



MAGNESITE DEPOSITS AT RUM JUNGLE,  
N.T., AUSTRALIA - GENESIS AND ASSOCIATION  
WITH URANIUM AND POLYMETALLIC SULFIDES

(VOLUME II)

by

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This thesis is submitted as fulfilment of the requirements for the  
degree of Doctor of Philosophy in Geology at the University of Adelaide.

August, 1985.



**LEGEND**

- Pld Whites Formation (sample prefix =G)
- Plo Coomalie Dolomite (E)
- Plo<sub>1</sub> Dolomite, magnesite, marble, algal in places, mainly magnesite (E)
- Plo<sub>2</sub> Quartzite replacing carbonate, algal in places (E)
- Pir Crater Formation (D)
- Pll<sub>1</sub> Celia Dolomite, magnesite, dolomite lst, mainly mag's (C)
- Pll<sub>2</sub> Silicified carbonate-quartzite (C)
- Ple Beestons Formation (B)
- A Rum Jungle Complex (A)
- 3 General area of outcrop enclosing notable large for outcrops
- PH 1 Drill line bore and line number (Prefixed CM)
- 70 R37 B.M.R. Rotary drill hole
- 15 Chip sample traverse - N° Prefixed CM
- 5 Major observation points

- Lithological boundaries
- Creeks & Rivers
- Roads
- Tracks
- Fences

**E.L. 1349 RUM JUNGLE N.T. MAGNETITE GEOLOGY, FIRST STAGE DRILLING AND SAMPLING FIG. 7**

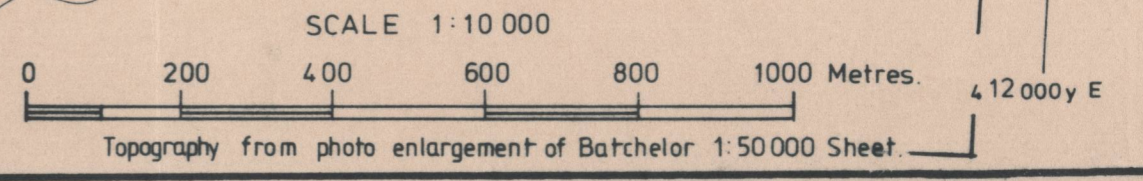
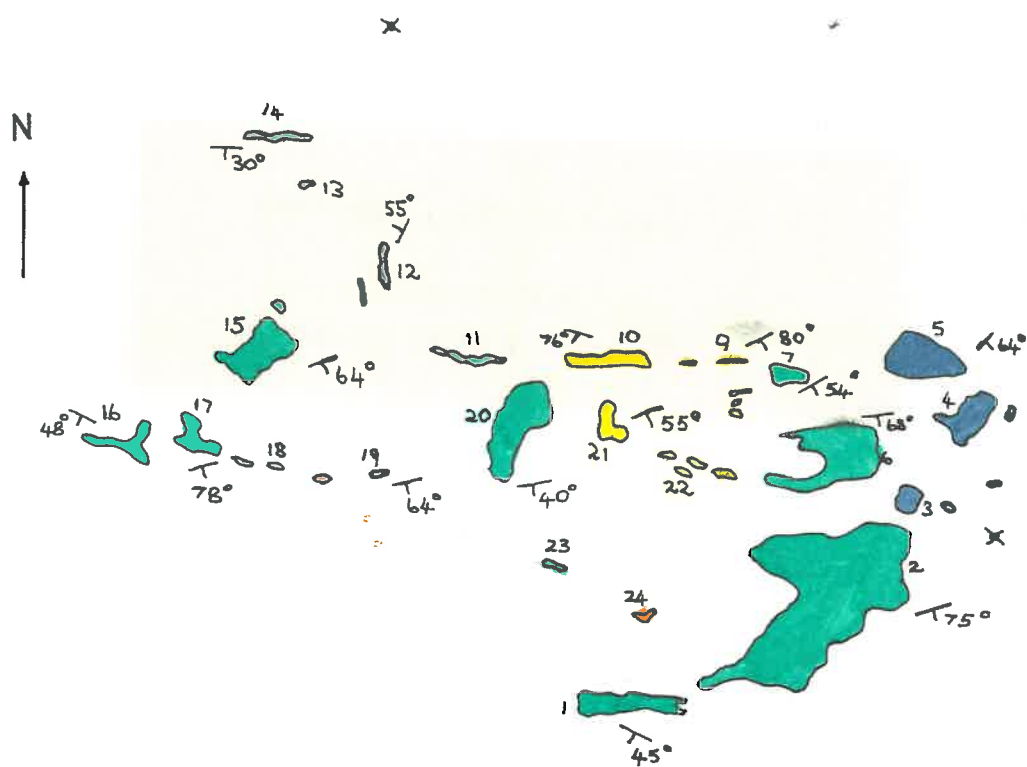


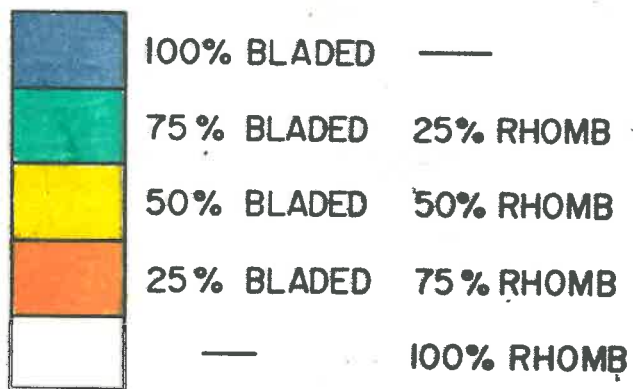
Fig. 16a CELIA DOLOMITE

OUTCROP PLAN AREA A



MORPHOLOGY - BLADED/RHOMB

LEGEND



3 OUTCROP NO.

74° DIP & STRIKE

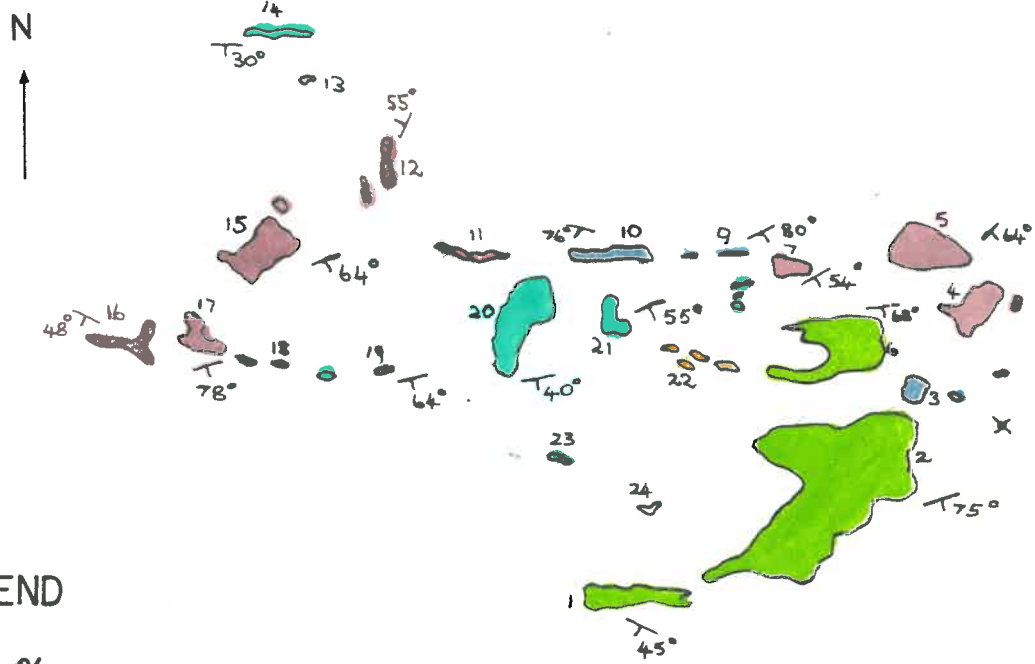
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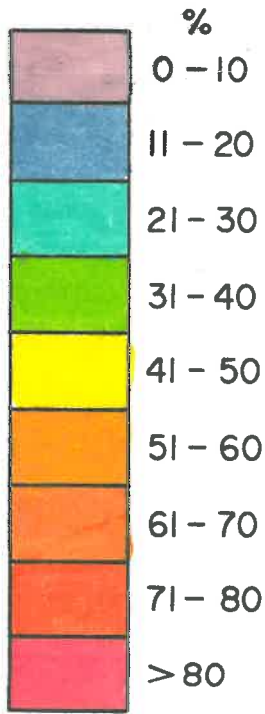
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Date: AUG '79		Drawing No: A4-

Fig. 16b CELIA DOLOMITE

OUTCROP PLAN AREA A  
GRAIN SIZE - VERY COARSE



LEGEND



3 OUTCROP NO.

DIP & STRIKE

GRAIN SIZE > 0.05 cm

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Y.B.

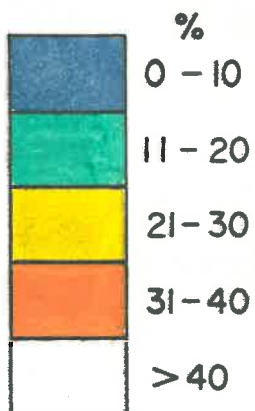
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Date: Aug '79	MAGNESITE E.L. 1349	Drawing No: A4-

Fig. 16c CELIA DOLOMITE

OUTCROP PLAN AREA A



LEGEND



GRAIN SIZE - FINE

3 OUTCROP NO.

74° DIP & STRIKE

GRAIN SIZE < 0.5 mm

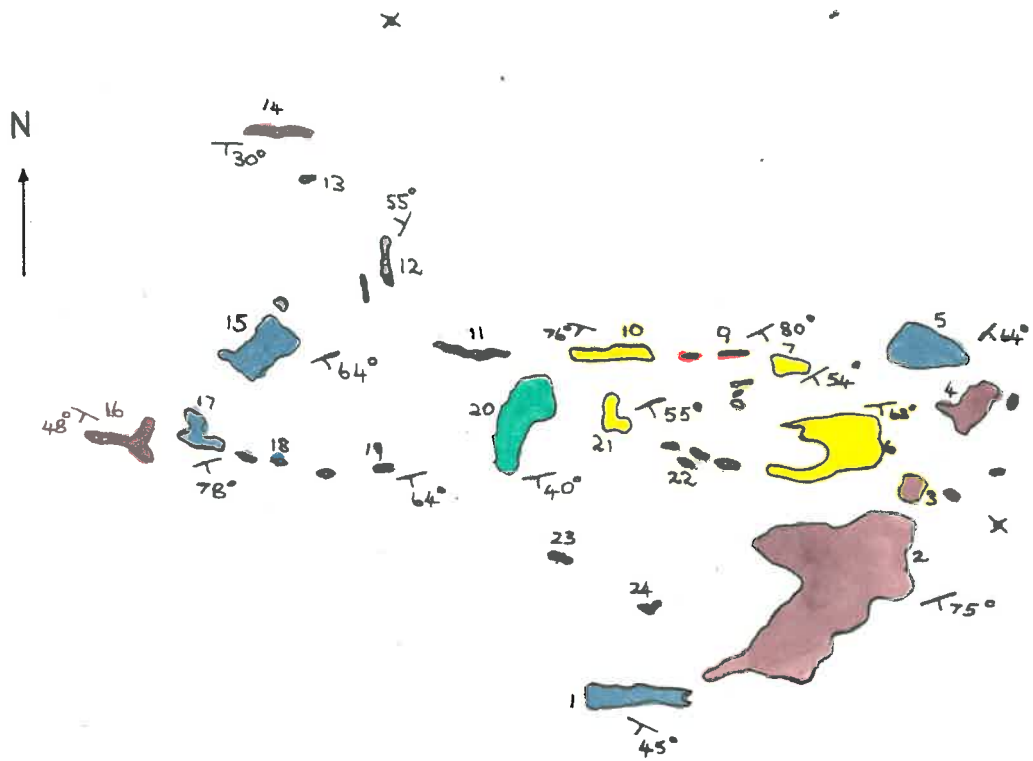
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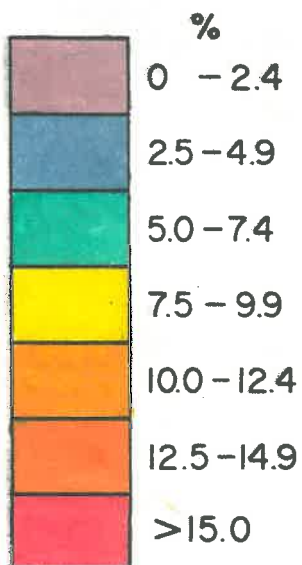
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Date: Aug '79		Drawing No: A4-

Fig. 16d CELIA DOLOMITE

OUTCROP PLAN AREA A



LEGEND



VISIBLE QUARTZ

3 OUTCROP NO.

74° DIP & STRIKE

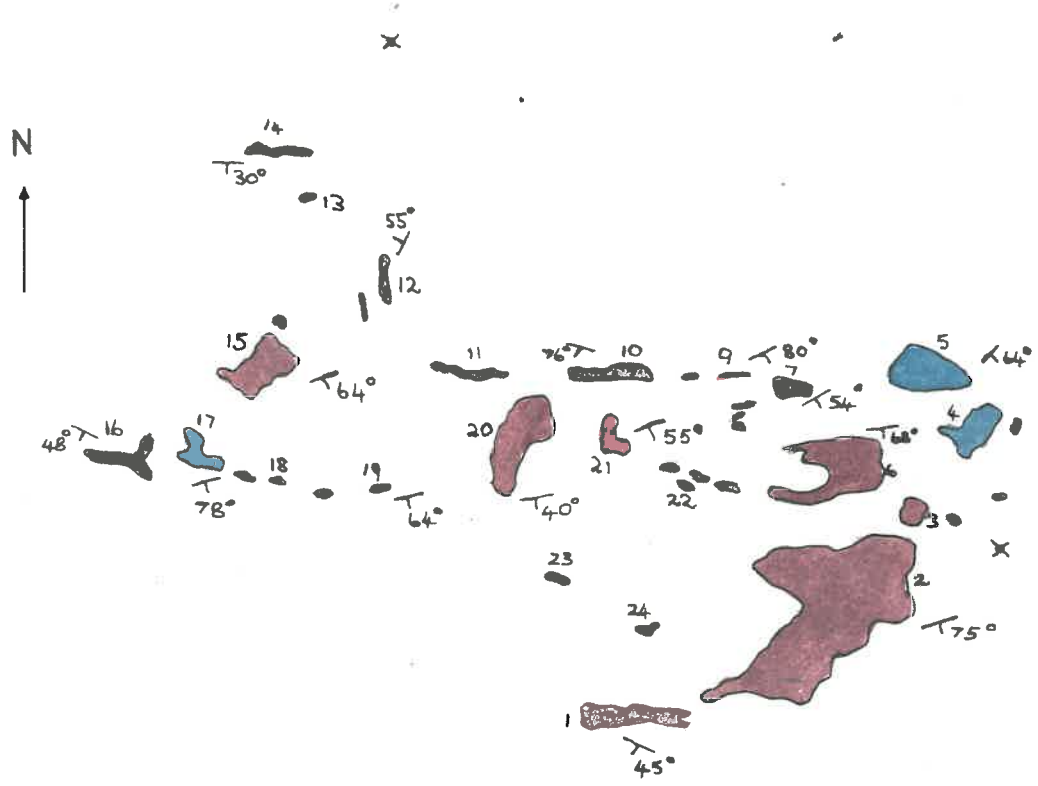
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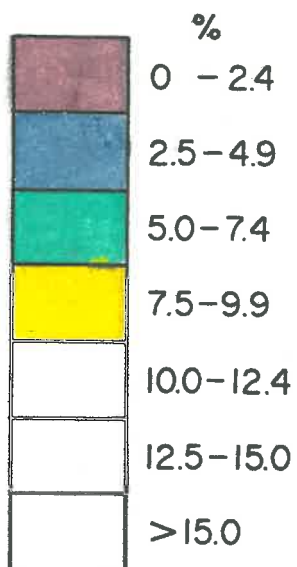
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Date: Aug '79		Drawing NO: A4-

Fig. 16e CELIA DOLOMITE

OUTCROP PLAN AREA A



LEGEND



VISIBLE TALC

3 OUTCROP NO.

74° DIP & STRIKE

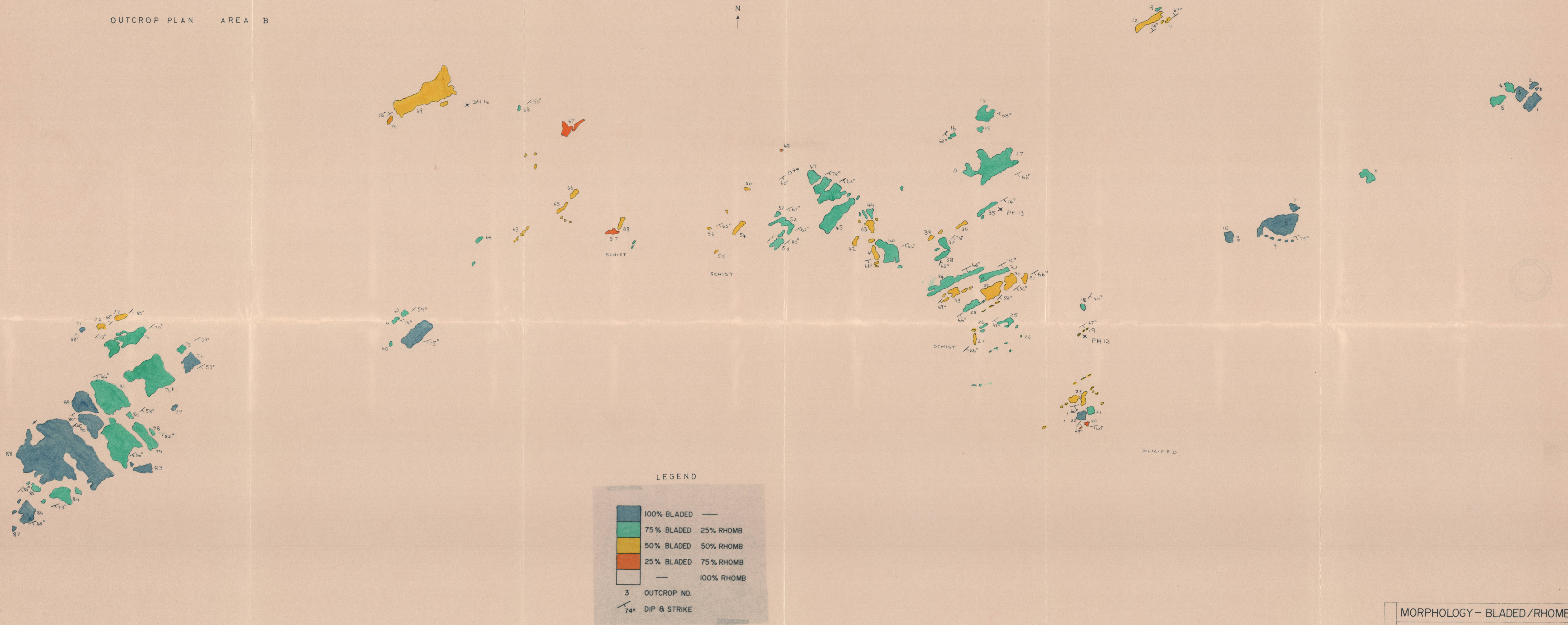
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Date: Aug '79		Drawing No: A4-

