DENEHURST LIMITED

MARGARET DOME - MCN's 1624 - 1635
FINAL REPORT

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DATE : MAY, 1993

DISTRIBUTION:

1. Northern Territory Department of Mines & Energy
2. Denehurst - Melbourne

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SUMMARY

The Margaret Dome tenemens comprise twelve (12) mineral claims (MCN's 1624 - 1635) located approximately 9km east of Hayes Creek. The tenement block was included under the Pine Creek Joint Venture (JV) between The Shell Company of Australia Limited and Denehurst Limited until 1989 when it reverted to Denehurst. The MCN's were granted on the 26th February 1988 for a period of five (5) years.

Geologically the area consists of three (3) main rock types - Early Proterozoic Koolpin Formation, Gerowie Tuff and Zamu Dolerite. The Gerowie Tuff conformably overlies the Koolpin Formation and has been intruded by the Zamu Dolerite.

Regional-scale soil traverses across the stratigraphy defined a broad, low-order gold, copper and zinc anomaly over the Zamu Dolerite, and two smaller gold anomalies on the boundary between the Gerowie Tuff and Koolpin Formation. No evidence of mineralisation though, was found during scout mapping in the vicinity of the anomalies. Therefore, the Zamu Dolerite was interpreted as the source and controlling influence for the broad gold, copper and zinc anomaly, as it contains higher background concentrations of these elements than the surrounding rocks. The two small gold anomalies are influenced by a BIF unit, in the Koolpin Formation, on the boundary with the Gerowie Tuff.

Insufficient encouragement was received to justify renewal of the tenements.

1. INTRODUCTION

The Margaret Dome group of mineral claims (MCN's 1624-1635) were granted on the 26th February 1988 for a period of five (5) years. The grants were initially to Ken Day Pty Ltd until transferred to Denehurst in early 1988. They were included in the Pine Creek Joint Venture between Shell and Denehurst until reverting to Denehurst in 1989.

The tenements are located approximately 9km east of Hayes Creek and covers an area of 2.3km^2 (Figure 1). Access into the tenements is possible via a bush track which turns off the Old Stuart Highway 7km east of Hayes Creek (Figure 1). However, no tracks exist within the tenement and access is possible only on foot or motorbike.

This report encompasses a synopsis of the geology and exploration completed during Denehurst's tenure.

2. GEOLOGY

The tenements lie within a complex region of tight to isoclinal folding, domal structures, and regional-scale faulting. However, there is no evidence of faulting within the area. The western side of the tenement block occurs on the south-east plunging nose of the Golden Dyke Dome, and the eastern side occurs on the south-western flank of an antiform.

The geology within the tenements consist of two Early Proterozoic sedimentary (Koolpin) and volcanolithic (Gerowie Tuff) formations which have been intruded by a pre-kinematic dolerite (Zamu Dolerite; Figure 2). The Koolpin Formation is the oldest sedimentary package in the area and consists of ferruginous and carbonaceous phyllite and massive limonitic ironstone. The Gerowie Tuff conformably overlies the Koolpin Formation and comprises of siltstone, phyllite, glassy black tuffaceous chert, crystal and vitric tuff. The Zamu Dolerite consists of chloritised medium quartz dolerite and amphibolite.

3. WORK COMPLETED

Seven (7) broad based north-east trending soil traverses of various length were conducted in order to identify any evidence of gold or base metal mineralisation. Soil samples were collected every 10m within a 50m traverse, and sieved to -8# to produce a 50m composite soil sample weighing approximately 2kg. A -80# fraction of this sample was extracted and assayed for base metals and arsenic using the Atomic Absorption Spectrometry technique. The 2kg soil sample was assayed for gold using the Bulk Cyanide Leach (BCL) technique.

Ground follow-up was carried out on the anomalous zones identified from the soil traverses.

4. RESULTS & INTERPRETATION

One large, low-order gold anomaly occurs in the middle of the tenements striking north-west (Figure 3). Maximum gold values range between 3.5-4.0 ppb Au with background values of <1.0 ppb Au. Copper and zinc also have low-order anomalies (Cu ~60-100 ppm; Zn ~100-400 ppm) which overlay the gold anomaly (Figure 4).

Two small gold anomalies also occur on the boundary of the Koolpin Formation and Gerowie Tuff, north-east of the main anomalous zone (Figure 3).

