

TITLE EXPLORATION LICENCE 4926
RELINQUISHED AREAS REPORT

PERIOD 21 MAY 1987 - 20 MAY 1989

TENEMENT UNION REEFS GOLD NL
HOLDERS 11TH FLOOR
& OPERATORS 28 THE ESPLANADE
PERTH

AUTHOR J H THOM

DATE AUGUST 1989

1:250,000 Sheet Pine Creek SD52-8
1:100,000 Sheet Pine Creek 5270

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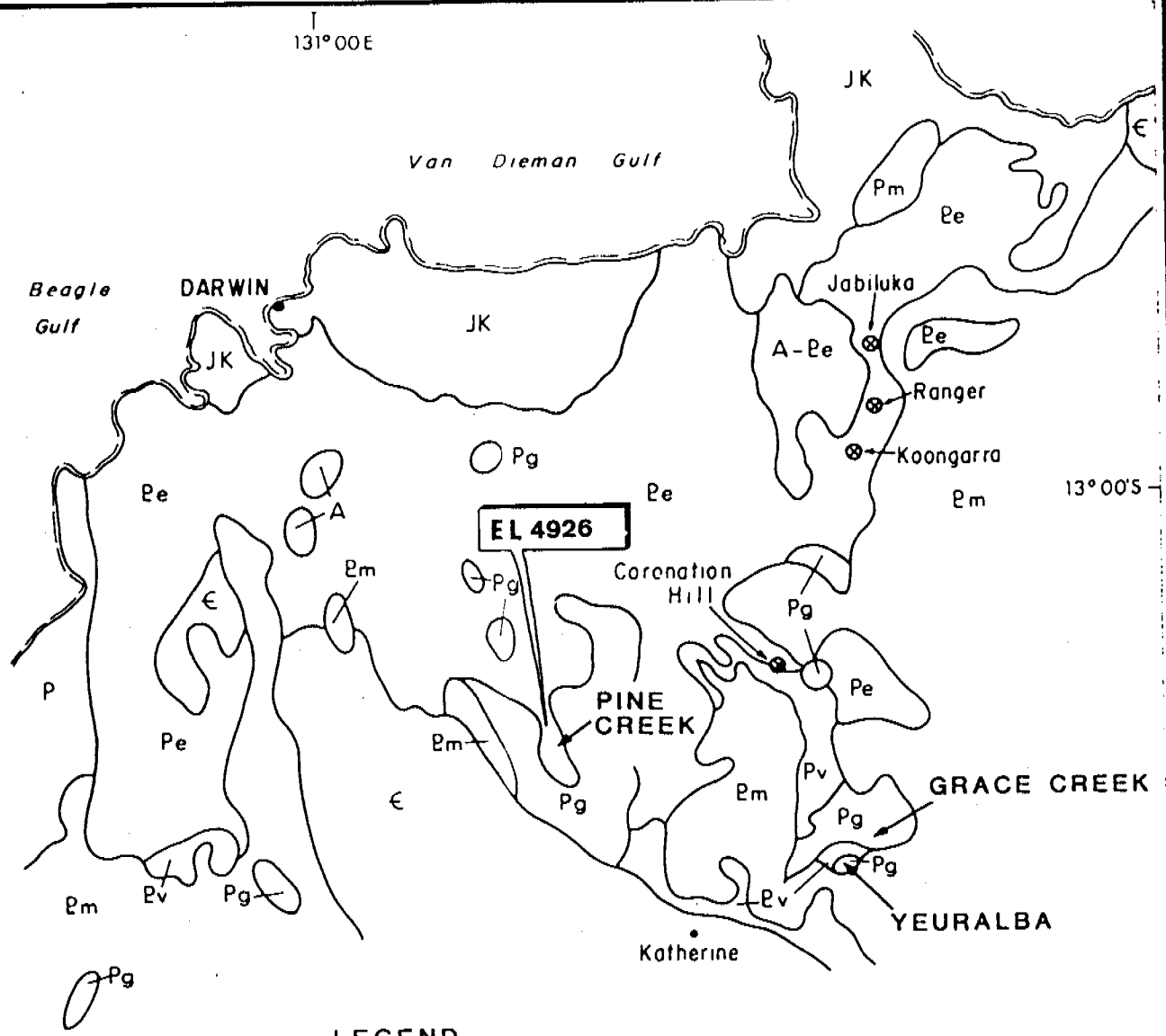
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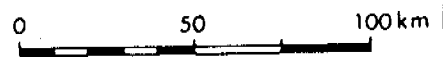
SUMMARY