Fig. 17a CELIA DOLOMITE

OUTCROP PLAN AREA B



LEGEND

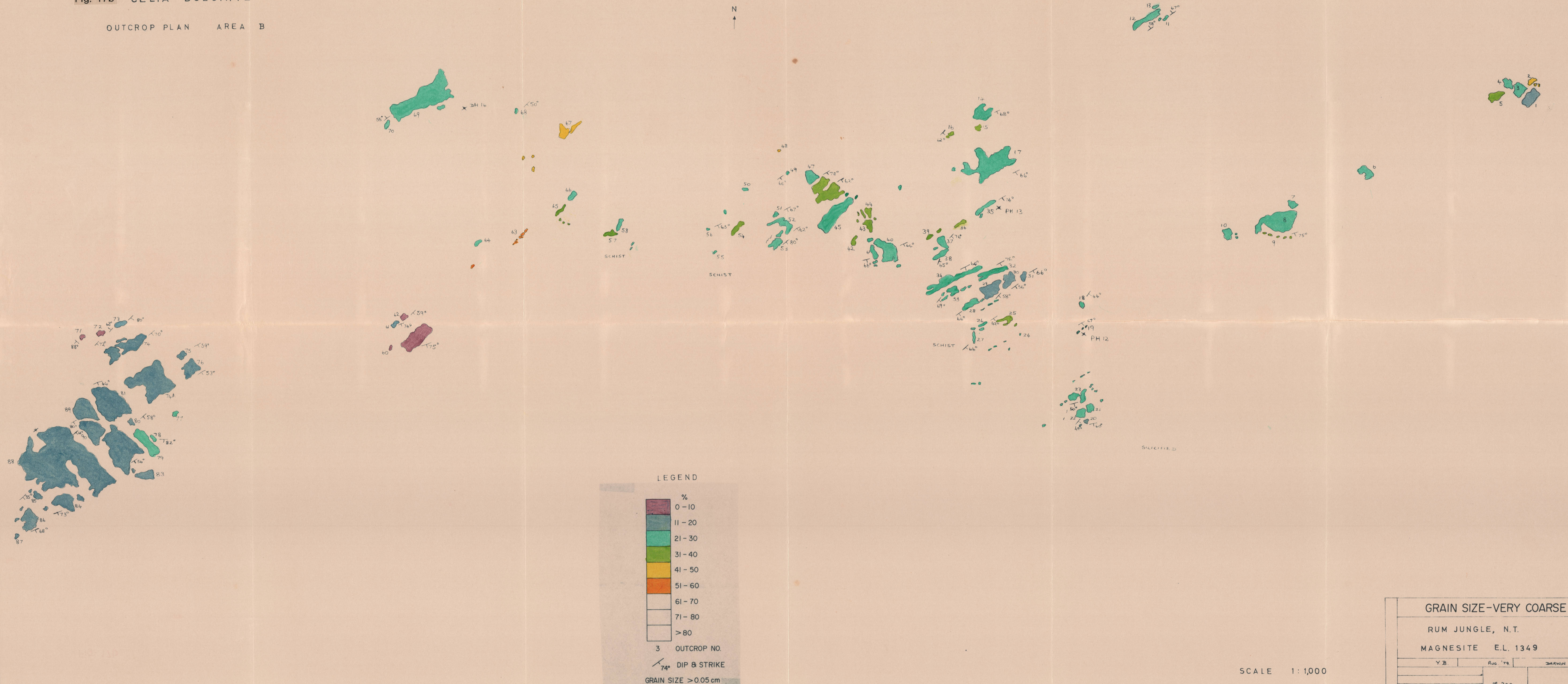
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  - 75% BLADED
  - 50% BLADED
  - 25% BLADED
  - 
  - 100% RHOMB
  - 75% RHOMB
  - 50% RHOMB
  - 25% RHOMB
  - 
  - 100% RHOMB
- 3 OUTCROP NO.
- 74° DIP & STRIKE

SCALE 1:1,000

MORPHOLOGY - BLADED/RHOMB		
RUM JUNGLE, N.T.		
MAGNESITE E.L. 1349		
Y.B.	Aug '79	DARWIN
	M 300	

Fig. 17b CELIA DOLOMITE

OUTCROP PLAN AREA B



LEGEND

- 0 - 10
  - 11 - 20
  - 21 - 30
  - 31 - 40
  - 41 - 50
  - 51 - 60
  - 61 - 70
  - 71 - 80
  - > 80
- 3 OUTCROP NO.
- 74° DIP & STRIKE
- GRAIN SIZE > 0.05 cm

GRAIN SIZE-VERY COARSE

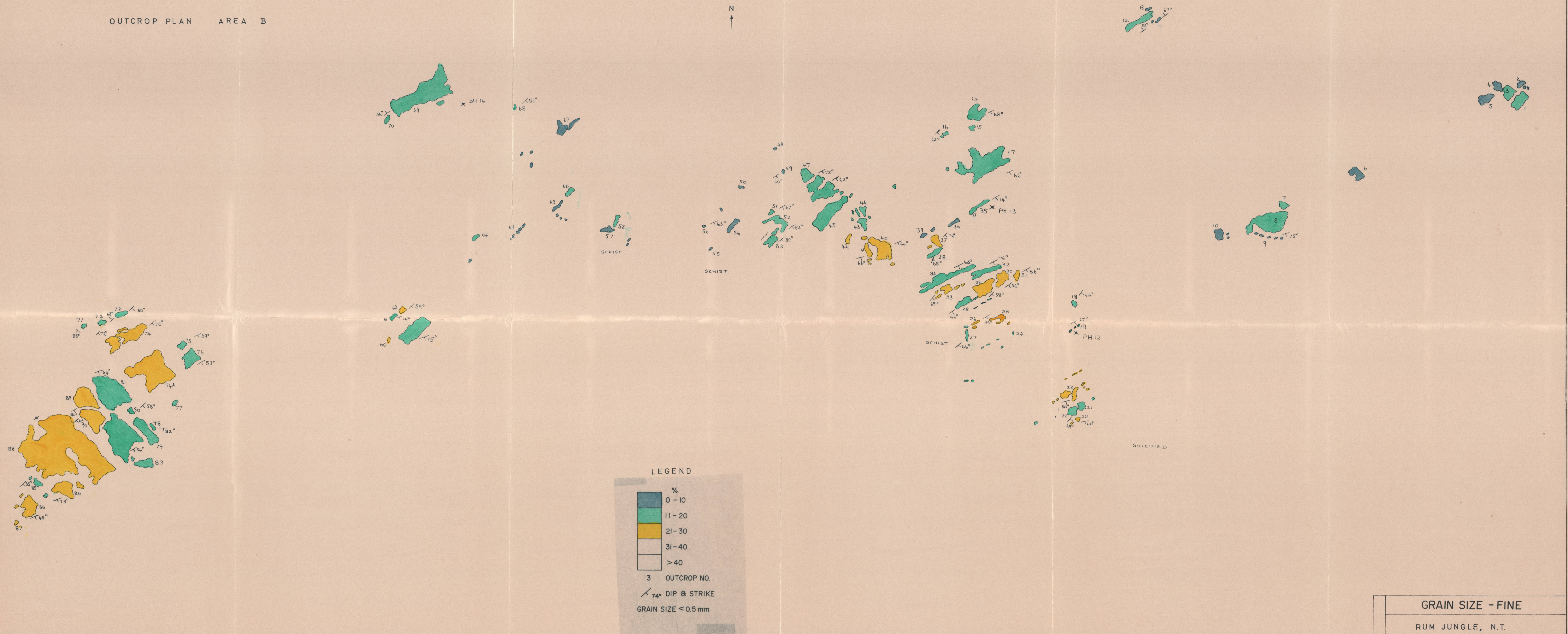
RUM JUNGLE, N.T.  
MAGNESITE E.L. 1349

Y.B.	AUG '79	DARWIN
	M 300	

SCALE 1:1,000

Fig. 17c CELIA DOLOMITE

OUTCROP PLAN AREA B



LEGEND

- 0 - 10
- 11 - 20
- 21 - 30
- 31 - 40
- > 40

3 OUTCROP NO.

74° DIP & STRIKE

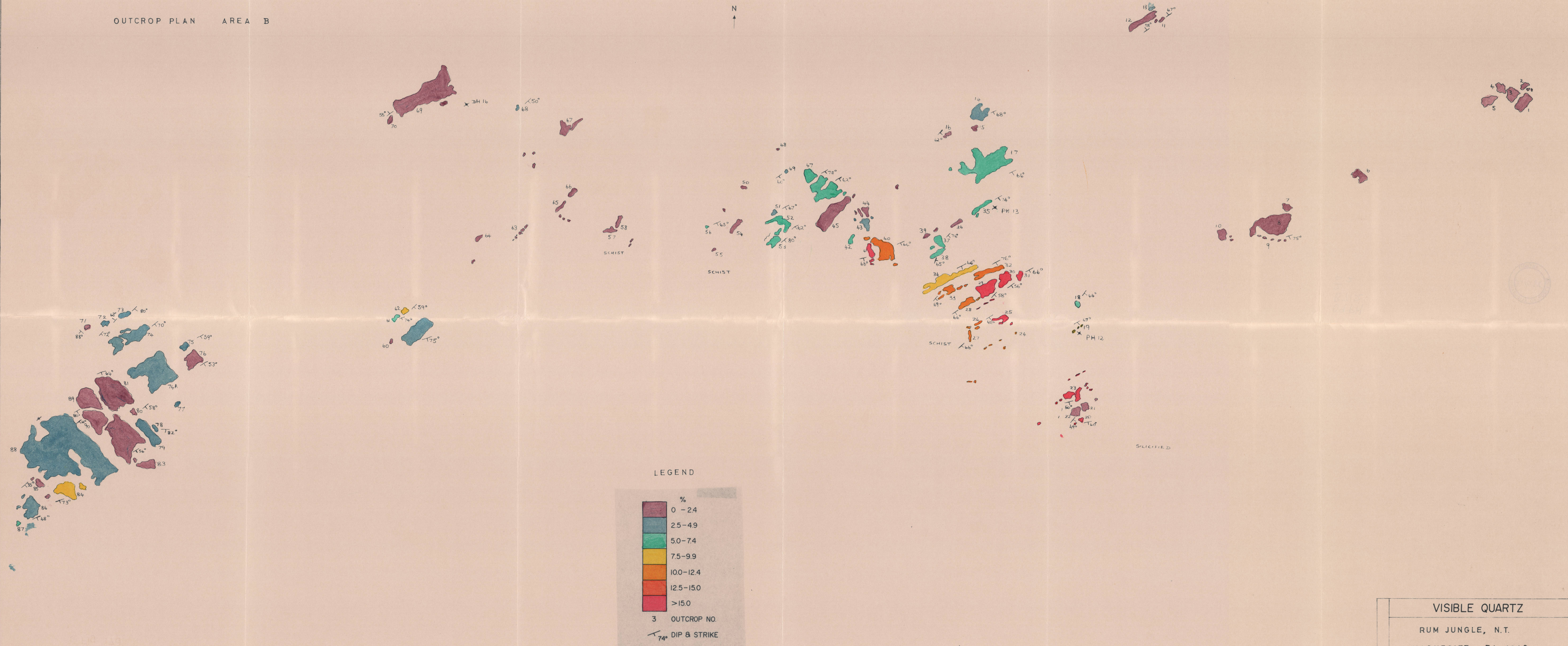
GRAIN SIZE < 0.5 mm

SCALE 1:1,000

GRAIN SIZE - FINE		
RUM JUNGLE, N.T.		
MAGNESITE E.L. 1349		
Y.B.	Aug. '79	DARWIN
		M 300

Fig. 17d CELIA DOLOMITE

OUTCROP PLAN AREA B



LEGEND

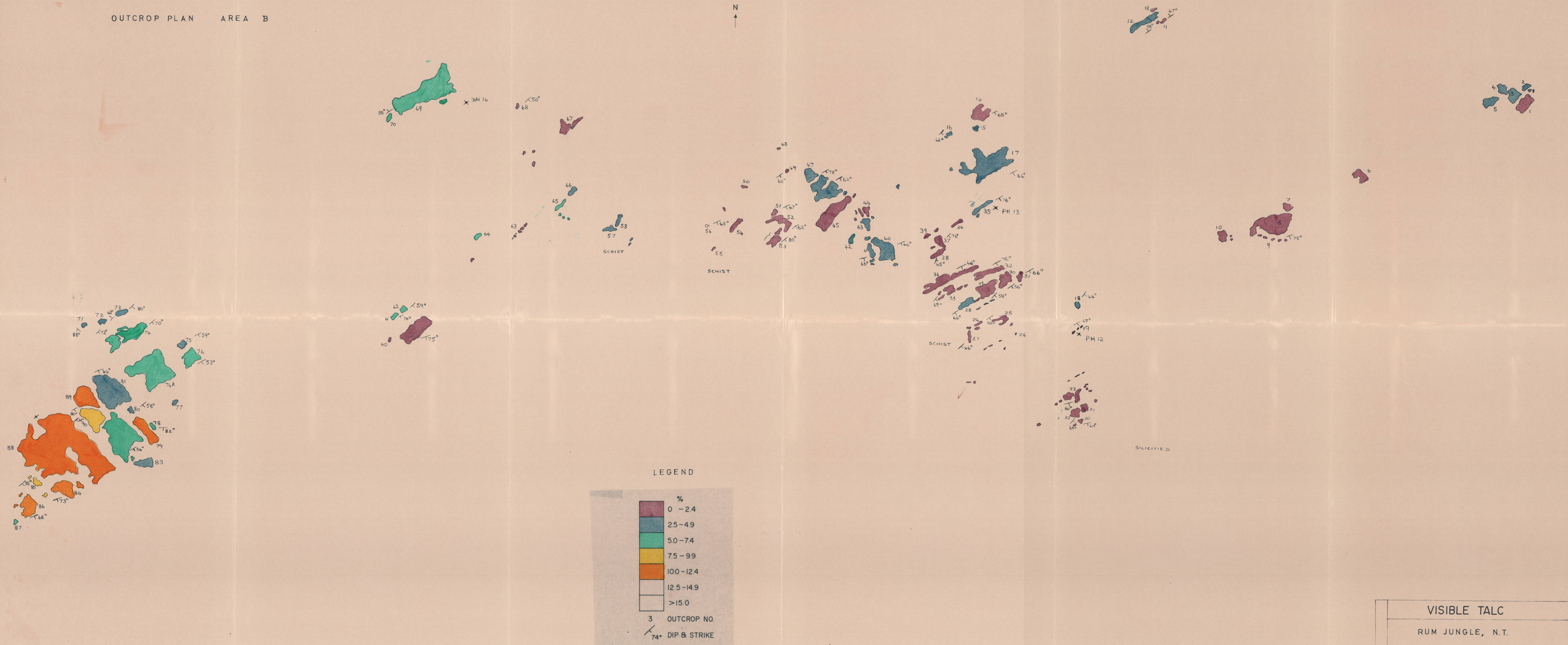
- 0 - 2.4
- 2.5 - 4.9
- 5.0 - 7.4
- 7.5 - 9.9
- 10.0 - 12.4
- 12.5 - 15.0
- > 15.0
- 3 OUTCROP NO.
- 74° DIP & STRIKE

SCALE 1:1,000

VISIBLE QUARTZ			
RUM JUNGLE, N.T.			
MAGNESITE E.L. 1349			
Y.B.	Aug '79	J.B. WINN	
		M 300	

Fig. 17e CELIA DOLOMITE

OUTCROP PLAN AREA B



LEGEND

- 0 - 2.4
- 2.5 - 4.9
- 5.0 - 7.4
- 7.5 - 9.9
- 10.0 - 12.4
- 12.5 - 14.9
- > 15.0
- 3 OUTCROP NO.
- 74° DIP & STRIKE

SCALE 1:1,000






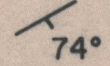
VISIBLE TALC		
RUM JUNGLE, N.T.		
MAGNESITE E.L. 1349		
Y.B.	Aug. '79	DARWIN
		M 300

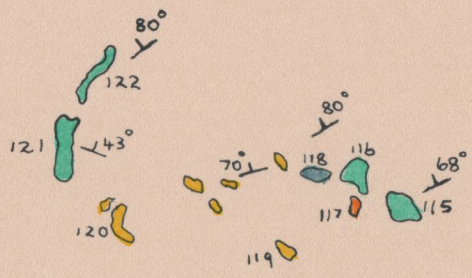
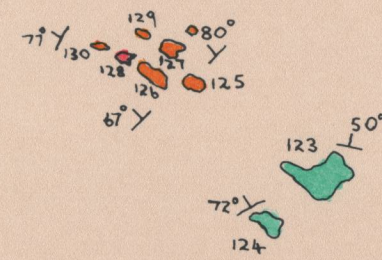
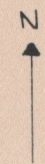
# CELIA DOLOMITE

OUTCROP PLAN AREA C

## MORPHOLOGY-BLADED/RHOMB

### LEGEND

	100% BLADED	—	
	75% BLADED	25% RHOMB	
	50% BLADED	50% RHOMB	
	25% BLADED	75% RHOMB	
		100% RHOMB	
3	OUTCROP NO.		
	DIP & STRIKE		



SILICIFIED

SILICIFIED

SILICIFIED

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SCALE 1:1,000

Fig. No.  
To accompany  
Dated

THE BROKEN HILL PROPRIETARY CO. LTD.  
EXPLORATION DEPARTMENT

RUM JUNGLE, N.T.