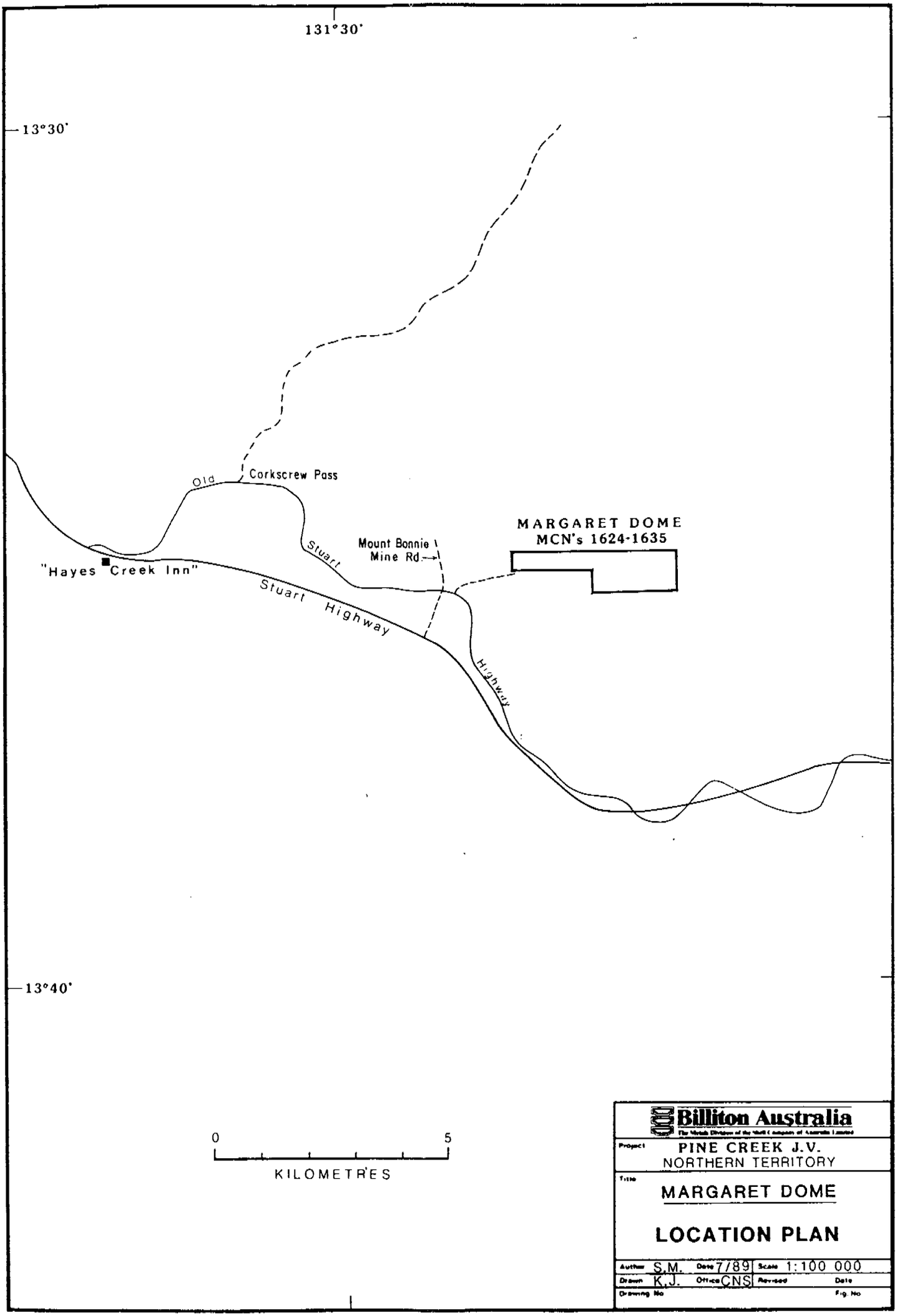
Furthermore, ground follow-up in the vicinity of the anomaly failed to identify any evidence of mineralisation or favourable structures. The anomaly is primarily confined to the Zamu Dolerite (Figures 2 & 3) where outcrop exposure is very good and soil development minimal. It is therefore interpreted that the Zamu Dolerite is the source and controlling influence for the large anomaly because it contains higher background values of gold and base metals, due to its mafic igneous origin. Scout mapping around the two smaller anomalies also failed to find evidence of mineralisation or prominent structures. However, a small banded iron formation (BIF) was mapped in the Koolpin Formation on the boundary with the Gerowie Tuff. The BIF is therefore, interpreted as the source of the small anomalies, whereby it contains higher background values of gold than the surrounding rocks.

5. CONCLUSION

The Margaret Dome group of MCN's lies in a structurally complex region of the Pine Creek Geosyncline. The geology consists of Early Proterozoic Koolpin Formation which is conformably overlain by the Gerowie Tuff. This sequence has subsequently been intruded by the Zamu Dolerite.