Exploration Licence 4926 was granted in May 1987. Early mining activity occurred at the Caledonian Gold Mine, on land still held by Union Reefs Gold. Work since 1987 has included photo interpretation, reconnaissance rock chip and stream sediment sampling and a review of past exploration. As a result of this work, the eastern two blocks and the southwest block were relinquished.



LEGEND

MESOZOIC	JK	Sediments
PERMIAN	P	Sediments
LOWER PALAEOZOIC	€	Sediments
MIDDLE PROTEROZOIC	Em	Shelf sediments, felsic to mafic volcanics
EARLY PROTEROZOIC POST OROGENIC IGNEOUS ROCKS	Pg	Granite
	Ev	Volcanics, minor sediments
EARLY PROTEROZOIC	Pe	<u>Pine Creek Geosyncline sediments and volcanics</u>
ARCHAEAN	A	Basement rocks



PINE CREEK GEOSYNCLINE

PLAN N°URG13-Z

1. INTRODUCTION

This report outlines work carried out on those blocks of Exploration Licence 4926 that were relinquished in 1989.

2. LOCATION AND ACCESS

The exploration licence is located approximately one kilometre to the northeast of the Pine Creek township, situated approximately 230 kilometres southwest of Darwin (Drawing Number URG 13/7).

Access is via the Stuart Highway from Darwin to Pine Creek. The sealed Pine Creek to Kakadu Highway passes through the entire of the tenement area. Access to the northern part of the tenement is via the unsealed Frances Creek Road. (Drawing Number URG 13/11).

3. TENURE

<u>Tenement</u>	<u>Area</u>	<u>Granted</u>	<u>Period</u>
EL4926	6 blocks (19km ²)	21-5-87	3 years

A number of pre-existing tenements occur with the Exploration Licence which reduces the area available for exploration.

In 1989 the two easternmost blocks and the block in the southwest corner were relinquished (See Drawing URG 13-10).

4. ENVIRONMENT AND ECOLOGY

This region has a monsoonal climate with an average rainfall of 1,500mm per year, the majority of which falls between the months of December and May. From June to September, high temperatures and little rain prevail, resulting in high evaporation rates.