MAGNESITE E.L. 1349

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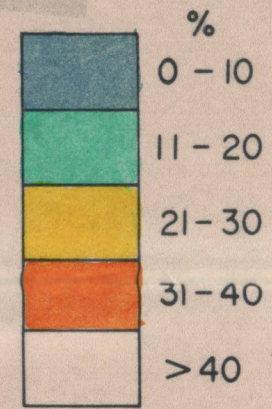
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# CELIA DOLOMITE

OUTCROP PLAN AREA C

## GRAIN SIZE—FINE

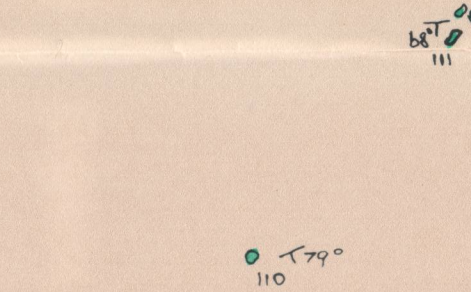
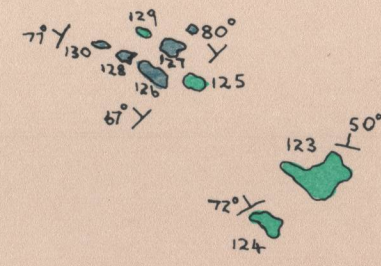
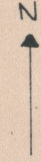
### LEGEND



3 OUTCROP NO.

74° DIP & STRIKE

GRAIN SIZE < 0.5 mm



SCALE 1:1,000



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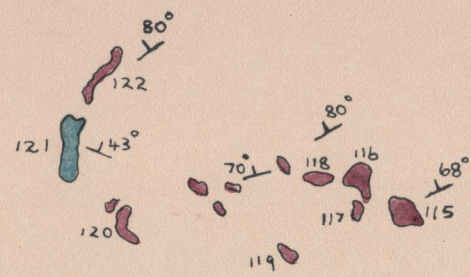
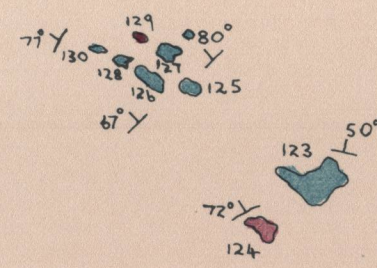
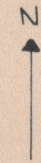
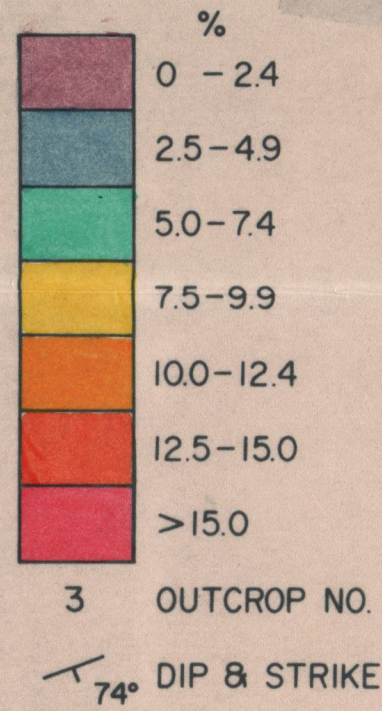
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MAGNESITE E.L. 1349	
Drawn: Y.B.	Date: Aug '79
Traced:	Project No.: M 300
Checked:	Drawing No.: A2-
Revisions:	

# CELIA DOLOMITE

OUTCROP PLAN AREA C

## VISIBLE QUARTZ

### LEGEND



SILICIFIED

SILICIFIED

SILICIFIED

SCHIST

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SCALE 1:1,000

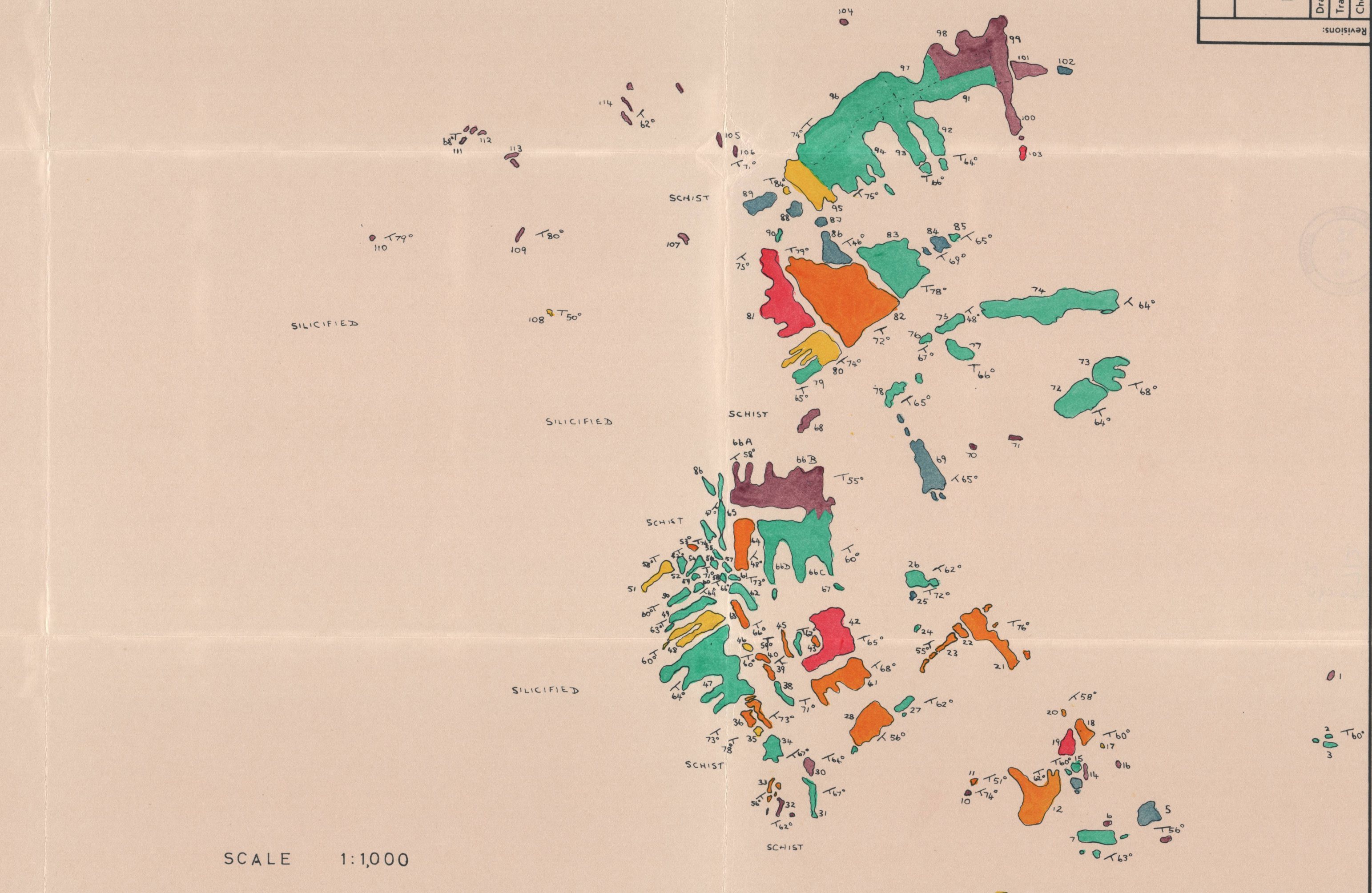
Fig. No. To accompany Dated

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 EXPLORATION DEPARTMENT

RUM JUNGLE, N. T.  
 MAGNESITE E.L. 1349

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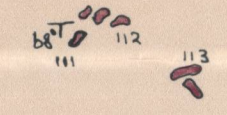
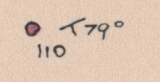
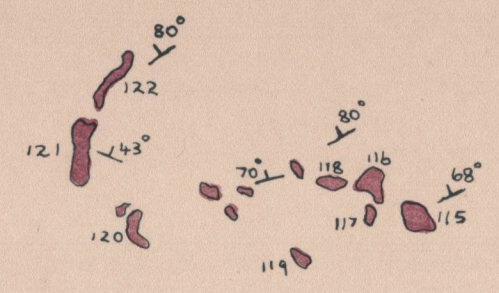
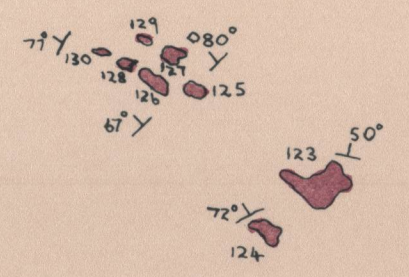
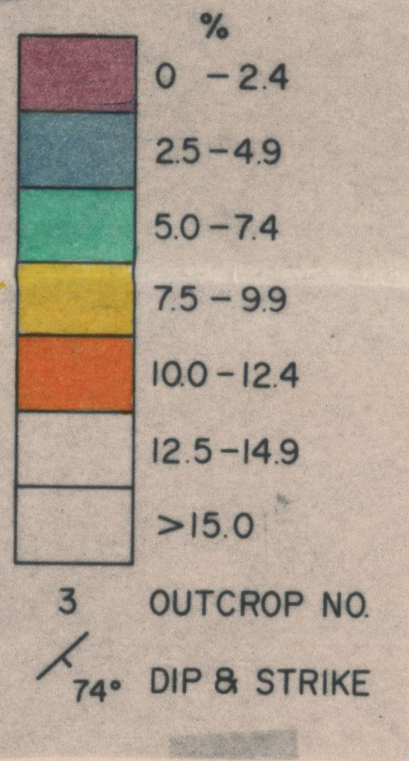


# CELIA DOLOMITE

OUTCROP PLAN AREA C

## VISIBLE TALC

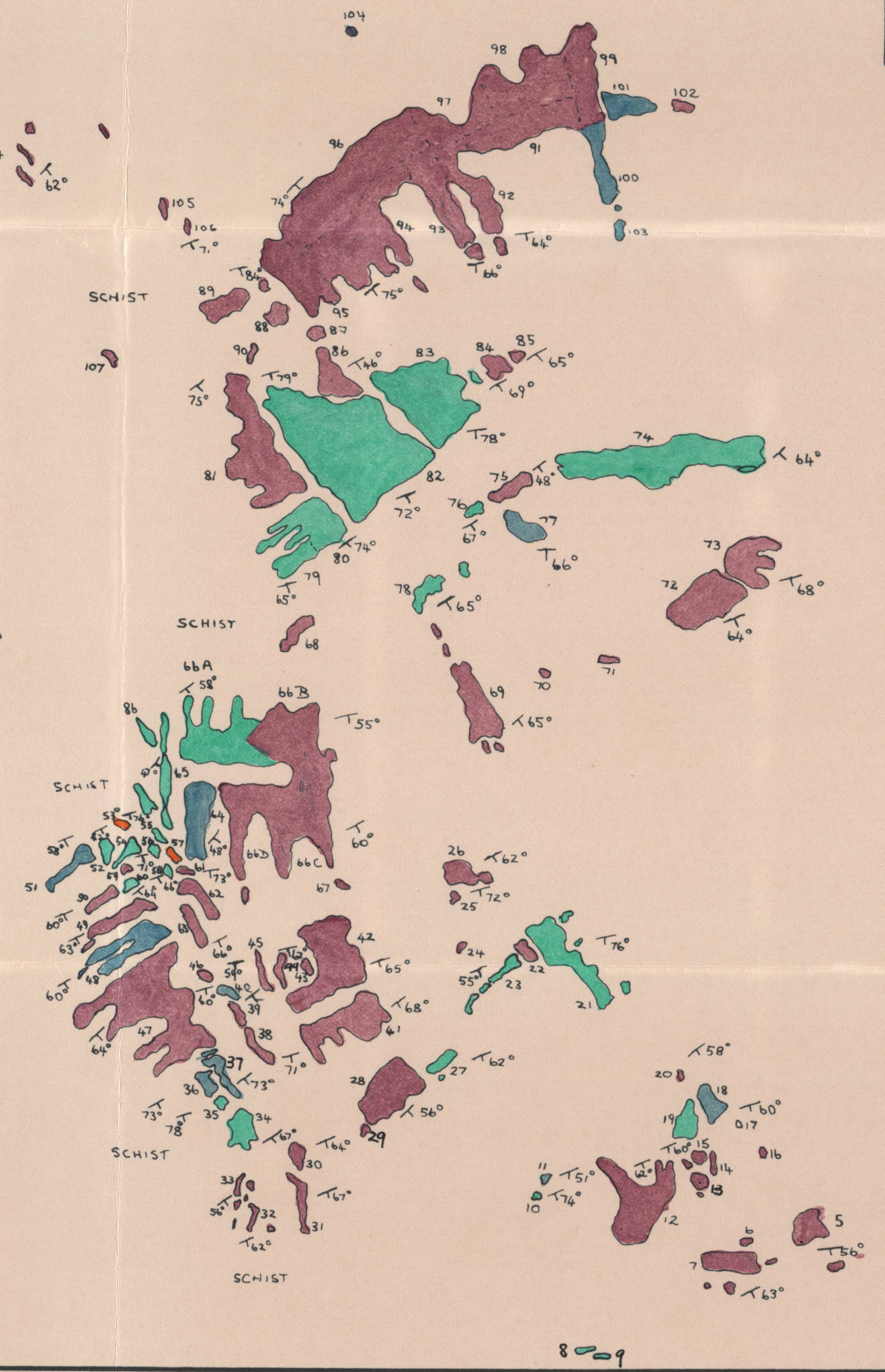
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SILICIFIED

SILICIFIED



SCALE 1:1,000

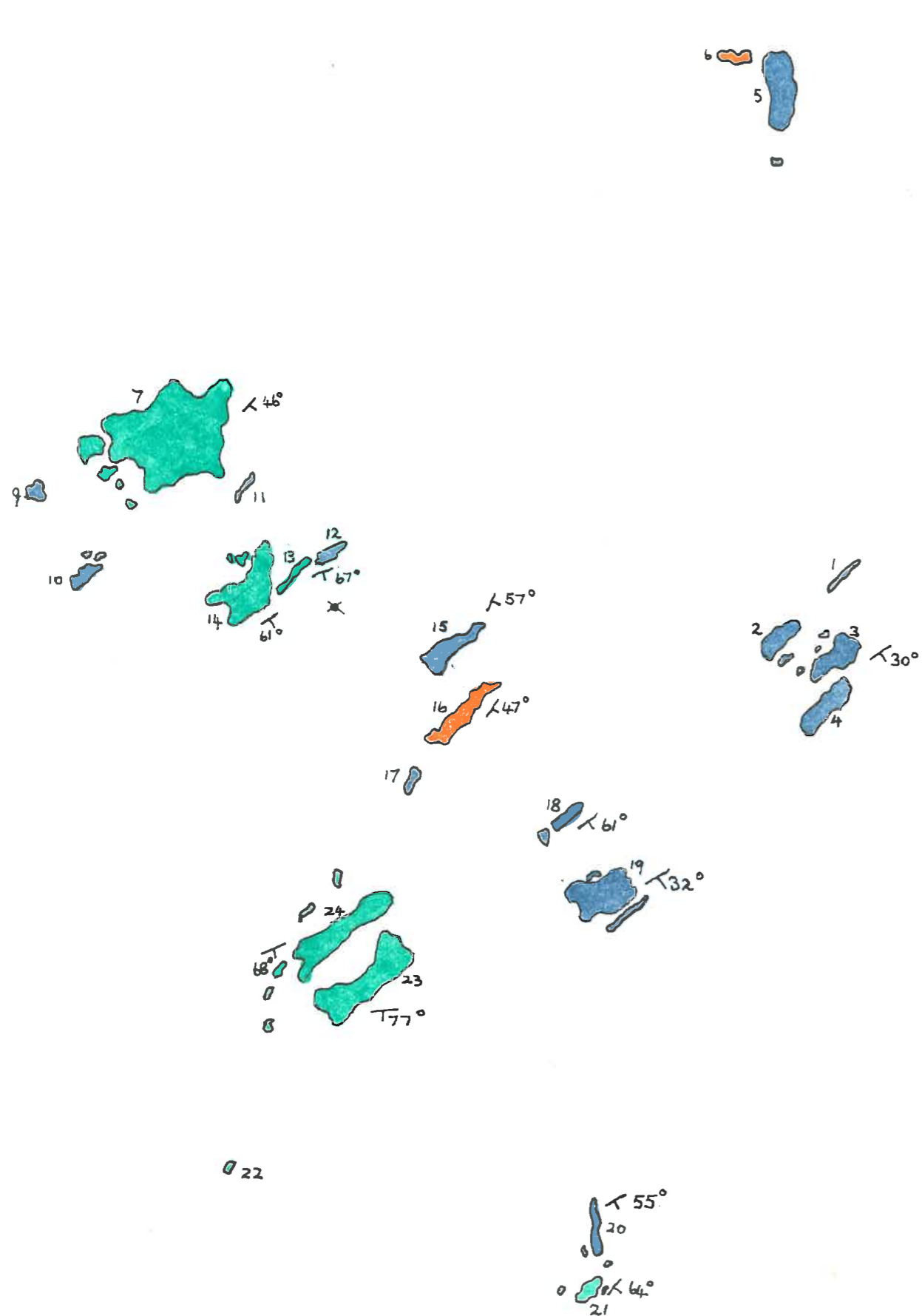
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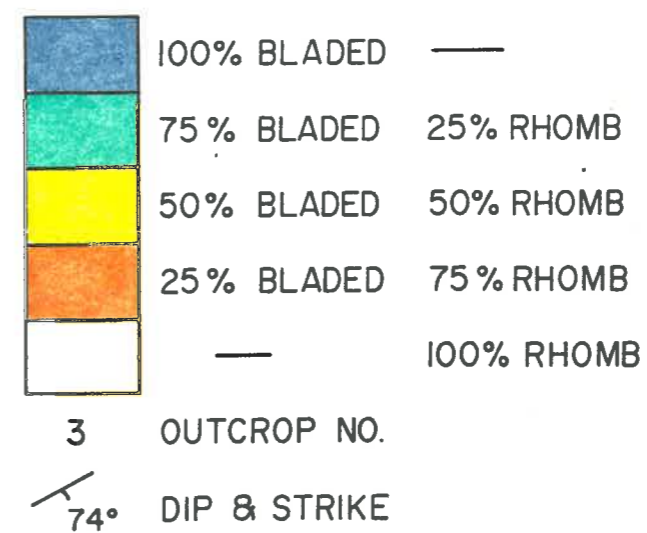
# CELIA DOLOMITE

OUTCROP PLAN AREA D

OUTCROP PLAN AREA E



## LEGEND



## MORPHOLOGY BLADED/RHOMB

Fig No  
To accompany  
Date

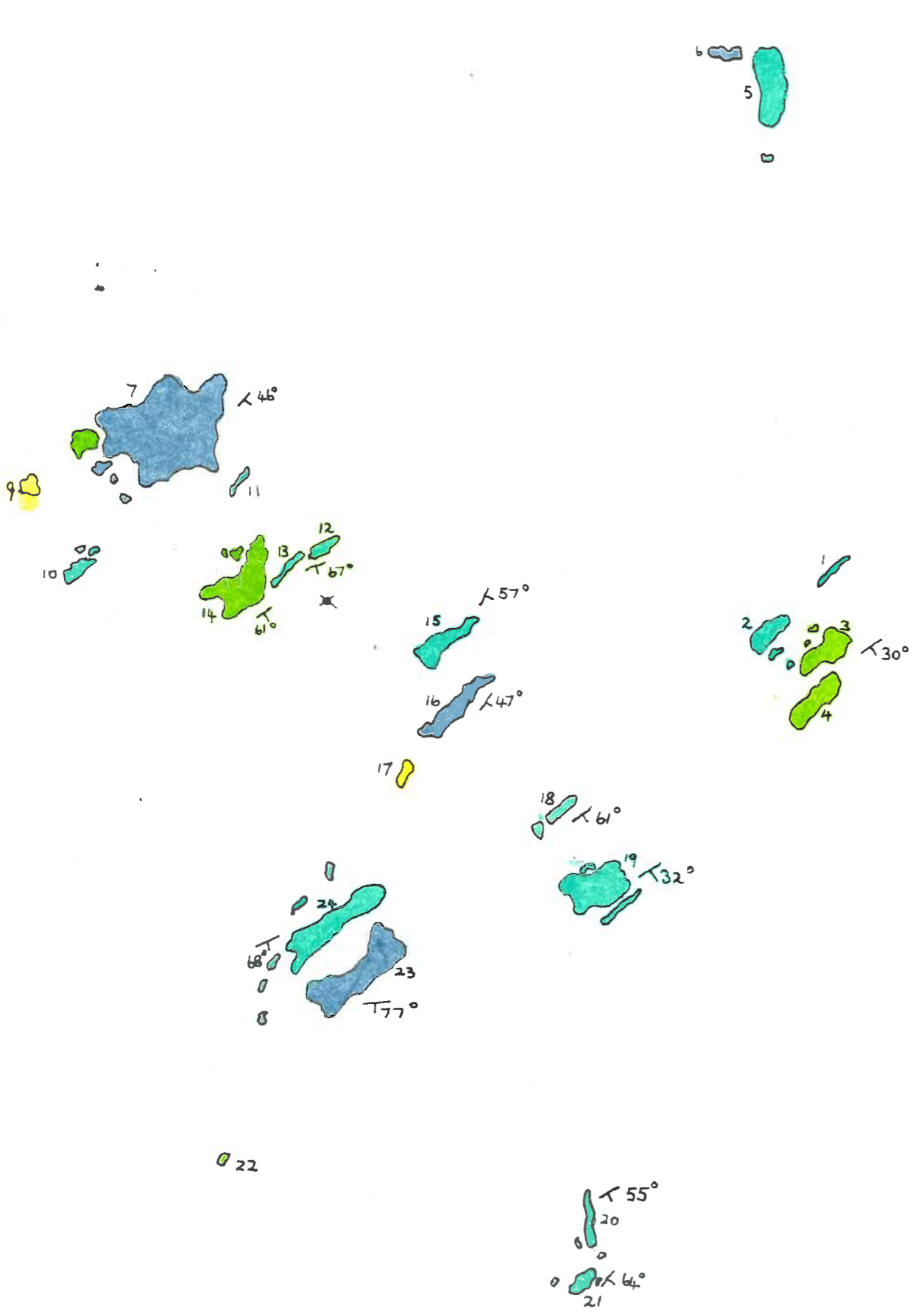
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RUM JUNGLE, N.T. MAGNESITE E.L. 1349			
Revisions:	Prepared by:	Y.B.	Centre: DARWIN
	Date:	AUG. '79.	Project No: M 300
	Drawn:	Y.B.	Drawing No: A3-

