PINE CREEK GOLDFIELDS
LIMITED

ANNUAL REPORT
WESTERN LEASES

MCN 2384 - 2398
MCN 2430 - 2434
MCN 2541 - 2547
MCN 2555 - 2557
MCN 184

JUNE 1993 - 94

PINE CREEK SHEET 1:250,000 SCALE SD58-8

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Pine Creek Goldfields Library

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Date : 3 November 1994

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SUMMARY

This report summarises all exploration activities carried out over mineral claims known as the Western Leases which includes MCN 2384 - 2398, MCN 2430 - 2434, MCN 2541 - 2547, MCN 2555 - 2557 and MCN 184. Exploration activities were confined to airphoto interpretation and mapping.

1. INTRODUCTION

1.1 LOCATION

The report tenements occupy an area of 532 hectares to the west and north-west of the Pine Creek township. These claims border on Pine Creek Goldfields mining leases MLN 1130 and MLN 13. The area consists of low to rolling topography, bordering on an escarpment in the west. Pine Creek flows in an east to south-easterly direction through the claims. Several tracks traverse the area and give reasonable access to all parts of the claims.

1.2 EXPLORATION HISTORY

The area has undergone minimal exploration activity. Previous work carried out by Arimco N.L. appears to have been limited to ground reconnaissance work and surveying of lease pegs. The majority of their exploration work was concentrated on the Gandy's Hill leases to the east of this area.

Subsequent work by PCG has consisted of airphoto interpretation, mapping and lease peg checking. Mapping by Dufty (1991) in the south-east corner of the claim area indicated that greywacke was the main sediment type. Minor quartz veining was present as bed parallel white to grey quartz blows or associated with faults.

Brief mapping of the area has been undertaken by Marjoribanks (1991) and to a lesser extent Fawckner (1991). No significant mineralisation was delineated.

No recent exploration has been carried out over the Western Leases.