Regional-scale soil traverses across the stratigraphy defined one broad, low-order gold, copper and zinc anomaly over the Zamu Dolerite, and two smaller gold anomalies to the north-east, on the boundary of the Gerowie Tuff and Koolpin Formation. No mineralisation or favourable structures were recognised in the vicinity of the anomalies during ground follow-up. It is interpreted then that the broad-based gold, copper and zinc anomaly is a result of higher background concentrations of these elements in the Zamu Dolerite compared with the surrounding rocks. The two smaller gold anomalies are a result of higher background concentrations of gold in a BIF within the Koolpin Formation, near the contact with the Gerowie Tuff.

It was recommended that the tenements be relinquished and no further work has been carried out.



Billiton Australia
The Metals Division of the Shell Company of Australia Limited

Project: PINE CREEK J.V.
NORTHERN TERRITORY

Title:
MARGARET DOME

LOCATION PLAN

Author	S.M.	Date	7/89	Scale	1:100 000
Drawn	K.J.	Office	CNS	Revised	Date
Drawing No					Fig. No

131° 32'
131° 33'
131° 34'
13° 35'
13° 36'
Margaret River
MCN 1624
MCN 1625
MCN 1626
MCN 1627
MCN 1628
MCN 1629
MCN 1630
MCN 1631
MCN 1632
MCN 1633
MCN 1635
69/38/45/-
79/32/68/-
93/28/59/-
38/34/31/4
30/35/21/10
31/17/8/7
30/13/9/4
29/19/5/4
36/23/27/5
44/26/34/17
32/31/26/5
3/10/12/2
5/13/7/4
4/16/6/3
3/16/6/2
6/17/9/4
7/13/11/3
7/10/16/4
10/9/15/2
42/111/45/7
177/12/78/4
49/24/54/11
75/34/78/6
67/28/69/4
58/22/64/6
61/24/96/5
69/22/86/5
38/31/52/7
21/22/30/4
17/16/17/6
71/68/136/17
57/28/84/7
102/36/80/4
113/30/58/7
100/25/84/5
8/18/19/8
5/13/78/5
7/12/11/4
4/12/7/3
4/12/6/5
4/13/6/2
5/13/8/5
8/15/19/6
16/15/35/4
18/71/54/6
7/16/48/2
8/28/48/3
8/34/71/3
43/213/34/31
52/58/52/19
32/29/76/15
36/18/73/14
29/18/40/14
24/17/32/10
60/61/90/14
67/21/85/18
6/8/13/4
64/23/68/6
103/24/74/12
21/29/398/12
17/12/11/11
4/11/7/6
14/13/34/5
19/13/35/6

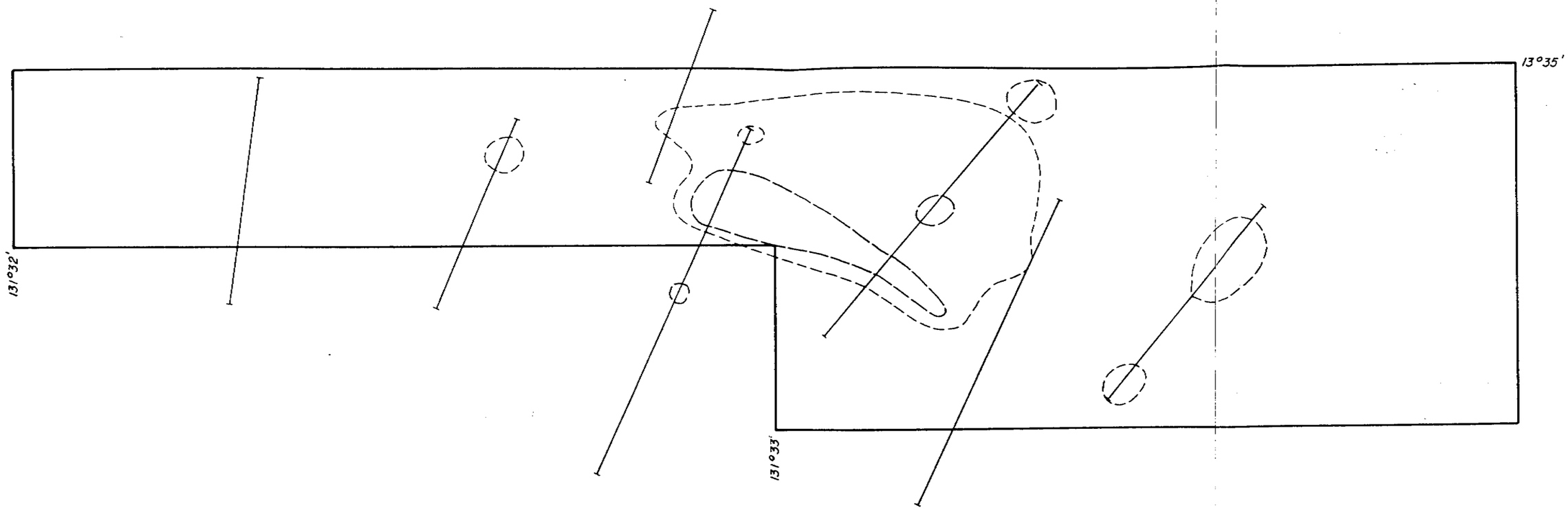
REFERENCE
(60/61/90/14) -80# Results Cu/Pb/Zn/As (ppm.)
N.B. Ag all < 1ppm
(-) Sample taken, Result Below Detection.