TO DARWIN

Highway

Kakadu

EL 4926

PINE CREEK

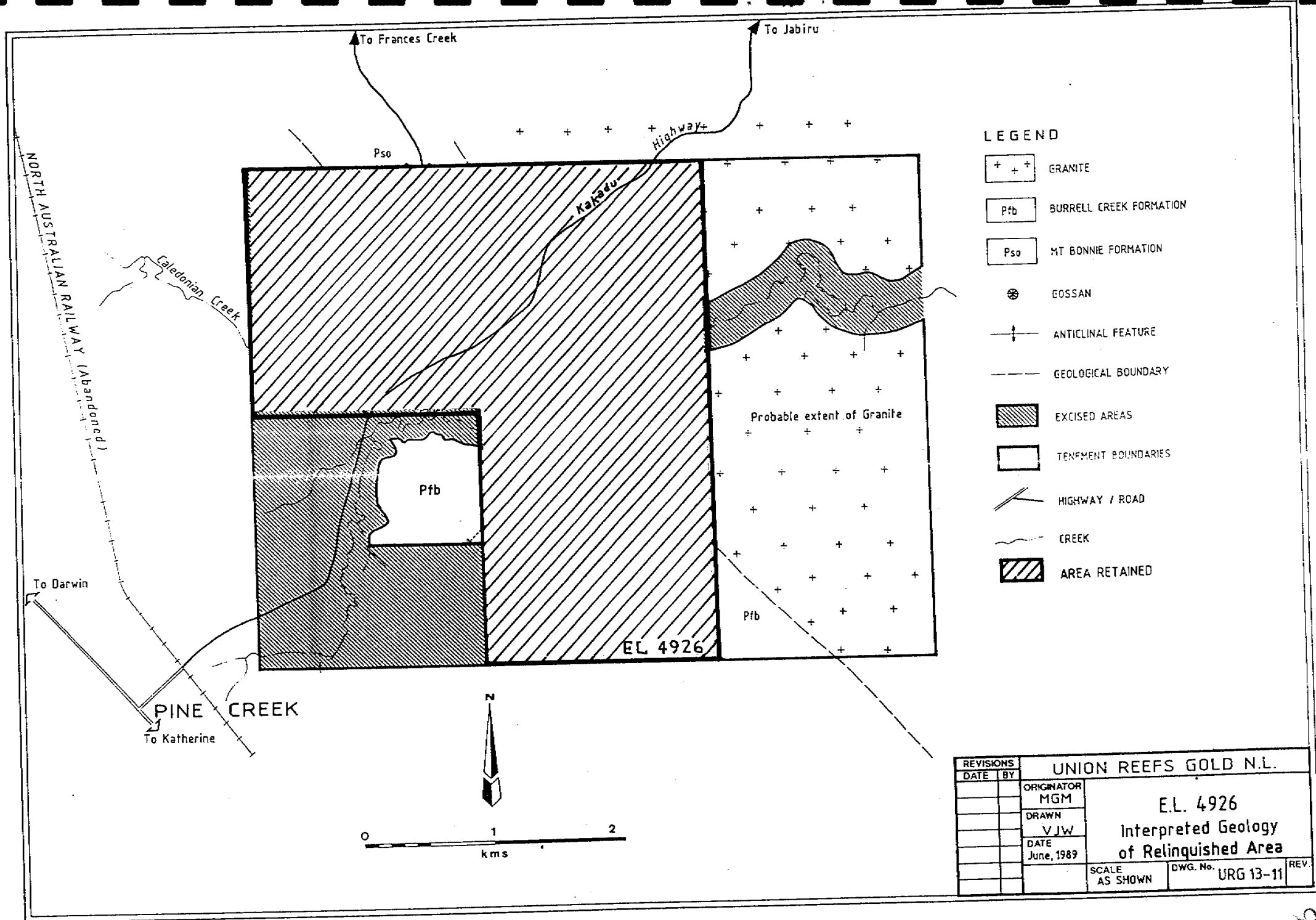
RELINQUISHED
AREAS



0 1 2
kms

TO KATHERINE

REVISIONS		UNION REEFS GOLD N.L.		
DATE	BY			
		ORIGINATOR	EL 4926 Location and Access	
		M.G.M		
		DRAWN		
		V.J.W.		
		DATE	SCALE 1:50 000.	
		June, 1989		
			DWG. No	REV.
			URG 13- 10	



REVISIONS			UNION REEFS GOLD N.L.			
DATE	BY		ORIGINATOR	E.L. 4926 Interpreted Geology of Relinquished Area		
			MGM			
			DRAWN			
			VJW			
			DATE	SCALE AS SHOWN		
			June, 1989			
				DWG. No.	URG 13-11	REV.

The average mean temperature is 27°C. Day temperatures are high throughout the year with the maximum summer temperatures in excess of 40°C common.

Prevailing winds are the southeast trade winds for the dry season and the northwest monsoon for the 'wet' season.

Relative humidities average 40% to 75% respectively during these periods. The area is subject to tropical cyclonic effects.