2. *GEOLOGY*

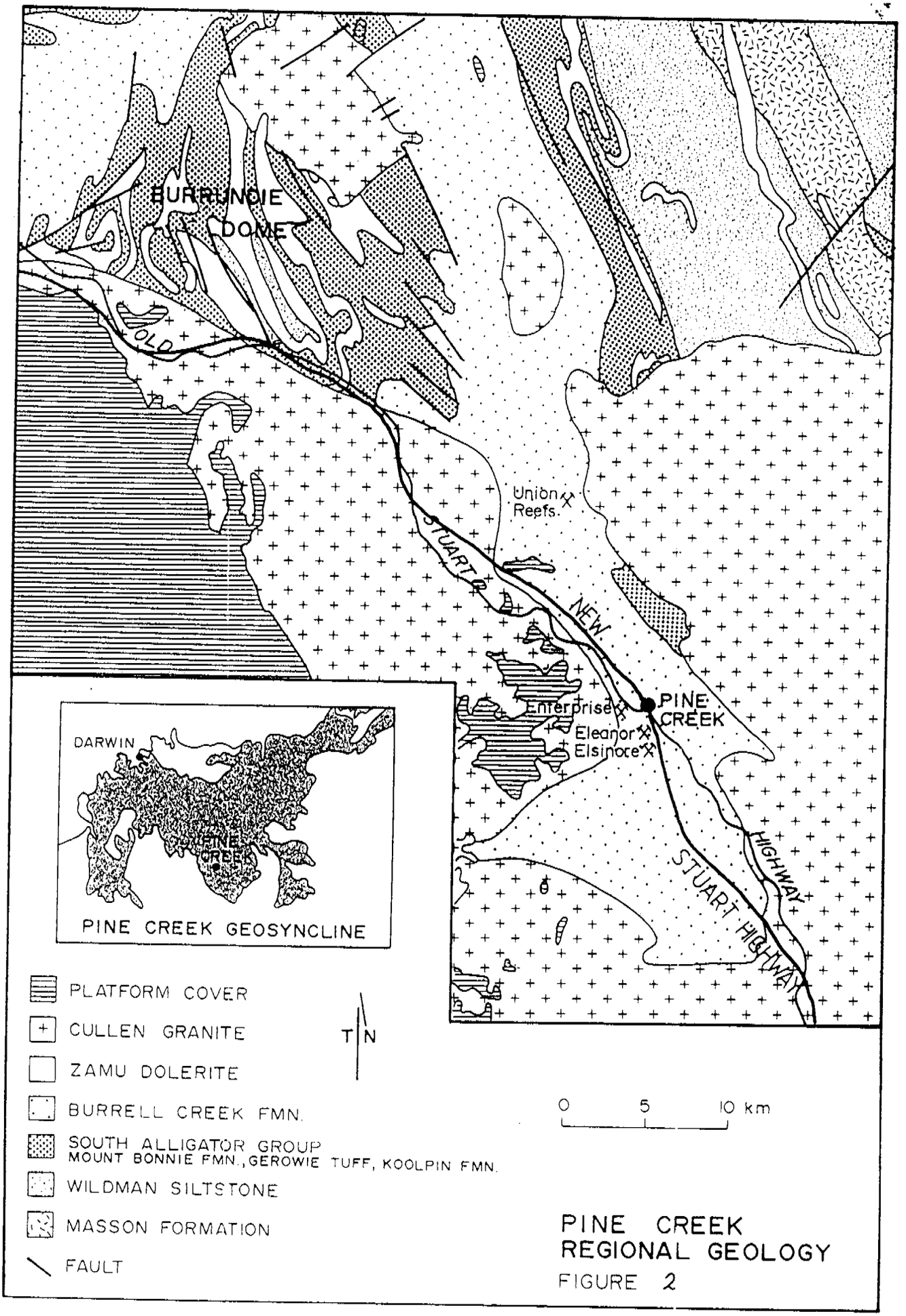
2.1 REGIONAL GEOLOGY

Mineralisation at Pine Creek occurs within the southern part of the Pine Creek Geosyncline. The Pine Creek Geosyncline is an elongate belt of Lower Proterozoic Age consisting of up to 14,000 metres of mostly sediments, metasediments and some intercalated volcanics which is intruded by granitic plutons. At Pine Creek these sediments form part of a south-east trending lobe approximately 35 x 5 kms which occupies an embayment in the Cullen Batholith (Fig. 3). This lobe of sediments lies within a major south-east trending structure known as the Noonamah-Katherine Lineament Zone. At Pine Creek, this zone is expressed as the Pine Creek Shear Zone which is composed of several aligned tight folds and numerous shears.

At Pine Creek two formations have been identified, the Mount Bonnie Formation (South Alligator Group) and the overlying Burrell Creek Formation (Finnis River Group). The Mount Bonnie Formation consists of shale, mudstone, phyllite, siltstone, feldspathic greywacke, minor tuffaceous chert, tuff and rare banded iron formation. The Burrell Creek Formation consists of fine to coarse feldspathic greywacke, shale, slate, phyllite, siltstone, minor volcanolithic conglomerate, rare altered felsic to intermediate volcanic lenses and spotted micaceous hornfels. The Mount Bonnie formation represents a transitional environment between the low-energy Koolpin Formation and the higher energy turbiditic environment of the Burrell Creek Formation.

A Mesozoic sandstone capping on the granite plutons forms an elevated tableland to the west of Pine Creek. This belongs to the Petrel Formation.

Locally a well bedded succession of metamorphosed rocks (shale, siltstone, greywacke, quartzite, spotted hornfels sediments and minor pebble conglomerates) are folded into a southerly pitching anticline which can be traced for over 3 kms. Beds usually strike between 310° to 320° magnetic and limbs of the anticlines dip approximately 60° to 80°. The rocks are sometimes siliceous, chloritic and vary from light to dark when fresh. When oxidised the rocks vary from shades of yellow orange red and brown and may be bleached white possibly due to clay alteration. Within the sediments, generally parallel to bedding, are a number of massive mineralised quartz veins. Anticlinal saddle veins are also present and usually are concordant with bedding having the same plunge as the anticlines.