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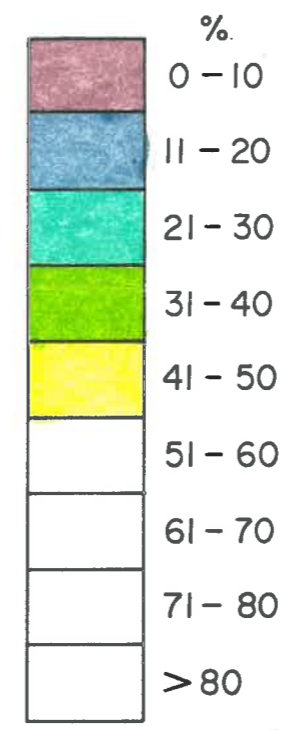
CELIA DOLOMITE

OUTCROP PLAN AREA D

OUTCROP PLAN AREA E



LEGEND



3 OUTCROP NO.  
 74° DIP & STRIKE

GRAIN SIZE-  
 VERY COARSE

GRAIN SIZE > 0.05 cm

Fig No  
 To accompany  
 Date

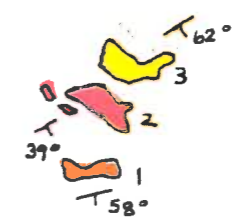
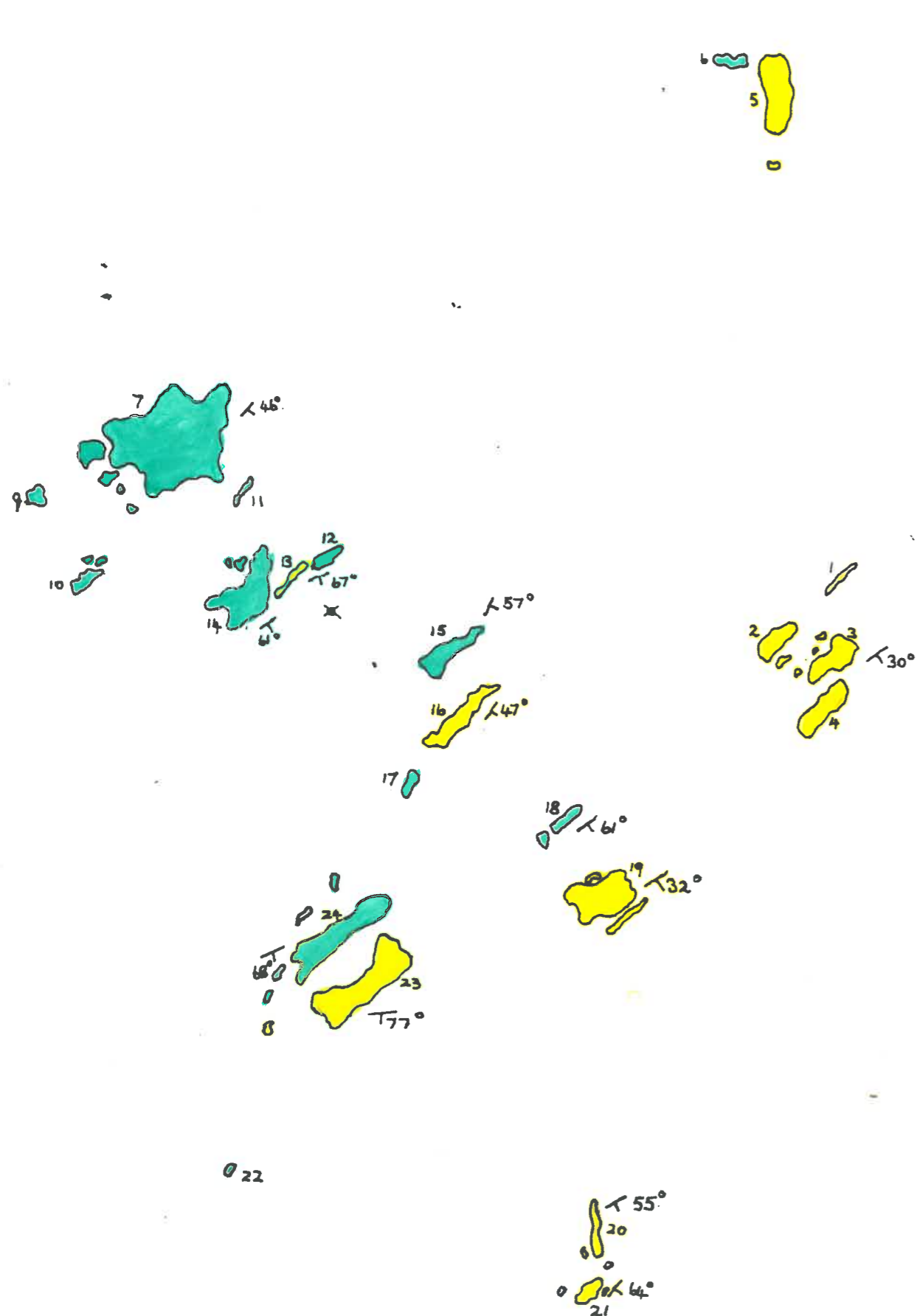
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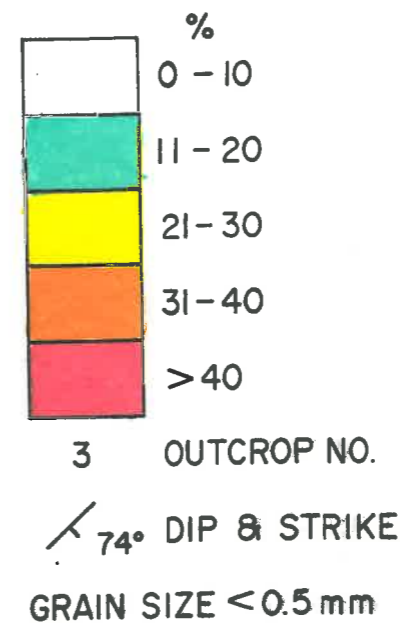
# CELIA DOLOMITE

## OUTCROP PLAN AREA D

## OUTCROP PLAN AREA E



### LEGEND



### GRAIN SIZE - FINE

Fig. No.  
To accompany  
Dated

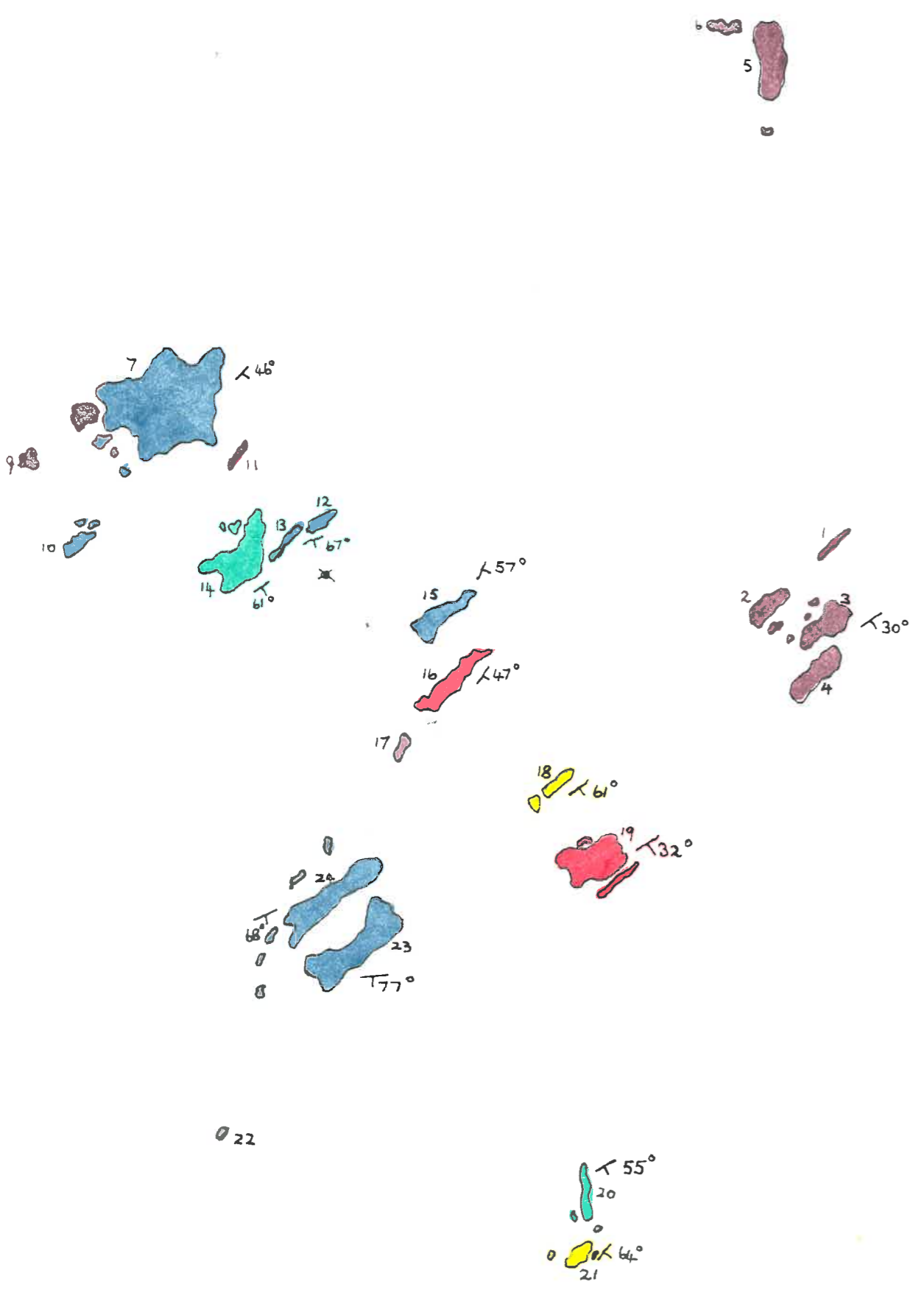
THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T. MAGNESITE E.L. 1349			
Revisions:	Prepared by:	Y.B.	Centre: DARWIN
	Date:	AUG. '79.	Project No: M 300
	Drawn:	Y.B.	Drawing N A3-

SCALE 1:1,000

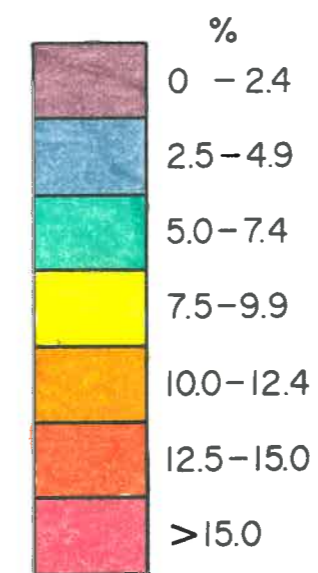
# CELIA DOLOMITE

## OUTCROP PLAN AREA D

## OUTCROP PLAN AREA E



### LEGEND



3 OUTCROP NO.  
 ↙ 74° DIP & STRIKE

### VISIBLE QUARTZ

Fig No.  
 In accompany  
 Dated

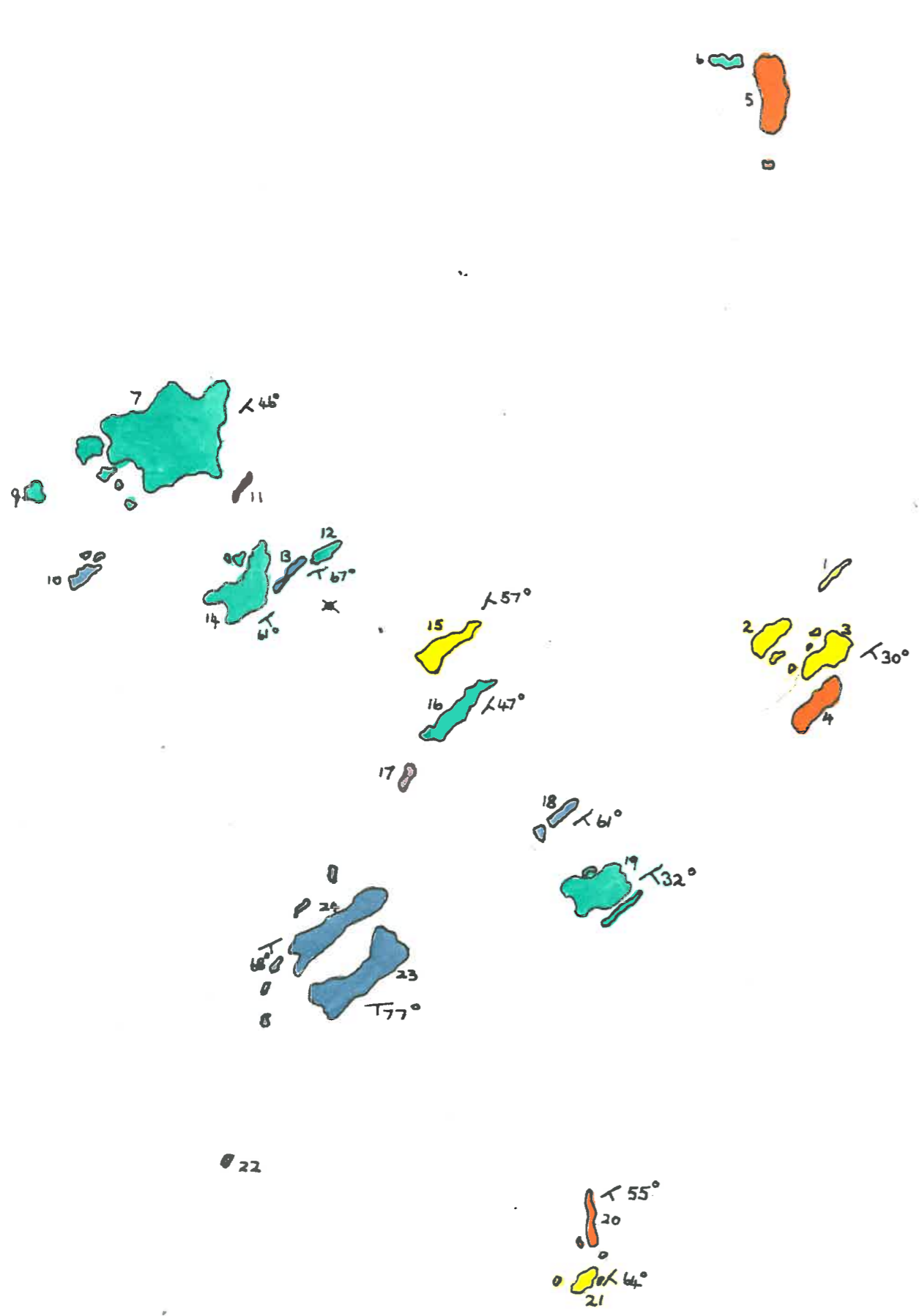
THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T. MAGNESITE E.L. 1349			
Revisions:	Prepared by	Y.B.	Centre DARWIN
	Date	Aug '79.	Project No: M 300
	Drawn	Y.B.	Drawing No: A3-

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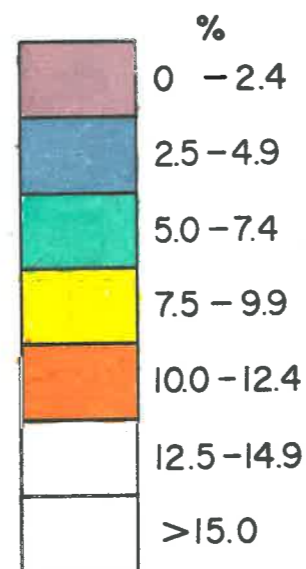
# CELIA DOLOMITE

OUTCROP PLAN AREA D

OUTCROP PLAN AREA E



## LEGEND



3 OUTCROP NO.  
 / 74° DIP & STRIKE

## VISIBLE TALC

Fig. No  
 To accompany  
 Dated

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T. MAGNESITE E.L. 1349			
Revisions:	Prepared by:	Y.B.	Centre: DARWIN
	Date:	Aug. '79.	Project No: M 300
	Drawn:	Y.B.	Drawing No: A3-

SCALE 1:1,000

Fig. 20a

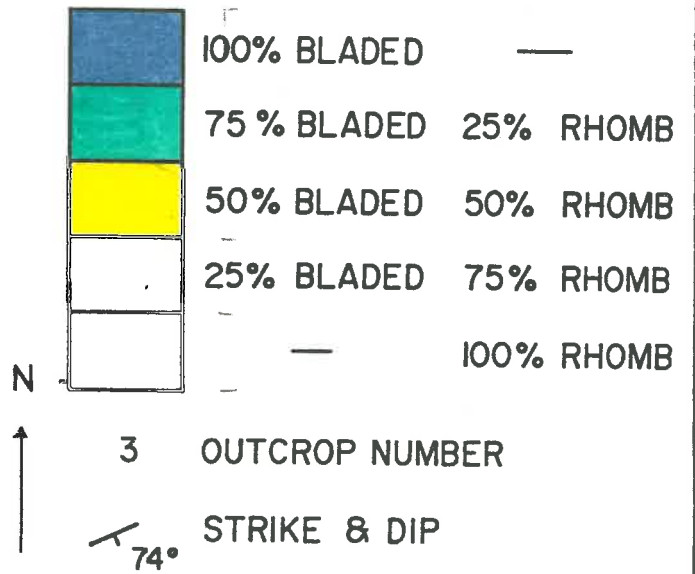
# COOMALIE DOLOMITE

## MORPHOLOGY - BLADED/RHOMB

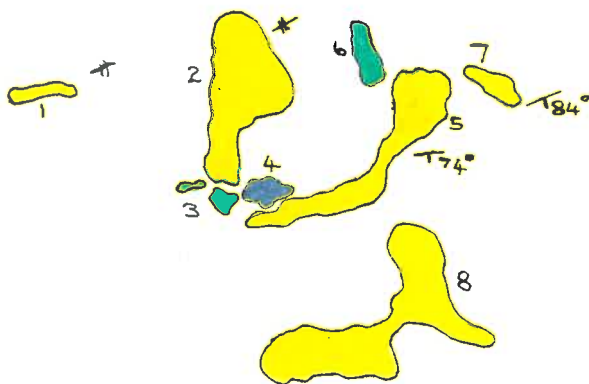
### OUTCROP PLAN AREA A



### LEGEND



### OUTCROP PLAN AREA C



SCALE 1:1000

Y.B.