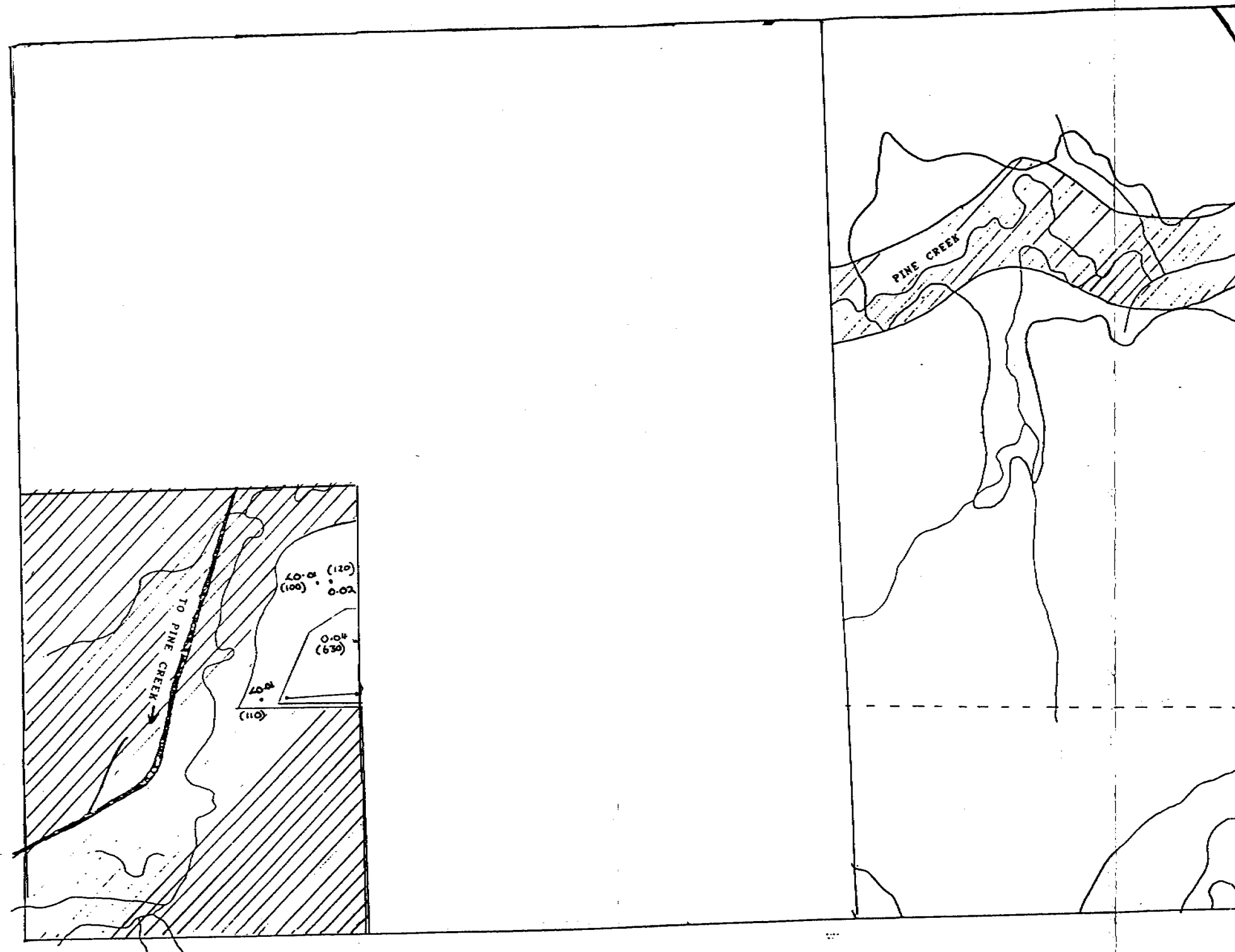
Drainage patterns are a combination of open spaced dendritic and broad open swales often accompanied by black soil development. Surface water is not permanent and the drainage systems flow only during the monsoon season. The vegetation consists of predominantly wet season grasses and open eucalyptus woodlands.