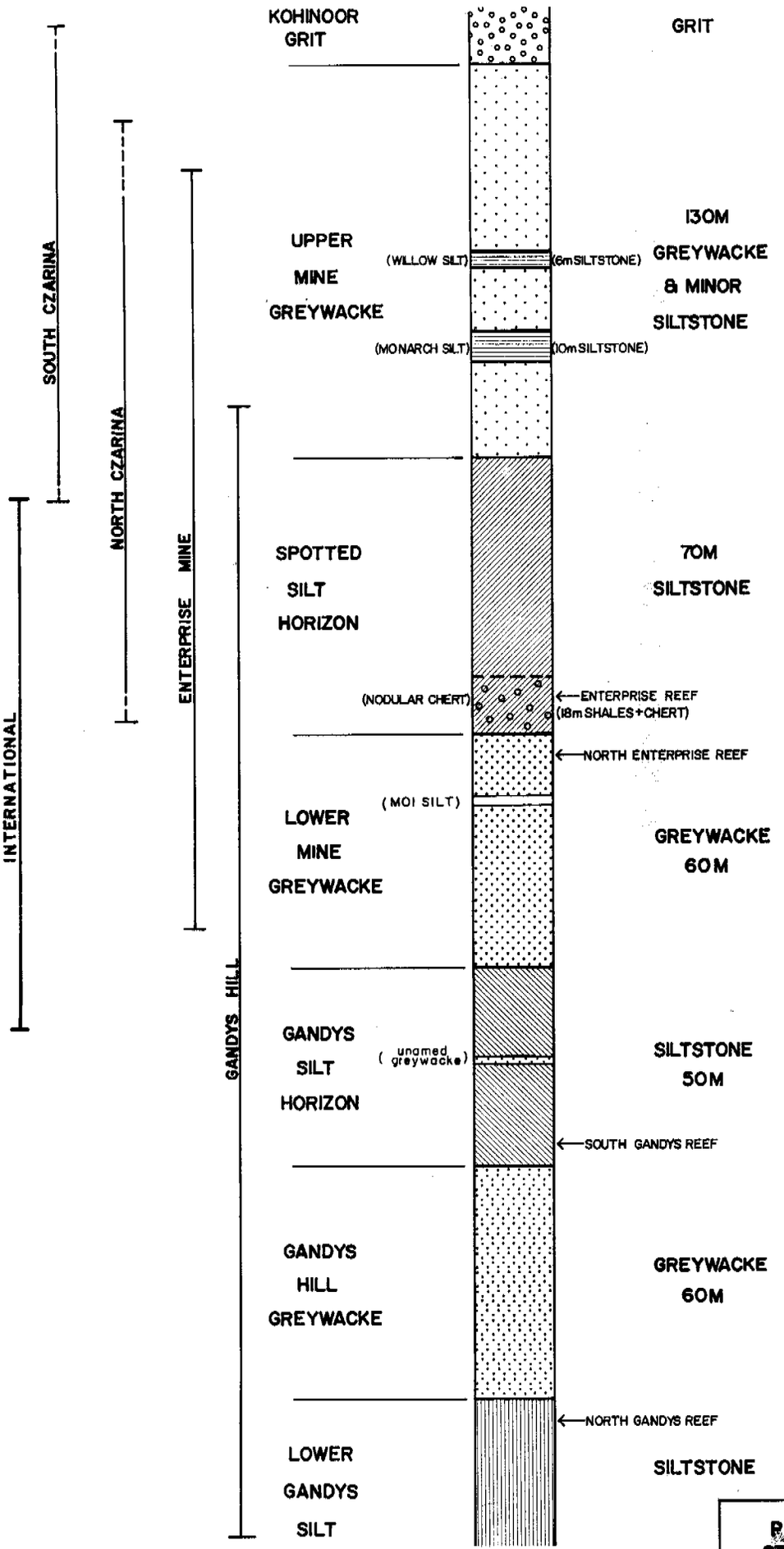
PINE CREEK
REGIONAL GEOLOGY
FIGURE 2

2.2 LOCAL GEOLOGY

Granite outcrop and colluvium occupy the majority of the claim area (Plate 1). The remainder of the claims consists of consistently west dipping medium to coarse grained greywackes with minor grits and siltstone. A small sandstone escarpment is located on the western edge of the area, overlying the granite.