Centre: DARWIN	THE BROKEN HILL PROPRIETARY CO. LTD. RUM JUNGLE, N.T. MAGNESITE E.L. 1349	Project N <sup>o</sup> : M300
Date: AUG. '79		Drawing N <sup>o</sup> : A4-

Fig. 20b

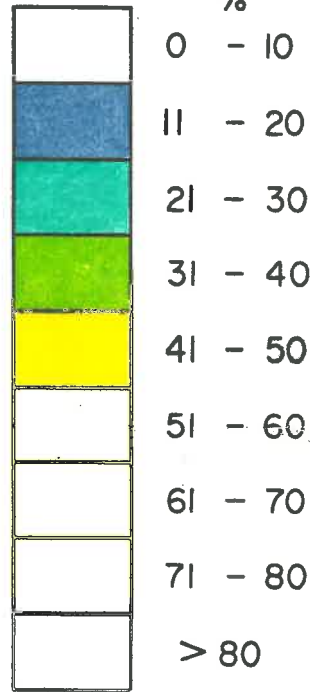
COOMALIE DOLOMITE

GRAIN SIZE — VERY COARSE

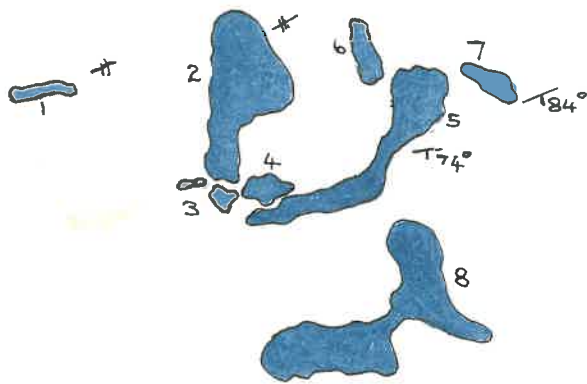
OUTCROP PLAN AREA A



LEGEND



OUTCROP PLAN AREA C



3 OUTCROP NO  
 ↙ 74° DIP & STRIKE  
 GRAIN SIZE > 0.05 cm

SCALE 1:1000

Y.B.

Centre:  
 DARWIN

Date:  
 AUG. '79

THE BROKEN HILL PROPRIETARY CO. LTD.  
 RUM JUNGLE, N.T.  
 MAGNESITE E.L. 1349

Project N<sup>o</sup>:  
 M300

Drawing N<sup>o</sup>:  
 A4-

Fig. 20c

# COOMALIE DOLOMITE

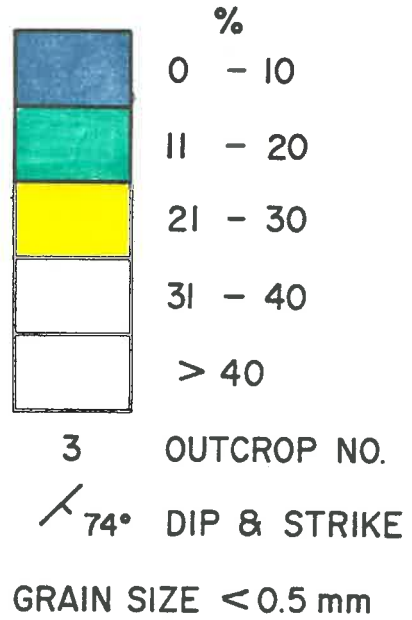
## GRAIN SIZE - FINE

### OUTCROP PLAN AREA A

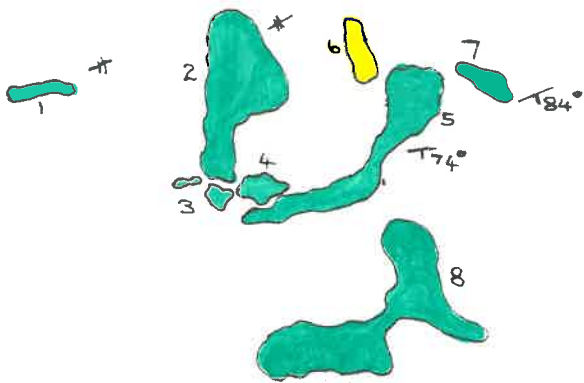


3  
oo

### LEGEND



### OUTCROP PLAN AREA C



SCALE 1:1000

V.B.

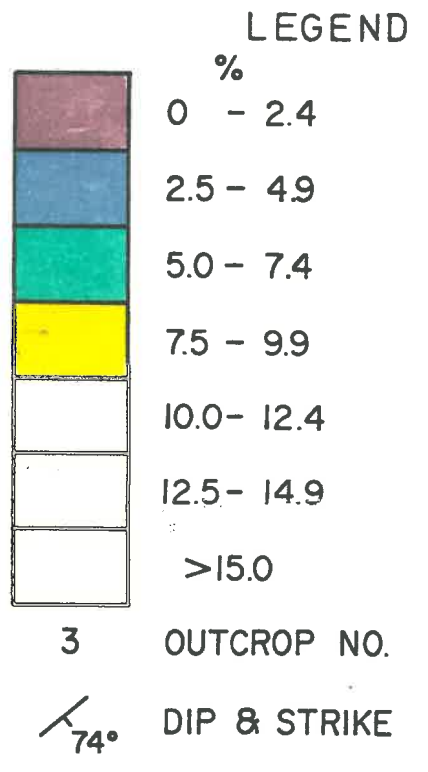
Centre: DARWIN	THE BROKEN HILL PROPRIETARY CO. LTD. RUM JUNGLE, N.T. MAGNESITE E.L. 1349	Project No: M300
Date: AUG. '79		Drawing No: A4-

Fig. 20d

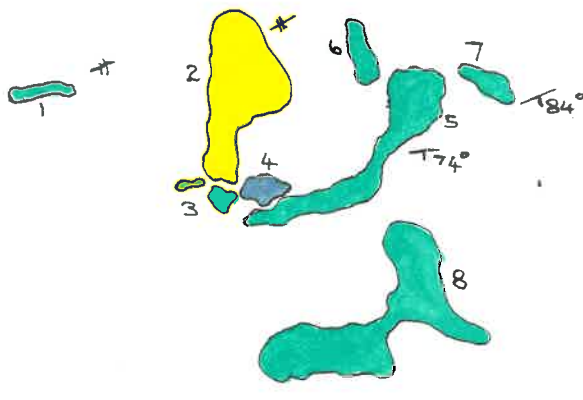
# COOMALIE DOLOMITE

## VISIBLE QUARTZ

### OUTCROP PLAN AREA A



### OUTCROP PLAN AREA C



SCALE 1:1,000

Centre: DARWIN	THE BROKEN HILL PROPRIETARY CO. LTD. RUM JUNGLE, N.T. MAGNESITE E.L. 1349	Project No: M300
Date: AUG. '79		Drawing No: A4-

Fig. 20e

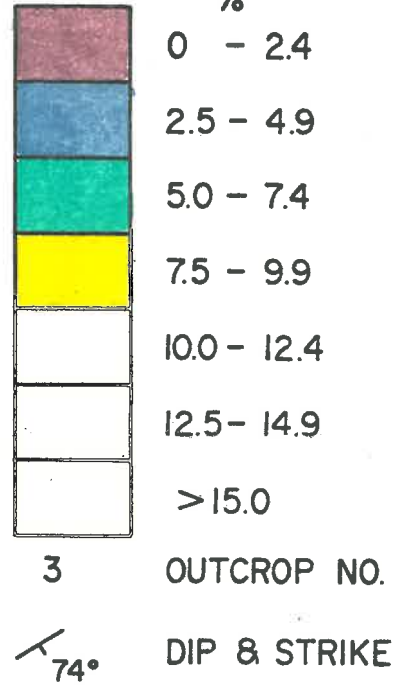
# COOMALIE DOLOMITE

## VISIBLE TALC

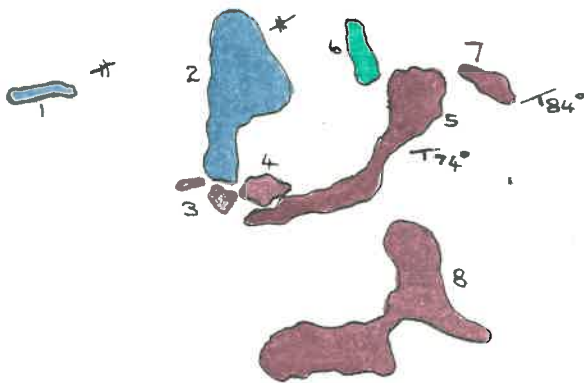
### OUTCROP PLAN AREA A



### LEGEND



### OUTCROP PLAN AREA C



SCALE 1:1000

V.2.

Centre:  
DARWIN

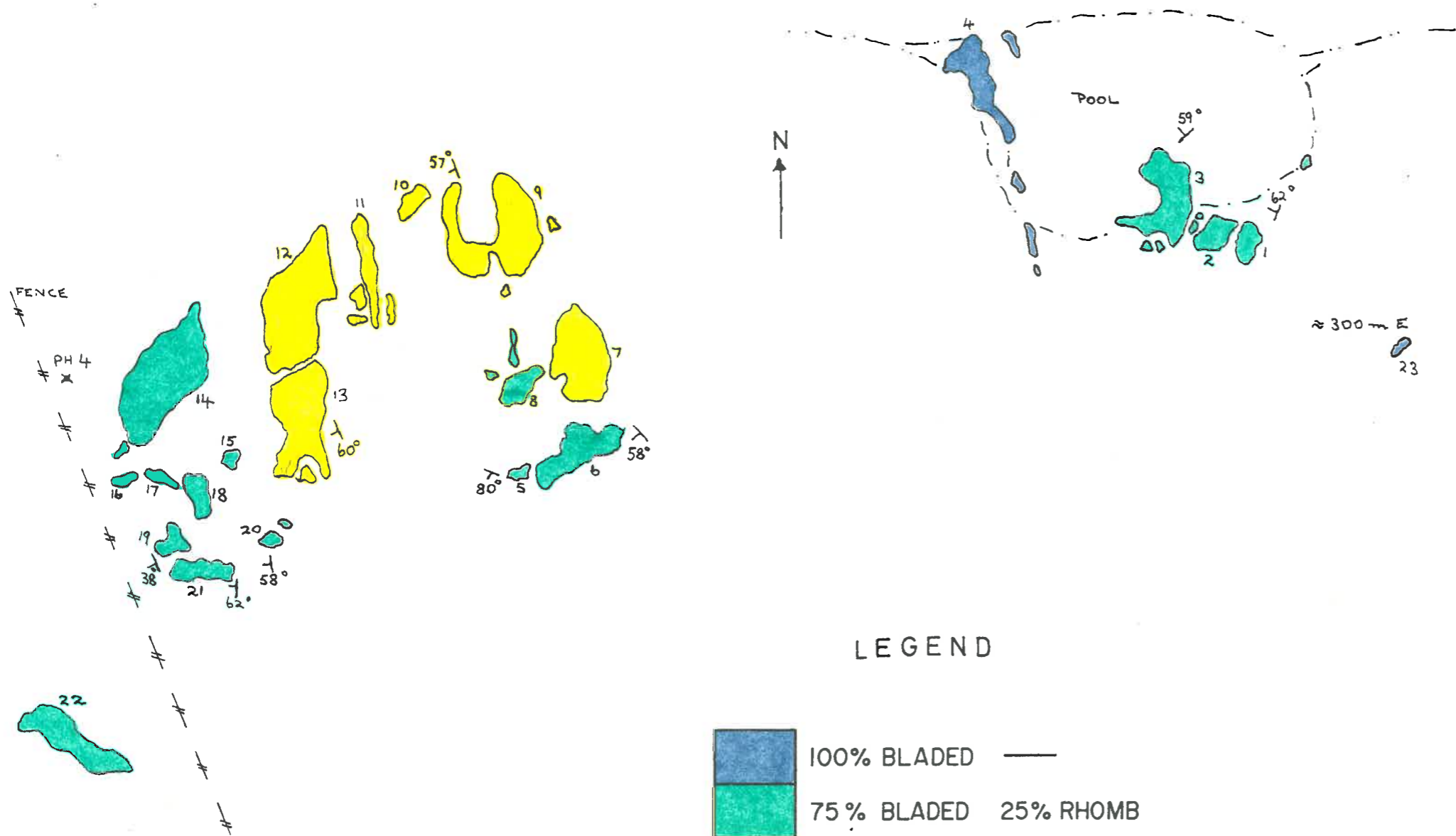
Date:  
AUG '79

THE BROKEN HILL PROPRIETARY CO. LTD.  
RUM JUNGLE, N.T.  
MAGNESITE E.L. 1349

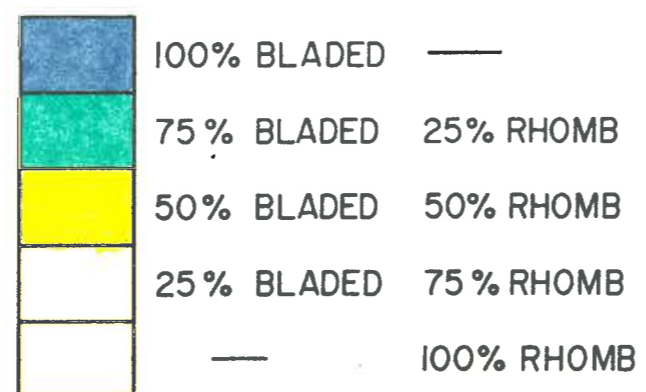
Project No:  
M300

Drawing No:  
A4-

COOMALIE DOLOMITE  
OUTCROP PLAN AREA B



LEGEND



3 OUTCROP NO.

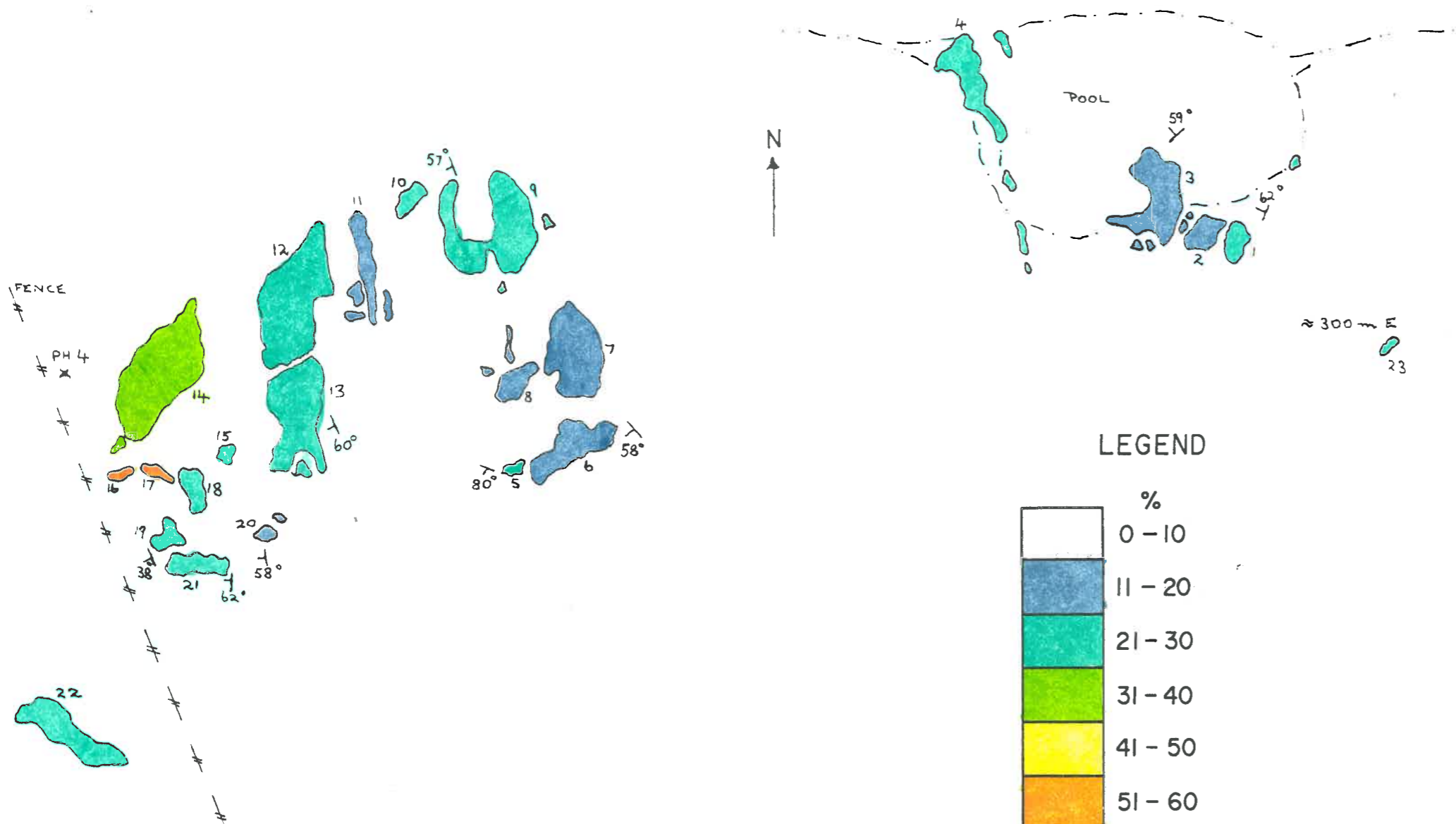
74° DIP & STRIKE

MORPHOLOGY BLADED/RHOMB  
SCALE 1:1,000

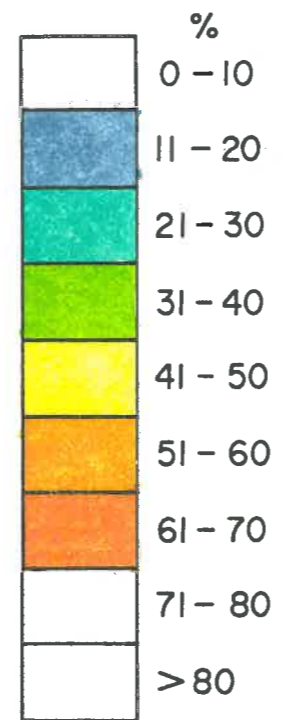
Fig No  
To accompany  
Dated

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T.			
MAGNESITE EL 1349			
Revisions:	Prepared by:	Y. B.	
	Date:	AUG. 79	Centre: DARWIN
	Drawn:	Y. B.	Project No: M300
			Drawing No: A3-

