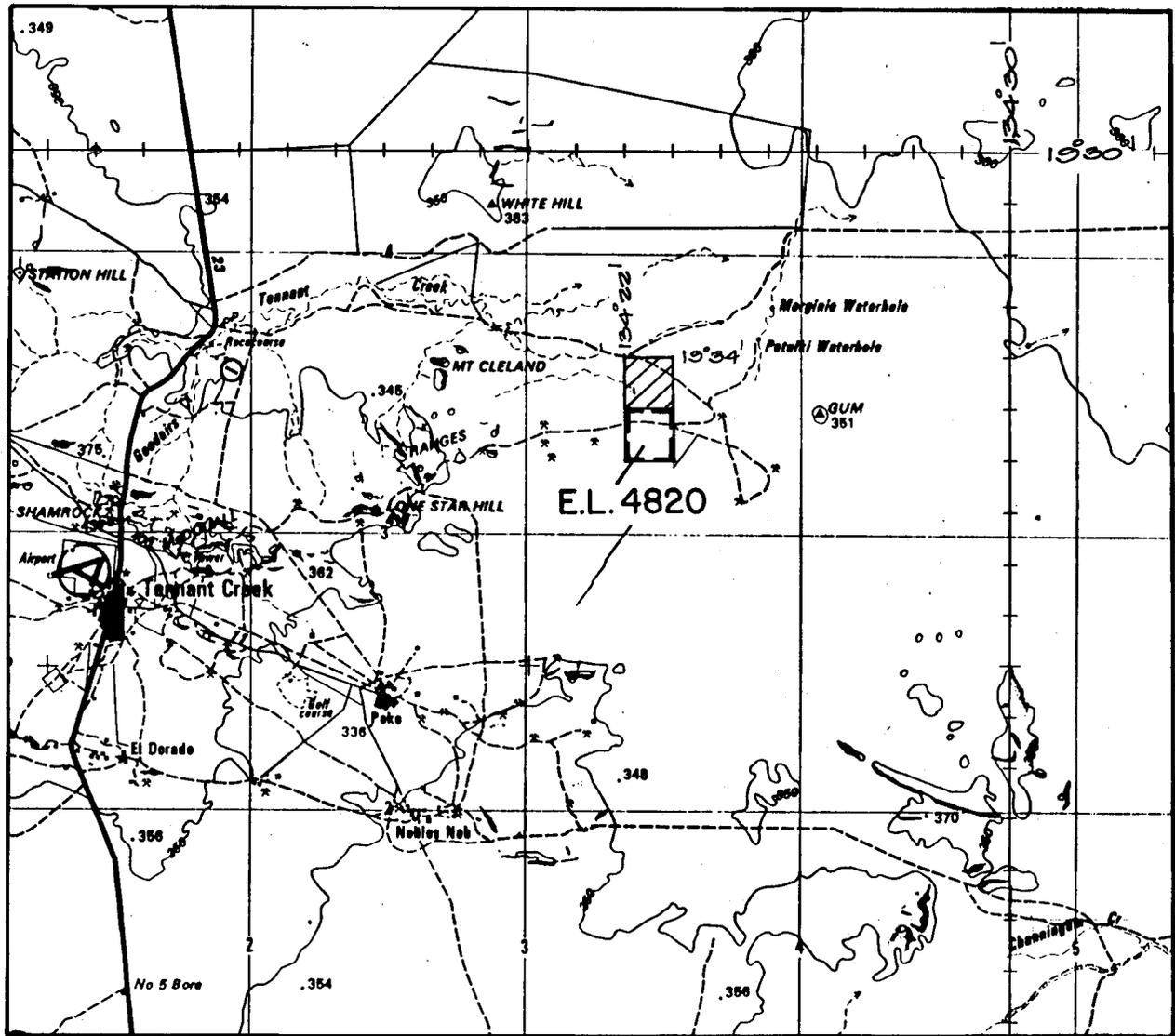
Whippet Sandstone

ARCHEAN

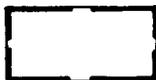
Schist to Gneiss after shale,
quartzite, greywacke BIF,
tuffs, and volcanics



(After Williams, in prep.)



INDEX TO ADJOINING MAPS
1:100 000 MAPS SHOWN IN BLUE



AREA TO BE RETAINED.
E.L. 4820.



AREA TO BE RELINQUISHED.
E.L. 4820.

SE 53-9 SOUTH LAKE WOODS THORNS 5560	SE 53-10 HELEN SPRINGS MURRAY BROWN CHURCH 5760	SE 53-11 BRUNETTE DOWNS ROSE- HALLIDAY 5960
SE 53-13 GREEN SWAMP WELL 5558	SE 53-12 TENNANT CREEK WELL 5658	SE 53-15 ALROY 5958
SF 53-1 LANDER RIVER 5567	SF 53-2 DONNEY WELL 5657 5757	SF 53-3 FREW RIVER 5957

SHEET SE 53-14
TENNANT CREEK
NORTHERN TERRITORY

WESTERN MINING CORPORATION LIMITED - EXPLORATION DIVISION

Scale 1: 250 000

Map Ref.	SE 53-14
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Revised	

LEASING PLAN
E.L. 4820
TENNANT CREEK JOINT VENTURE N.T.

Figure No.

Plan No.

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