5. PREVIOUS WORK AND PRODUCTION

Early mining activity within the tenement was restricted to a small group of workings known collectively as the Caledonian Gold Mine not within the relinquished area.

Previous exploration activity within the tenement appears to be limited, due in part, to the area being within the Mt Wells Policy Reserve. The area has been previously held under Exploration Licence 4398 which was granted to Circular Quay Holdings Pty Ltd and Enterprise Gold Mines NL. The tenement holders carried out reconnaissance rock chip and stream sediment sampling within the area which delineated a number of anomalies, three of which are located with EL4926. Limited follow-up of the anomalies was undertaken and the Exploration Licence was relinquished.

In 1988 J Shields of Geonorth carried out exploration over the exploration licence. Colour air photography at 1:60,000 scale was purchased and using this photography, an old land surface was interpreted. Sampling and assaying was carried out over the central and eastern areas of the licence and those samples collected from the relinquished area are shown on Drawing URG 13-12.



LEGEND

- AREA NOT AVAILABLE FOR EXPLORATION
- CONTOUR LINE
- ROAD OR VEHICLE TRACK
- CREEK OR RIVER
- 0.03 GOLD ASSAY RESULT
- (100) ARSENIC ASSAY RESULT

TANAS PTY LTD

EXPLORATION LICENCE 4926
GOLD ASSAY RESULTS
ARSENIC ASSAY RESULTS

SCALE 1:20,000

0 500 1000 metn

J.W. SHIELDS & S.J.BELLETT
GEONORTH DARWIN
JUNE 1988

DRAWING No. URG 13-12

6. REGIONAL GEOLOGY

Exploration Licence 4926 lies in the southern part of the Pine Creek Geosyncline. The geosyncline consists of a succession of Lower Proterozoic basinal meta sediments underlain by Archaean granite and gneiss basement. The sedimentary rocks consist of mainly shale, siltstone, greywacke with minor conglomerate, chemical sediments and tuff horizons. Within the Pine Creek area, sediments of the Burrell Creek Formation dominate with areas of the underlying Mt Bonnie Formation exposed in the cores of regional anticlinal structures.

The mineralisation at the nearby Enterprise Mine and Gandy's Hill Prospect is hosted by the sediments of the Mt Bonnie Formation within the prominent Pine Creek Anticline structure. The gold mineralisation is hosted within quartz saddle reefs and complex quartz-sulphide stockwork zones developed between and adjacent to the saddle reefs.

7. TENEMENT GEOLOGY

The tenement geology is shown on Drawing URG 13-11. The eastern two blocks which have been relinquished are mainly underlain by granite and are considered non-prospective, and the southwest block is mainly soil-covered Burrell Creek Formation.

8. WORK COMPLETED

A complete review of the exploration completed to date has been undertaken to define targets for future exploration. The eastern part of the tenement area is largely underlain by areas of Cullen Granite which are not considered prospective for gold mineralisation (Drawing URG 13/11). The south-western portion of the Exploration Licence is underlain by poorly outcropping Burrell Creek Formation lithologies as evidenced by the Caledonian workings.

9. CONCLUSIONS

The Cullen Granite which underlies the eastern part of the licence is not considered prospective and the area was relinquished. A large portion of the southwest corner is excised from the licence, the remainder is underlain by Burrell Creek Formation.

REFERENCES

- Newton A W 1977 Northern Territory Geological Survey Report CS77/4
Caledonian Gold Reef, Pine Creek Area, NT.
- Stephenson P R 1985 Final Report EL4398 Pine Creek. Pine Creek Goldfields Ltd on
behalf of Circular Quay Holdings Pty Ltd and Enterprise Gold Mine NL
unpublished Department of Mines and Energy Open File CR86/073A-B.
- Shields J W & June 1988 First Annual Report for Exploration Licence 4926,
Bellette S J Pine Creek Area NT, unpublished.