COOMALIE DOLOMITE  
OUTCROP PLAN AREA B



LEGEND



3 OUTCROP NO.

74° DIP & STRIKE

GRAIN SIZE > 0.05 cm

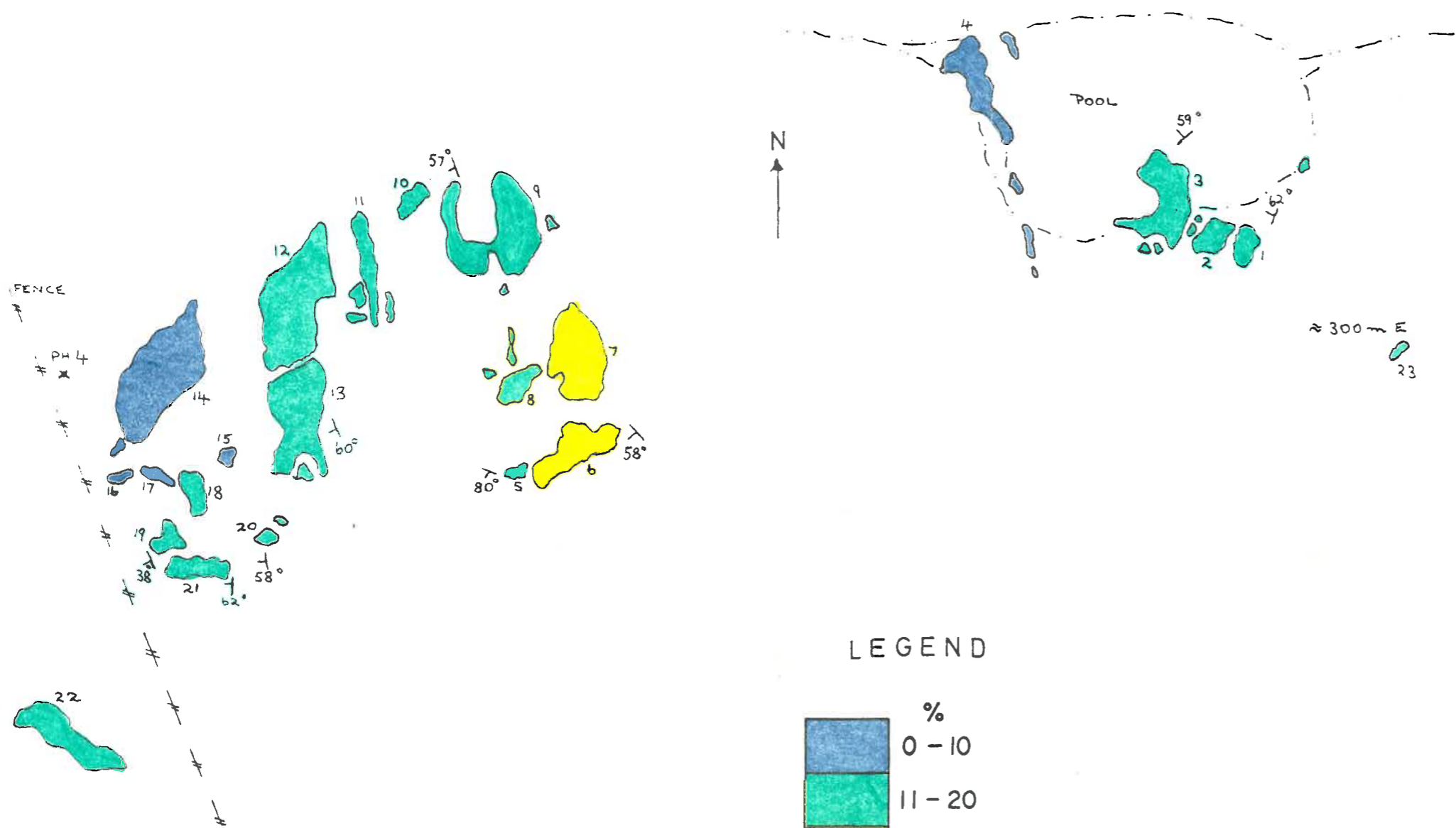
GRAIN SIZE-VERY COARSE  
SCALE 1:1,000

Fig No.  
To accompany  
Date

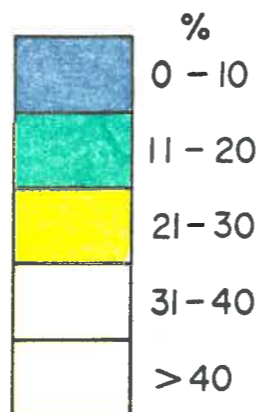
THE BROKEN HILL PROPRIETARY CO. LTD EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T.			
MAGNESITE EL 1349			
Revisions:	Prepared by:	Y.B.	Centre: DARWIN
	Date:	AUG. 79	Project No
	Drawn	Y.B.	M300

Fig. 21c

COOMALIE DOLOMITE  
OUTCROP PLAN AREA B



LEGEND



3 OUTCROP NO.

↘ 74° DIP & STRIKE

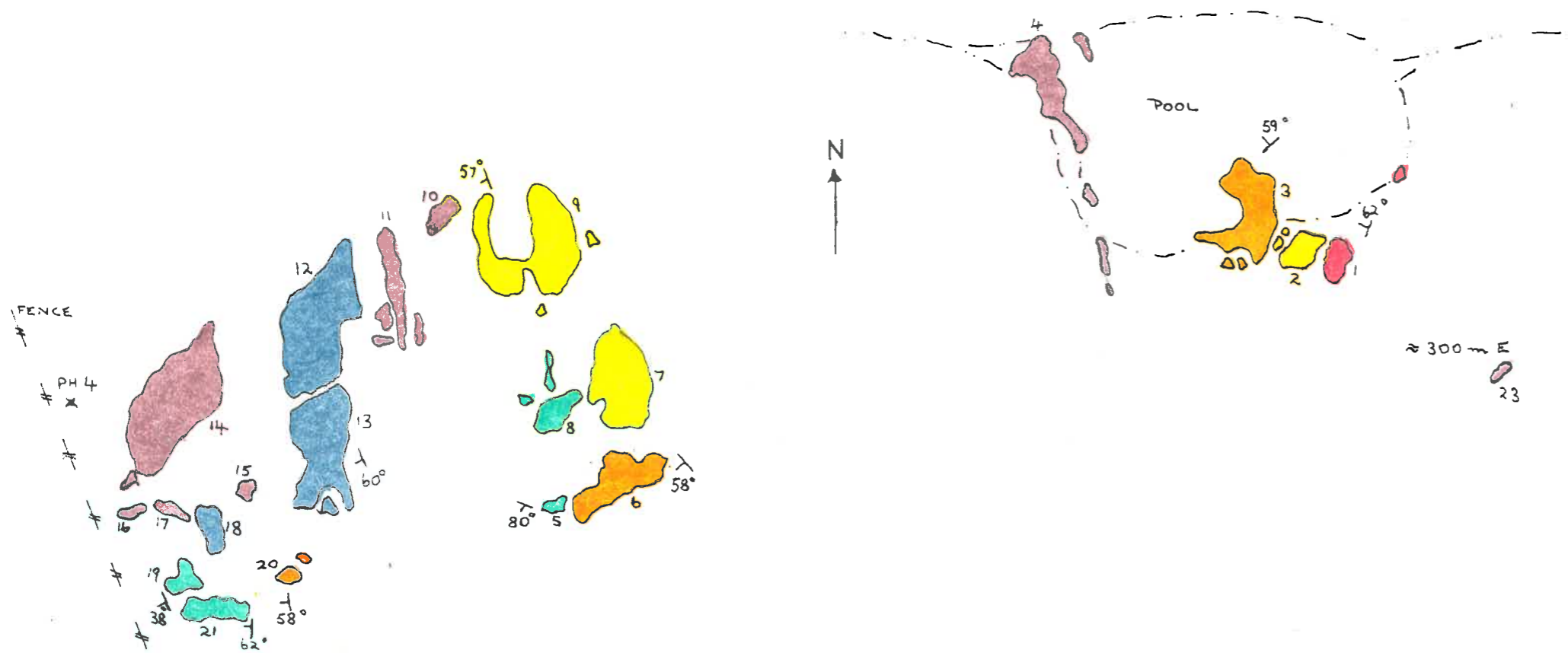
GRAIN SIZE < 0.5 mm

GRAIN SIZE - FINE  
SCALE 1:1,000

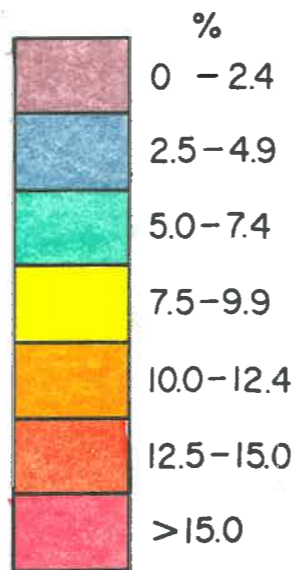
Fig No  
To accompany  
Dated

THE BRCKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T.			
MAGNESITE EL 1349			
Revisions:	Prepared by:	Y B.	Centre: DARWIN
	Date:	AUG. 79	Project No: M300
	Drawn:	Y B.	Drawing No: A3-

COOMALIE DOLOMITE  
OUTCROP PLAN AREA B



LEGEND



3 OUTCROP NO.

74° DIP & STRIKE

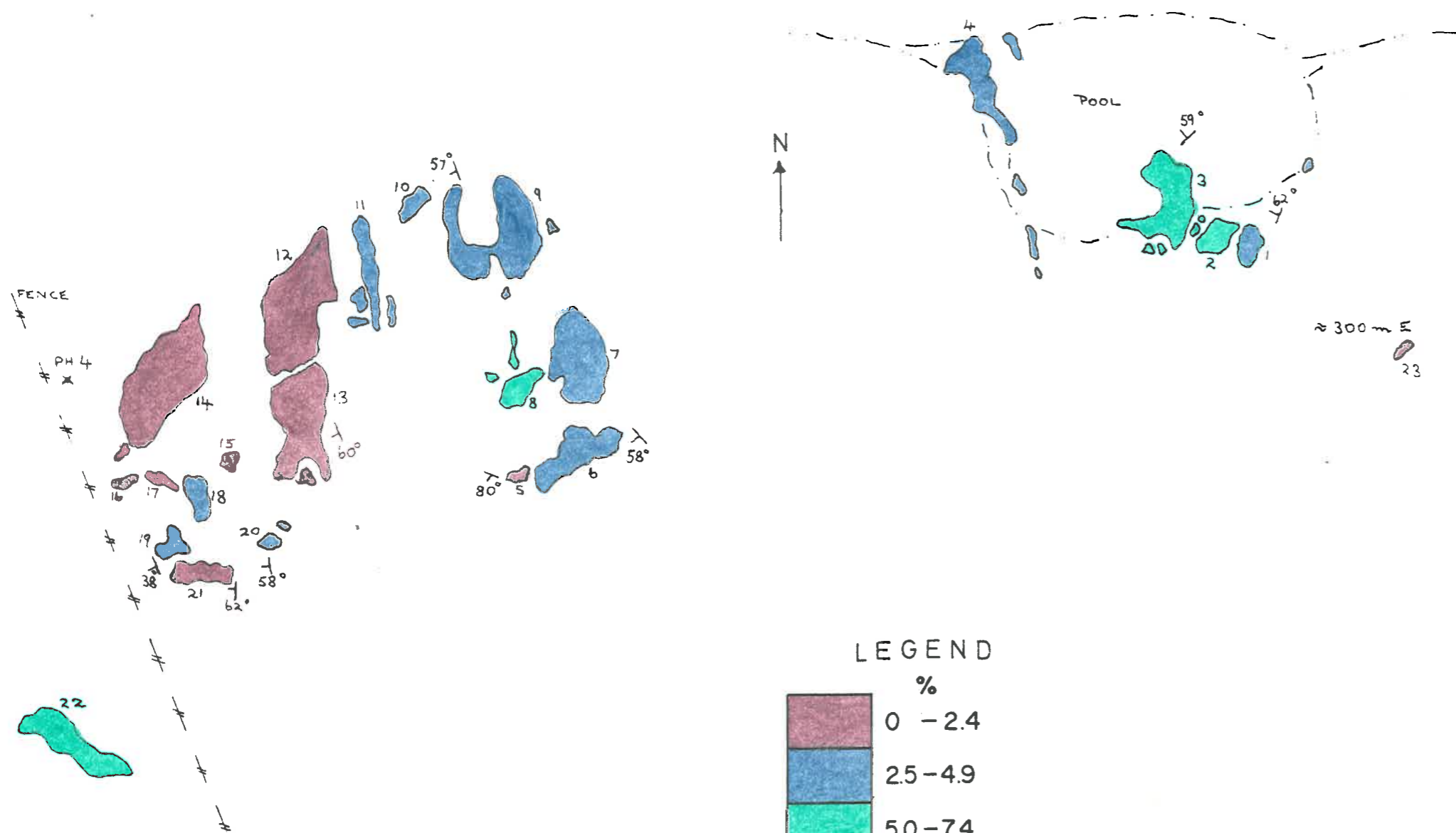
VISIBLE QUARTZ

SCALE 1:1,000

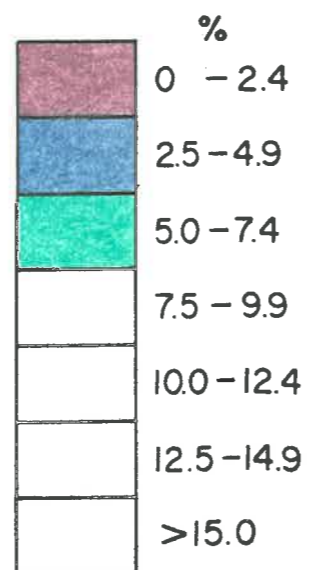
Fig No  
To accompany  
Dated

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T.			
MAGNESITE EL 1349			
Revisions:	Prepared by:	Y.B.	Centre: DARWIN
	Date:	AUG. 79	Project No: M300
	Drawn:	Y.B.	Drawing No: A3-

COOMALIE DOLOMITE  
OUTCROP PLAN AREA B



LEGEND



3 OUTCROP NO.

74° DIP & STRIKE

VISIBLE TALC  
SCALE 1:1,000

Fig No.  
To accompany  
Dated

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T.			
MAGNESITE EL 1349			
Revisions:	Prepared by: Y.B.	Centre: DARWIN	
	Date: AUG '79	Project No: 7300	Drawing No: A3-
	Drawn: Y.B.		

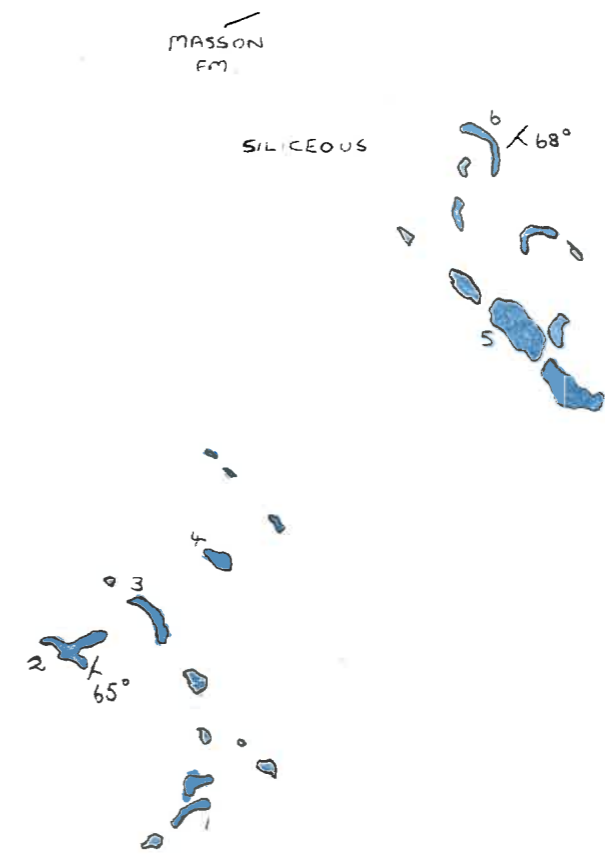
COOMALIE DOLOMITE

OUTCROP PLAN AREA E

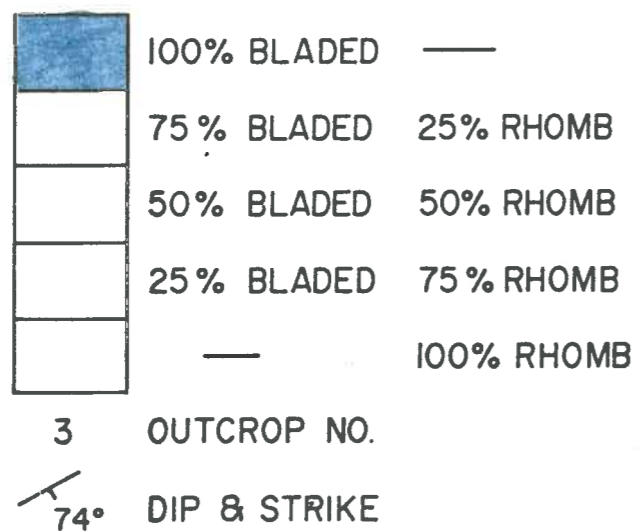
OUTCROP PLAN AREA D



LOW LYING  
MAGNESITE



LEGEND



MORPHOLOGY BLADED/RHOMB

Fig No  
To accompany  
Dated

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T.			
MAGNESITE EL 1349			
Revisions:	Prepared by:	Y B.	Centre: DARWIN
	Date:	Aug. '79	Project No:
	Drawn:	Y B.	M 300

SCALE 1 1000

COOMALIE DOLOMITE

OUTCROP PLAN AREA E

OUTCROP PLAN AREA D

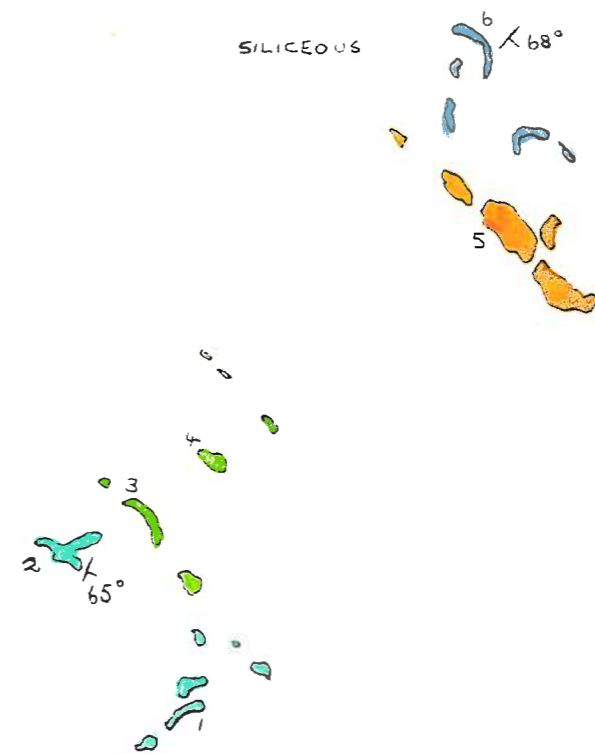


LOW LYING  
MAGNESITE

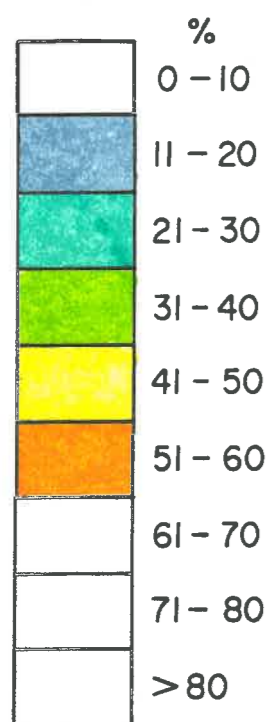


MASSON  
FM.