2.3 MINERALISATION

Quartz veining in the area is minimal and is associated with minor faulting or occurs as bed parallel mining. Two rock chip samples taken returned assays of 0.92 g/t and 0.7 g/t Au. The 0.92 g/t Au is associated with a small white quartz subcrop. The grade of 0.74 g/t Au is from float of vitreous white to grey quartz containing minor arsenopyrite. These results were considered to be isolated to local veining only (Dufty 1991). Barren quartz float is present within the area of granite. No significant mineralisation was outlined and the area is considered to have limited potential for any substantial gold mineralisation.



RINE CREEK STRATIGRAPHIC COLUMN

FIGURE 3

3. *CONCLUSIONS AND RECOMMENDATIONS*

The majority of the claims are covered by granite with little potential for gold mineralisation. The remainder of the area is greywacke and siltstone which contains some minor quartz veining with isolated low grade gold assays. This is also considered to have very low potential for significant mineralisation.

No further work is recommended for the area occupied by these claims.

EXPENDITURE STATEMENT

DESCRIPTION	*$ AMOUNT*
Tenement Costs	6,095
Salaries	1,000
Administration	1,000
TOTAL	**8,095**

REFERENCES

Dreverman, P.C., 1990. Review of the Carlton Project, Pine Creek Area. Arimco N.L. Internal Report.

Marjoribanks, R.W., 1991. The Structure and Mineralisation of the Region Surrounding the Enterprise Mine, Pine Creek, N.T. Internal RGC Report.

Dufty, M., 1991. Mapping of the Western Portionof MLN 13. PCG Internal Memorandum.

Fawckner, J.F. Report on 1:25,000 scale mapping of the Pine Creek Mine Corridor. PCG Internal Report.

leasesd.pf

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8000E 9000E 10000E 11000E 12000E 13000E

15000N 14000N 13000N 12000N 11000N 10000N 9000N 8000N

WESTERN LEASES

MCN 2433
MCN 2384
MCN 2432
MCN 2385
MCN 2431
MCN 2430
MCN 2386
MCN 772
MCN 184
MCN 2389
MCN 2434
MCN 2390
MCN 2387
MCN 2391
MCN 2388
MCN 2555
MCN 2392
ERL 7882
MCN 2541
MCN 2556
MCN 629
MCN 2393
MCN 2542
MCN 2543
MCN 2394
MCN 2557
MCN 2396
MCN 2544
MCN 2395
MCN 2397
MCN 2545
MCN 2546
MCN 2398
MCN 2547
MLN 13

MCN 1081
MCN 827
MCN 182
MCN 1076
MCN 181
MCN 547
MCN 180
MLN 1130
MCN 297
MCN 792
MCN 427
MCN 1054
MCN 193
MCN 1055
MCN 4329
MCN 1068
AN 89
MCN 1063
AN 265
MCN 1069
MCN 1064
MCN 1073
MCN 1070
MCN 523
MCN 1065
MCN 1071
MCN 1067
MCN 1072
MCN 1066

CR94/785

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PINE CREEK TENURE MAP
31/1/94 MT

SCALE	1: 10000			A1	FIG. 1.
		DRAWN			
		CHECKED			
DATE	25-Jan-94	APPROVED			

11000E

13000N

10000N

PINE CREEK

ENTERPRISE

LEGEND

vein — dip/dip direction

bed — "

joint — "

ANTICLINE

SHEAR

GREYWACKE

SILT

300011

PINE CREEK GOLDFIELDS

GEOLOGY MAP
WESTERN LEASES

0 1:10,000 500m

DATE: 8/6/94 GEO: CJF