Billiton Australia
The Metals Division of the Shell Company of Australia Limited

Project: PINE CREEK J.V.

Title: MARGARET DOME MCN'S SOIL SAMPLING -80# RESULTS

Author A.J.T.	Date 10/11/88	Scale 1:10000	
Drawn P.J.W.	Office Cns.	Revised	Date
Drawing No C/HJ14/03			Fig. No. 11



1 - 2ppb Au

> 2ppb Au

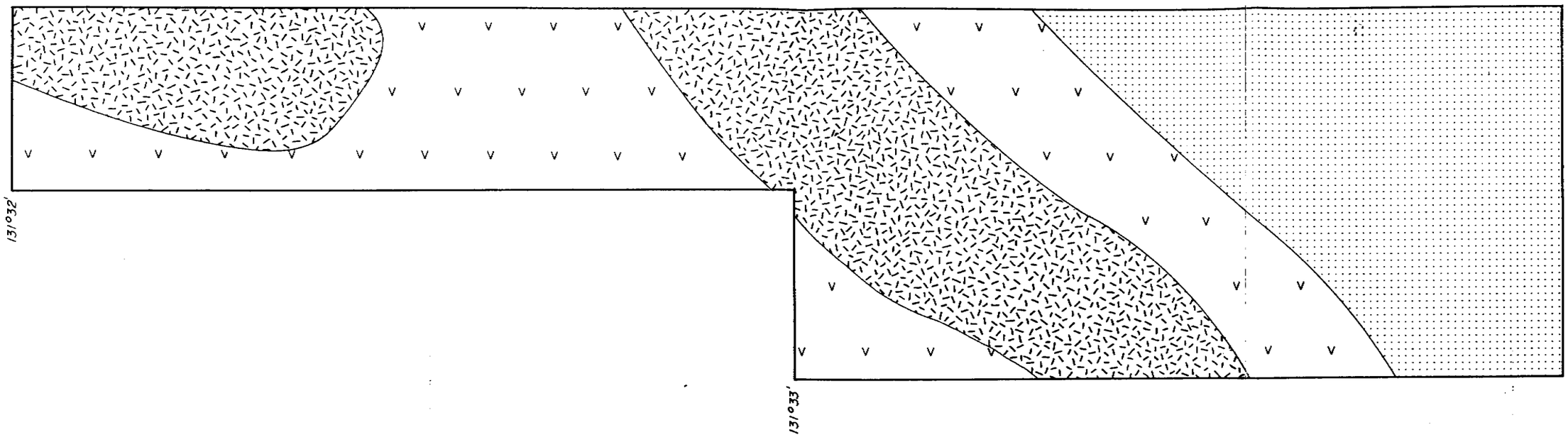
0 500

METRES

Billiton Australia

The Metals Division of the Shell Company of Australia Limited

Project	PINE CREEK J.V. NORTHERN TERRITORY
Title	MARGARET DOME BCL Au CONTOURS
Author S.M.	Date 7/89 — Scale 1:10000
Drawn K.J.	Office CNS — Revised — Date
Drawing No.	Fig. No.



ZAMU DOLERITE

GEROWIE TUFF

KOOLPIN FORMATION

0 500
METRES

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Project: PINE CREEK J.V.
NORTHERN TERRITORY

Title: MARGARET DOME

SIMPLIFIED GEOLOGY

Author	S.M.	Date	7/89	Scale	1:10000
Drawn	K.J.	Office	CNS	Revised	Date
Drawing No.					Fig. No.