SILICEOUS



LEGEND



3 OUTCROP NO.

74° DIP & STRIKE

GRAIN SIZE > 0.05 cm

GRAIN SIZE - VERY COARSE

Fig. No.  
To accompany  
Dated

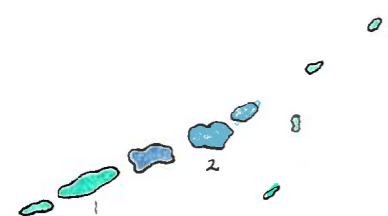
THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T.			
MAGNESITE EL 1349			
Revisions:	Prepared by:	Y B.	Centre: DARWIN
	Date:	AUG 1979	Project No: 7300
	Drawn:	Y B.	Drawing No: A3-

SCALE 1:1000

COOMALIE DOLOMITE

OUTCROP PLAN AREA E

OUTCROP PLAN AREA D



LOW LYING  
MAGNESITE

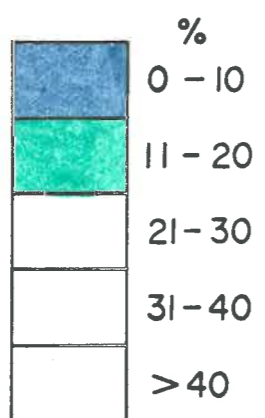



MASSON  
FM

SILICEOUS



LEGEND



3 OUTCROP NO.  
 74° DIP & STRIKE  
 GRAIN SIZE < 0.5 mm

GRAIN SIZE - FINE

Fig No  
To accompany  
Dated

SCALE 1:1,000

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T. MAGNESITE EL 1349			
Revisions:	Prepared by: Y B	Centre: DARWIN	
	Date: AUG. '79	Project No:	Drawing No:
	Drawn: Y B	M 300	A3-

COOMALIE DOLOMITE

OUTCROP PLAN AREA E

OUTCROP PLAN AREA D

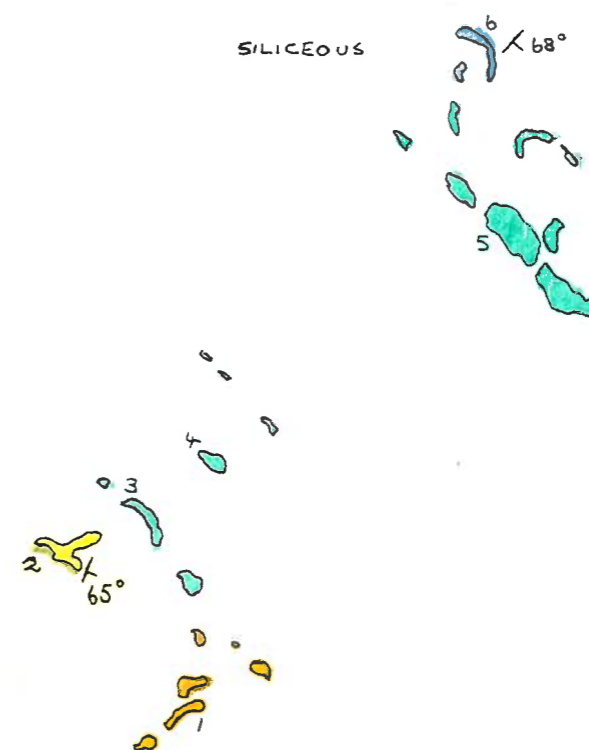


LOW LYING  
MAGNESITE

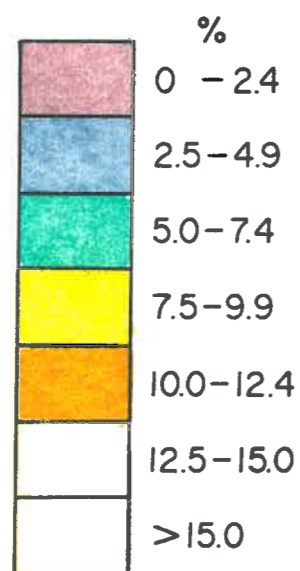


MASSON  
FM.

SILICEOUS



LEGEND



3 OUTCROP NO.

74° DIP & STRIKE

VISIBLE QUARTZ

Fig. No. ....  
To accompany .....  
Dated .....

THE BROKEN HILL PROPRIETARY CO. LTD.  
EXPLORATION DEPARTMENT

RUM JUNGLE, N.T.

MAGNESITE EL 1349

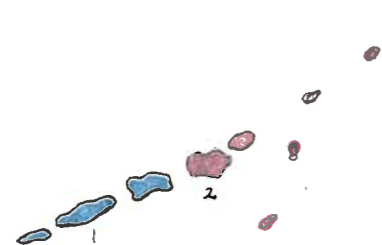
Revisions:	Prepared by: Y.B.	Centre: DARWIN
	Date: AUG. '79	Project No: M300
	Drawn: Y.B.	Drawing No: A3-

SCALE 1:1000

COOMALIE DOLOMITE

OUTCROP PLAN AREA E

OUTCROP PLAN AREA D



LOW LYING  
MAGNESITE

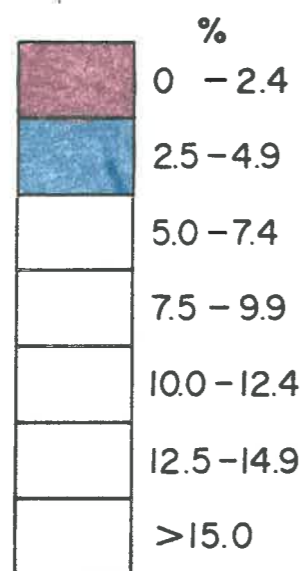


MASSON  
FM.

SILICEOUS



LEGEND



3 OUTCROP NO.

74° DIP & STRIKE

VISIBLE TALC

Fig No  
To accompany  
Dated

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
RUM JUNGLE, N.T.			
MAGNESITE EL 1349			
Revisions:	Prepared by:	Y B	Centre: DARWIN
	Date:	Aug 1979	Project No: M300
	Drawn:	Y B	Drawing No: A3-

SCALE 1:1000

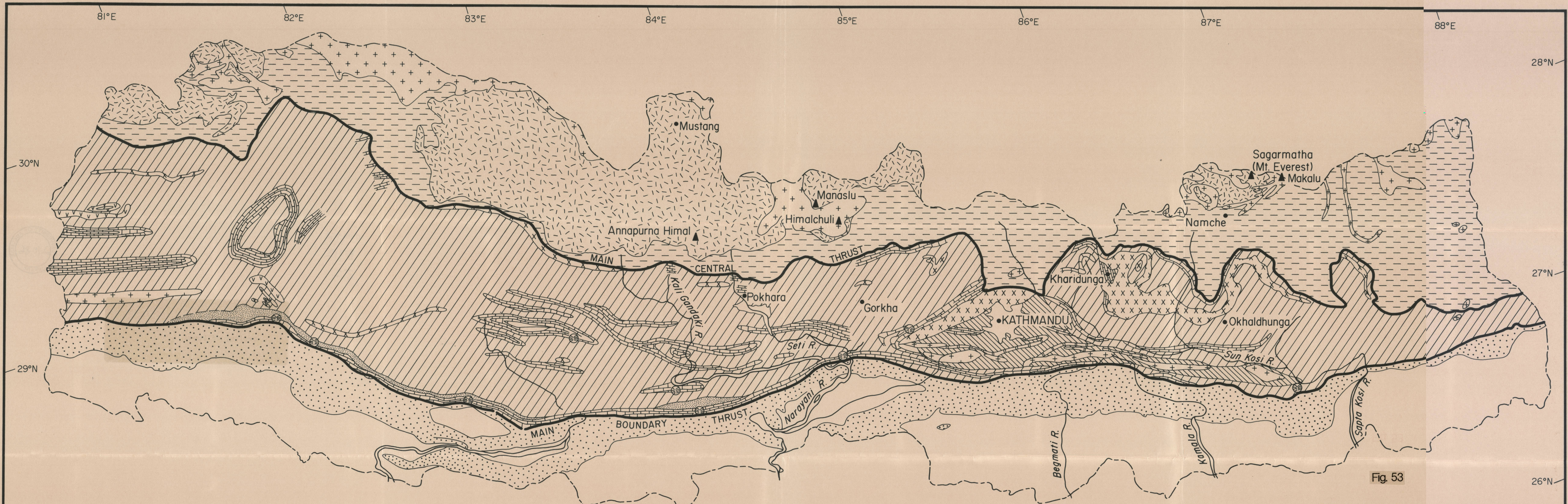


Fig. 53

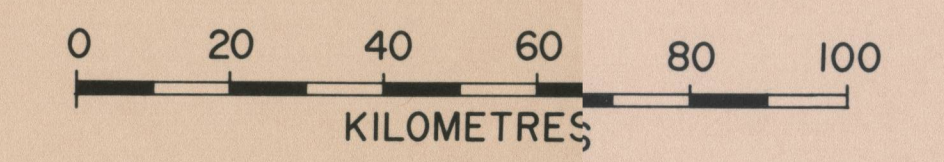
### GEOLOGICAL MAP OF NEPAL

- RECENT GROUP
  - Alluvial gravels, boulders — beds and clays
  - Conglomerates, sandy clays, sandstone and shales
  - Sandstones and shales

- TETHYS GROUP
  - Limestones, dolomite, shales, sandstones, conglomerates, slates and low-grade shists
  - Limestones
- KATHMANDU GROUP
  - Sandstones and phyllites

- MIDLAND GROUP
  - Limestones
  - Phyllites, quartzites and sills of basic rocks
- HIMAL GROUP
  - Gugen gneiss, gneiss and migmatites

- Granite
- Paragranite
- Basic rocks
- Stromatolites
- Rivers



(After: Tater, J.M., Kayastha, N.B., & Shrestha, J.N.  
Dept. of Mines & Geology, Nepal)

LEGEND

- Qa Silt, clay, sand, alluvium
- Qs Unconsolidated alluvial outwash and colluvium
- Pl<sub>d2</sub> Siliceous black shale, quartz-veined and brecciated
- Pl<sub>d1</sub> Carbonaceous and pyritic shale
- Pl<sub>d</sub> Undivided shale and calcilutite, pyritic and carbonaceous in places - Whites Formation
- Pl<sub>o3</sub> Dolomite and magnesite, algal in places
- Pl<sub>o2</sub> Quartzite, algal in places; chert
- Pl<sub>o1</sub> Ferruginous quartz sandstone
- Pl<sub>o</sub> Undivided quartzite, chert, silicified dolomite, ferruginous sandstone - Coomalie dolomite
- Pl<sub>r</sub> Sandstone, shale, siltstone, arkose, grit and pebble beds, quartz-hematite boulder conglomerate - Crater Formation
- Pl<sub>l3</sub> Dolomite carbonaceous sediments
- Pl<sub>l2</sub> Silicified dolomite
- Pl<sub>l1</sub> Dolomite magnesite, minor amphibolite interbeds
- Pl<sub>l</sub> Undivided silicified dolomite, amphibolite, quartzite - Celia dolomite

- rotary drillhole
- creek
- road
- outcrop boundary
- strike and dip of bedding
- fault (inferred)
- Surveyed grid bearing 060°/150°
- traverselines 200m apart, pegs 50m apart
- length of base line 2,400m approx length of traverse lines 26 Km.
- inferred geological boundary
- geological boundary from drilling

CONTOURS

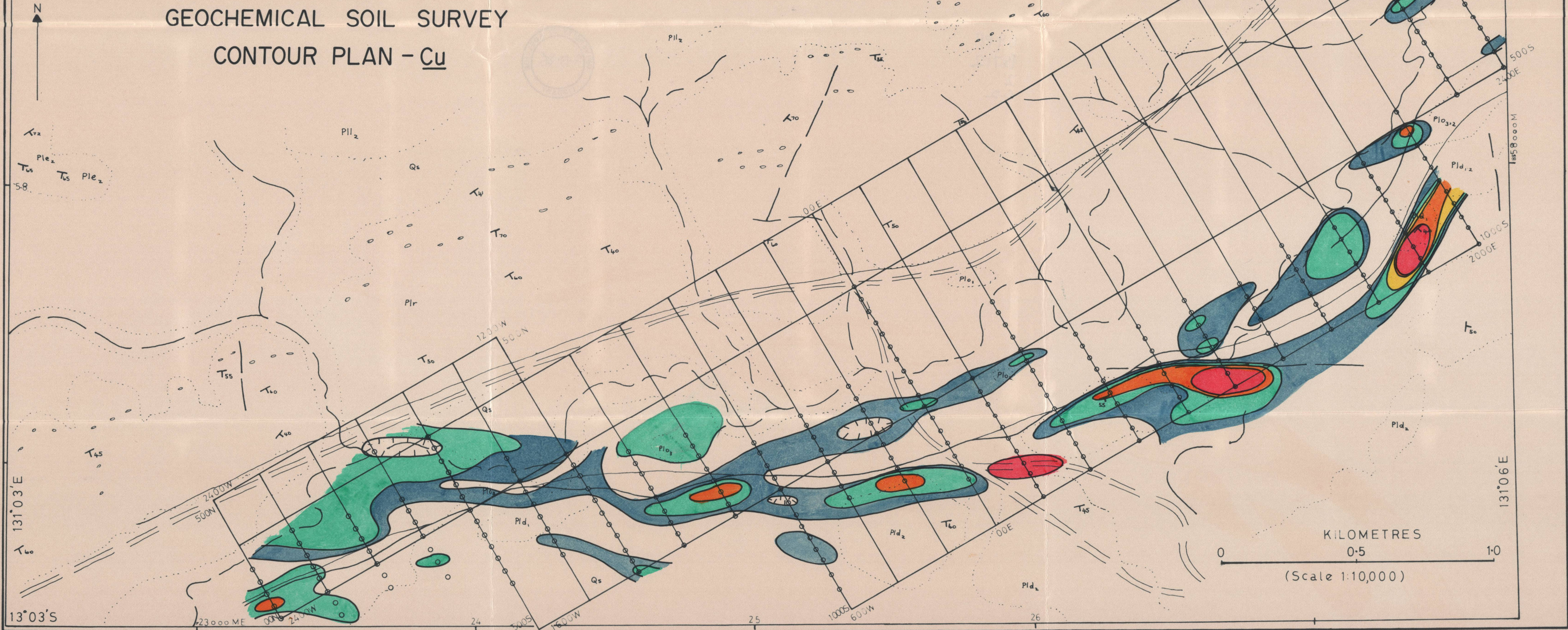
- |   |   |
|---|---|
| <span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black;"></span> >115 ppm    | <span style="display: inline-block; width: 15px; height: 10px; background-color: green; border: 1px solid black;"></span> 51-70 ppm |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black;"></span> 86-115 " | <span style="display: inline-block; width: 15px; height: 10px; background-color: blue; border: 1px solid black;"></span> 41-50 "    |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black;"></span> 71-85 "  | <span style="display: inline-block; width: 15px; height: 10px; background-color: white; border: 1px solid black;"></span> ≤40 "     |

Fig. 108c

M.R. 610

THE BROKEN HILL PROPRIETARY CO. LTD.  
 EXPLORATION DEPARTMENT  
 GEOCHEMICAL SOIL SURVEY RESULTS  
 E.L. 1349 RUM JUNGLE, N.T.  
 Drawn: Y. BONE Date: JAN 1988 Centre: DARWIN  
 Traced: Y. BONE Project No: M 300 Drawing No:  
 Checked: A2-

GEOCHEMICAL SOIL SURVEY  
 CONTOUR PLAN - Cu



LEGEND

- Qa Silt, clay, sand, alluvium
- Qs Unconsolidated alluvial outwash and colluvium
- Plid<sub>2</sub> Siliceous black shale, quartz-veined and brecciated
- Plid<sub>1</sub> Carbonaceous and pyritic shale
- Plid Undivided shale and calcilutite, pyritic and carbonaceous in places - Whites Formation
- Plid<sub>3</sub> Dolomite and magnesite, algal in places
- Plid<sub>2</sub> Quartzite, algal in places; chert
- Plid<sub>1</sub> Ferruginous quartz sandstone
- Plid Undivided quartzite, chert, silicified dolomite, ferruginous sandstone - Coomalie dolomite
- Plir Sandstone, shale, siltstone, arkose, grit and pebble beds, quartz-hematite boulder conglomerate - Crater Formation
- Plid<sub>3</sub> Dolomite carbonaceous sediments
- Plid<sub>2</sub> Silicified dolomite
- Plid<sub>1</sub> Dolomite magnesite, minor amphibolite interbeds
- Plid Undivided silicified dolomite, amphibolite, quartzite - Celia dolomite

- rotary drillhole
- creek
- road
- - - outcrop boundary
- strike and dip of bedding
- - - fault (inferred)
- Surveyed grid bearing 060°/150° traversed lines 200m apart, pegs 50m apart length of base line 2,400m approx length of traverse lines 26 Km.
- - - inferred geological boundary
- geological boundary from drilling

CONTOURS

	> 125 ppm		51-70 ppm
	96-125 "		31-50 "
	71-95 "		≤ 30 "

Fig. 109c

M.R. 610

**THE BROKEN HILL PROPRIETARY CO. LTD.**  
EXPLORATION DEPARTMENT

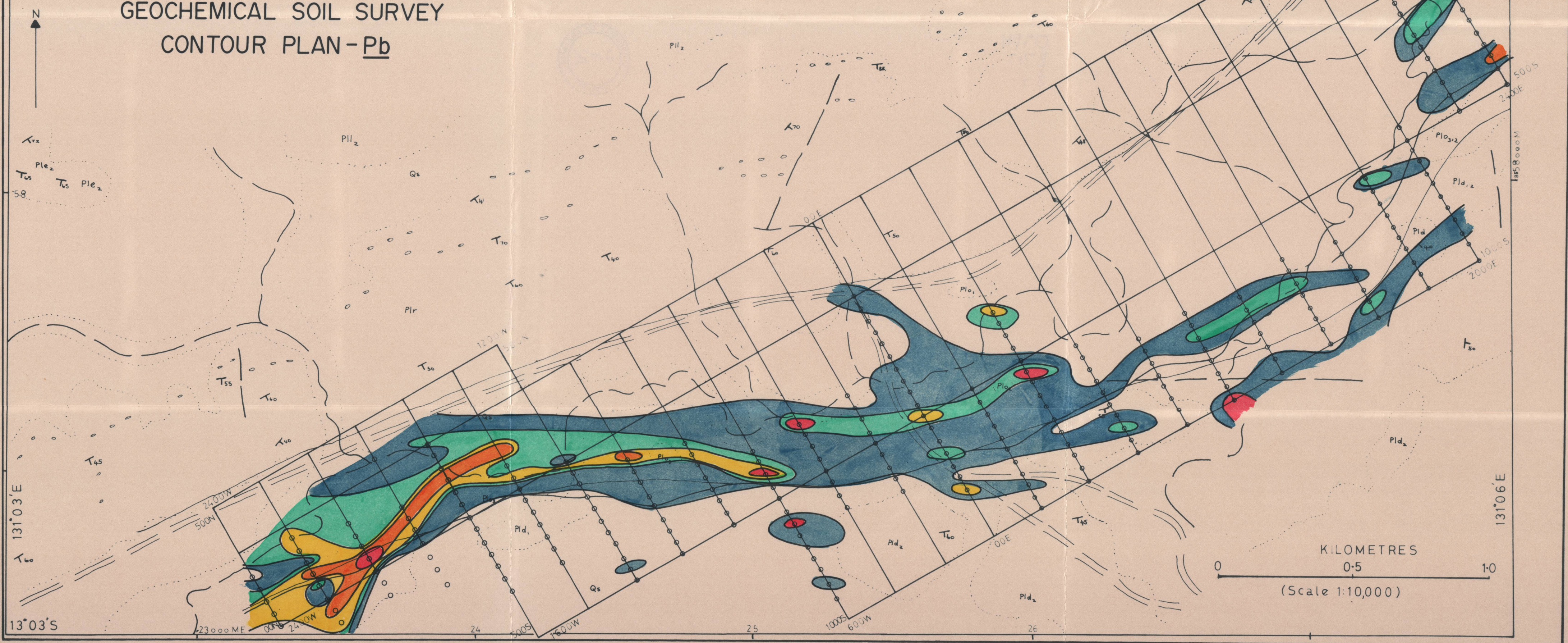
**GEOCHEMICAL SOIL SURVEY RESULTS**

E.L. 1349 RUM JUNGLE, N.T.

Date: JAN 1988 Centre: DARWIN  
Drawn: Y BONE  
Traced: Y BONE  
Project No: M300 Drawing No: A2-

Checked:

GEOCHEMICAL SOIL SURVEY  
CONTOUR PLAN - P<sub>b</sub>



LEGEND

- Qa Silt, clay, sand, alluvium
- Qs Unconsolidated alluvial outwash and colluvium
- Pl<sub>d2</sub> Siliceous black shale, quartz-veined and brecciated
- Pl<sub>d1</sub> Carbonaceous and pyritic shale
- Pl<sub>d</sub> Undivided shale and calcilutite, pyritic and carbonaceous in places - Whites Formation
- Pl<sub>o3</sub> Dolomite and magnesite, algal in places
- Pl<sub>o2</sub> Quartzite, algal in places; chert
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- Pl<sub>o</sub> Undivided quartzite, chert, silicified dolomite, ferruginous sandstone - Coomalie dolomite
- Pl<sub>r</sub> Sandstone, shale, siltstone, arkose, grit and pebble beds, quartz-hematite boulder conglomerate - Crater Formation
- Pl<sub>l3</sub> Dolomite carbonaceous sediments
- Pl<sub>l2</sub> Silicified dolomite
- Pl<sub>l1</sub> Dolomite magnesite, minor amphibolite interbeds
- Pl<sub>l</sub> Undivided silicified dolomite, amphibolite, quartzite - Celia dolomite

- rotary drillhole
- creek
- road
- - - outcrop boundary
- strike and dip of bedding
- - - fault (inferred)
- Surveyed grid bearing 060°/150°
- traverselines 200m apart, pegs 50m apart
- length of base line 2,400m approx length of traverse lines 26 Km.
- - - inferred geological boundary
- geological boundary from drilling

CONTOURS

	>210 ppm		66-100 ppm
	156-210 "		41-65 "
	101-155 "		≤ 40 "

Fig. 110c

M.R. 610

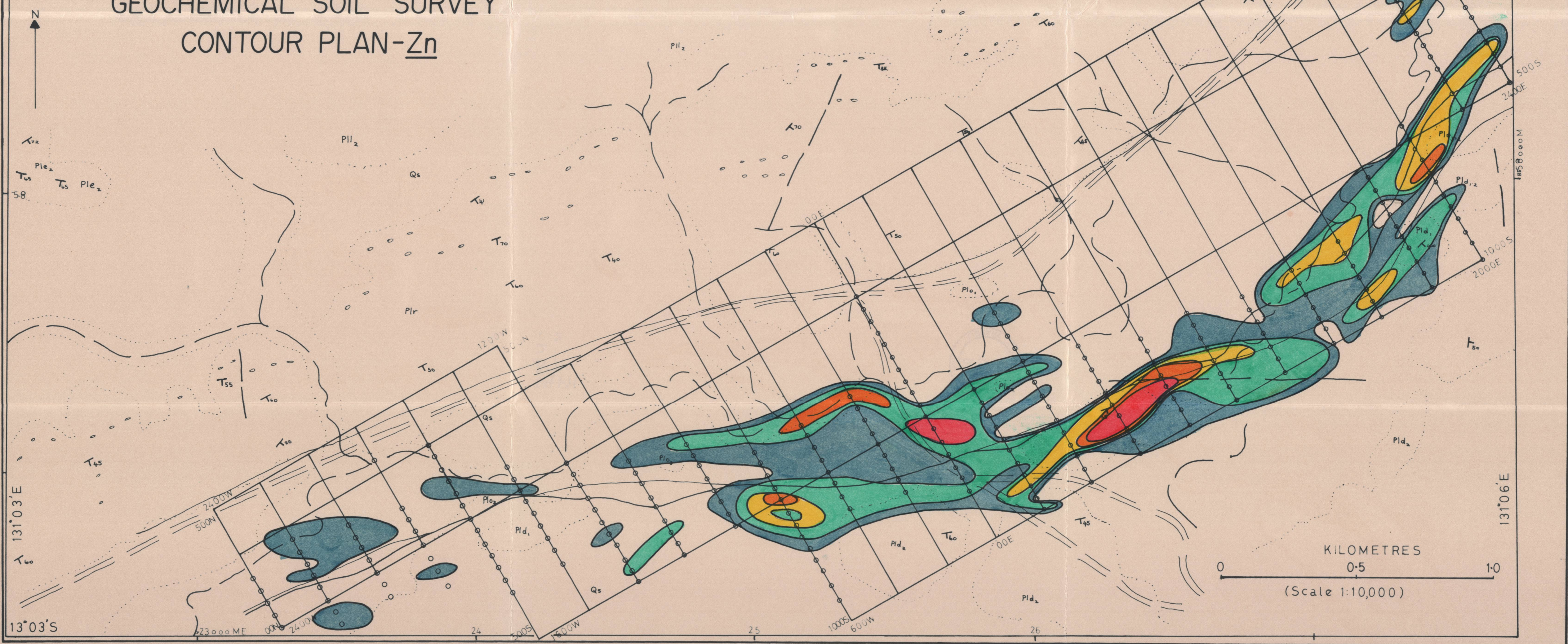
**THE BROKEN HILL PROPRIETARY CO. LTD.**  
EXPLORATION DEPARTMENT

**GEOCHEMICAL SOIL SURVEY RESULTS**

E.L. 1349 RUM JUNGLE, N.T.

Drawn: Y BONE	Date: JAN 19 81	Centre: DARWIN
Traced: Y BONE	Project No: M300	Drawing No: A2-
Checked:		

GEOCHEMICAL SOIL SURVEY  
CONTOUR PLAN-Zn



LEGEND

- Qa Silt, clay, sand, alluvium
- Qs Unconsolidated alluvial outwash and colluvium
- Plid<sub>2</sub> Siliceous black shale, quartz-veined and brecciated
- Plid<sub>1</sub> Carbonaceous and pyritic shale
- Plid Undivided shale and calcilutite, pyritic and carbonaceous in places - Whites Formation
- Plid<sub>3</sub> Dolomite and magnesite, algal in places
- Plid<sub>2</sub> Quartzite, algal in places; chert
- Plid<sub>1</sub> Ferruginous quartz sandstone
- Plid Undivided quartzite, chert, silicified dolomite, ferruginous sandstone - Coomalie dolomite
- Plir Sandstone, shale, siltstone, arkose, grit and pebble beds, quartz-hematite boulder conglomerate - Crater Formation
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- rotary drillhole
- creek
- road
- - - outcrop boundary
- strike and dip of bedding
- - - fault (inferred)
- Surveyed grid bearing 060°/150°
- traverselines 200m apart, pegs 50m apart
- length of base line 2,400m approx length of traverse lines 26 Km.
- - - inferred geological boundary
- geological boundary from drilling

CONTOURS

- > 160ppm
- 81 - 105 ppm
- 121 - 160 "
- 61 - 80 "
- 106 - 120 "
- ≤ 80 "

Fig. 111c

M.R. 610

**THE BROKEN HILL PROPRIETARY CO. LTD.**  
EXPLORATION DEPARTMENT

**GEOCHEMICAL SOIL SURVEY RESULTS**  
E.L. 1349 RUM JUNGLE, N.T.

Drawn Y BONE	Date: JAN 198	Centre: DARWIN	Project No: M300
Traced Y BONE			Drawing No
Checked			<b>A2-</b>

GEOCHEMICAL SOIL SURVEY  
CONTOUR PLAN-Ni



KILOMETRES  
0 0.5 1.0  
(Scale 1:10,000)

LEGEND

- Qa Silt, clay, sand, alluvium
- Qs Unconsolidated alluvial outwash and colluvium
- Pl<sub>d2</sub> Siliceous black shale, quartz-veined and brecciated
- Pl<sub>d1</sub> Carbonaceous and pyritic shale
- Pl<sub>d</sub> Undivided shale and calcilutite, pyritic and carbonaceous in places - Whites Formation
- Pl<sub>o3</sub> Dolomite and magnesite, algal in places
- Pl<sub>o2</sub> Quartzite, algal in places; chert
- Pl<sub>o1</sub> Ferruginous quartz sandstone
- Pl<sub>o</sub> Undivided quartzite, chert, silicified dolomite, ferruginous sandstone - Coomalie dolomite
- Pl<sub>r</sub> Sandstone, shale, siltstone, arkose, grit and pebble beds, quartz-hematite boulder conglomerate - Crater Formation
- Pl<sub>l3</sub> Dolomite carbonaceous sediments
- Pl<sub>l2</sub> Silicified dolomite
- Pl<sub>l1</sub> Dolomite magnesite, minor amphibolite interbeds
- Pl<sub>l</sub> Undivided silicified dolomite, amphibolite, quartzite - Celia dolomite

- rotary drillhole
- creek
- road
- - - outcrop boundary
- strike and dip of bedding
- - - fault (inferred)
- Surveyed grid bearing 060°/150°
- traverselines 200m apart, pegs 50m apart
- length of base line 2,400m approx length of traverse lines 26 Km.
- - - inferred geological boundary
- - - geological boundary from drilling

CONTOURS

- |   |   |
|---|---|
| <span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black;"></span> >115 ppm    | <span style="display: inline-block; width: 15px; height: 10px; background-color: green; border: 1px solid black;"></span> 56-70 ppm |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black;"></span> 91-115 " | <span style="display: inline-block; width: 15px; height: 10px; background-color: blue; border: 1px solid black;"></span> 41-55 "    |
| <span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black;"></span> 71-90 "  | <span style="display: inline-block; width: 15px; height: 10px; background-color: white; border: 1px solid black;"></span> ≤40       |

Fig. 112c

M.R. 610

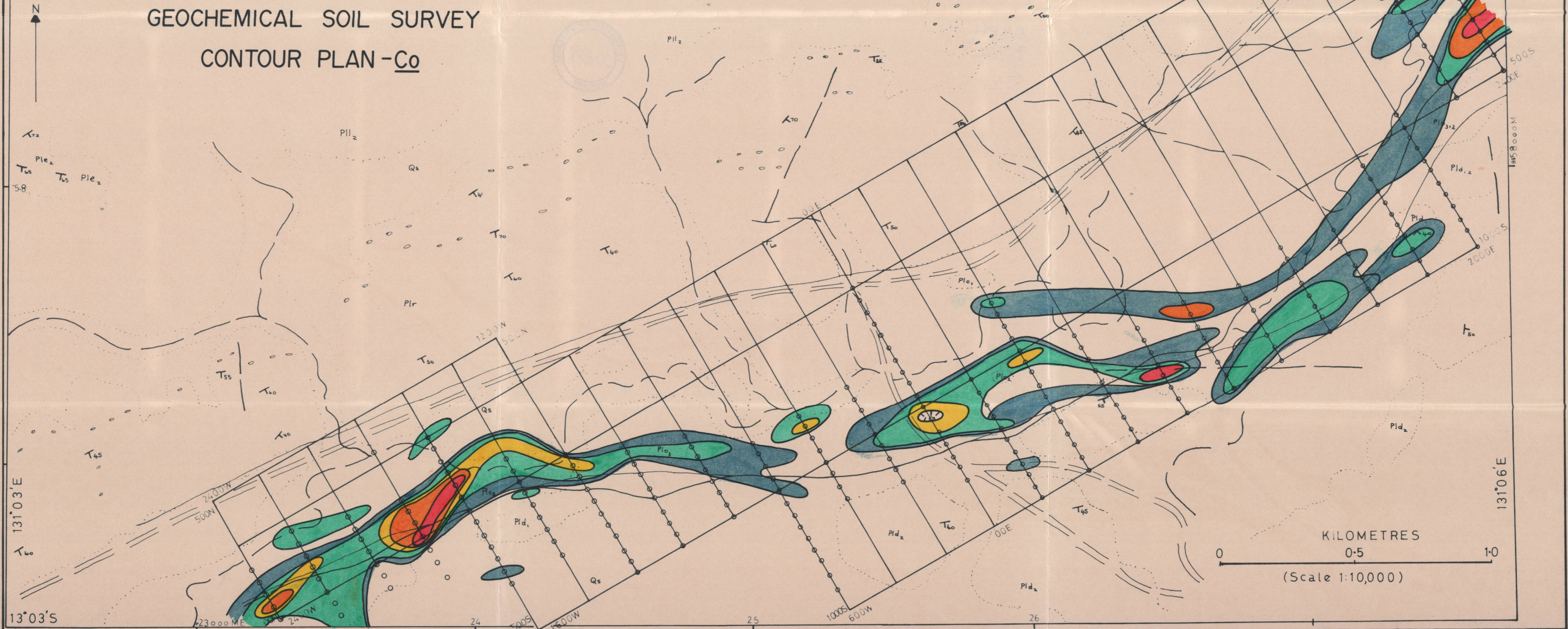
**THE BROKEN HILL PROPRIETARY CO. LTD.**  
EXPLORATION DEPARTMENT

**GEOCHEMICAL SOIL SURVEY RESULTS**

E.L. 1349 RUM JUNGLE, N.T.

Drawn Y BONE	Date: JAN 198	Centre: DARWIN	Project No: M300
Traced Y BONE			Drawing No
Checked			<b>A2-</b>

GEOCHEMICAL SOIL SURVEY  
CONTOUR PLAN - Co



LEGEND

- Qa Silt, clay, sand, alluvium
- Qs Unconsolidated alluvial outwash and colluvium
- Plid<sub>2</sub> Siliceous black shale, quartz-veined and brecciated
- Plid<sub>1</sub> Carbonaceous and pyritic shale
- Plid Undivided shale and calcilutite, pyritic and carbonaceous in places - Whites Formation
- Plid<sub>3</sub> Dolomite and magnesite, algal in places
- Plid<sub>2</sub> Quartzite, algal in places; chert
- Plid<sub>1</sub> Ferruginous quartz sandstone
- Plid Undivided quartzite, chert, silicified dolomite, ferruginous sandstone - Coomalie dolomite
- Plir Sandstone, shale, siltstone, arkose, grit and pebble beds, quartz-hematite boulder conglomerate - Crater Formation
- Plid<sub>3</sub> Dolomite carbonaceous sediments
- Plid<sub>2</sub> Silicified dolomite
- Plid<sub>1</sub> Dolomite magnesite, minor amphibolite interbeds
- Plid Undivided silicified dolomite, amphibolite, quartzite - Celia dolomite

- rotary drillhole
- creek
- road
- - - outcrop boundary
- strike and dip of bedding
- - - fault (inferred)
- Surveyed grid bearing 060°/150° traversed lines 200m apart, pegs 50m apart length of base line 2,400m approx length of traverse lines 26 Km.
- - - inferred geological boundary
- - - geological boundary from drilling

- CONTOURS
- 10 ppm
  - 5 ppm
  - 2 ppm
  - -2 ppm

GEOCHEMICAL SOIL SURVEY  
CONTOUR PLAN - Mo

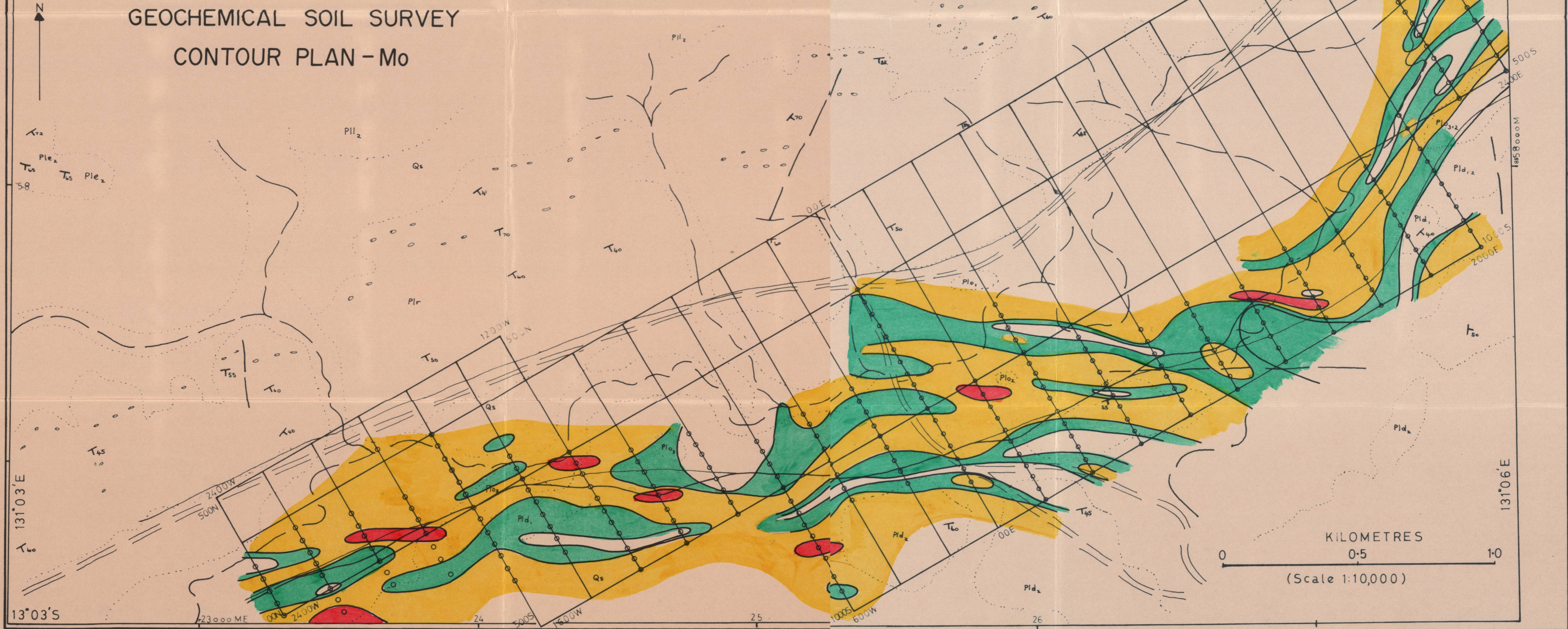


Fig. 113c

M.R. 610

THE BROKEN HILL PROPRIETARY CO. LTD.  
EXPLORATION DEPARTMENT

GEOCHEMICAL SOIL SURVEY RESULTS

E.L.1349 RUM JUNGLE, N.T.

Date: JAN 1981 Centre: DARWIN  
Project No: M3000 Drawing No: A2-  
Drawn: Y BONE Traced: Y BONE Checked: [ ]

LEGEND

- Qa Silt, clay, sand, alluvium
- Qs Unconsolidated alluvial outwash and colluvium
- Pl<sub>d2</sub> Siliceous black shale, quartz-veined and brecciated
- Pl<sub>d1</sub> Carbonaceous and pyritic shale
- Pl<sub>d</sub> Undivided shale and calcilutite, pyritic and carbonaceous in places - Whites Formation
- Pl<sub>o3</sub> Dolomite and magnesite, algal in places
- Pl<sub>o2</sub> Quartzite, algal in places; chert
- Pl<sub>o1</sub> Ferruginous quartz sandstone
- Pl<sub>o</sub> Undivided quartzite, chert, silicified dolomite, ferruginous sandstone - Coomalie dolomite
- Pl<sub>r</sub> Sandstone, shale, siltstone, arkose, grit and pebble beds, quartz-hematite boulder conglomerate - Crater Formation
- Pl<sub>l3</sub> Dolomite carbonaceous sediments
- Pl<sub>l2</sub> Silicified dolomite
- Pl<sub>l1</sub> Dolomite magnesite, minor amphibolite interbeds
- Pl<sub>l</sub> Undivided silicified dolomite, amphibolite, quartzite - Celia dolomite

- rotary drillhole
- creek
- road
- outcrop boundary
- strike and dip of bedding
- fault (inferred)
- Surveyed grid bearing 060°/150°  
traverse lines 200m apart, pegs 50m apart  
length of base line 2,400m approx length of  
traverse lines 26 Km.
- inferred geological boundary
- geological boundary from drilling

Contour interval-cps.(total counts)

1 - ≥445	4 - 340-379
2 - 400-444	5 - 280-339
3 - 380-339	6 - <280

Fig. 114c

M.R. 610

THE BROKEN HILL PROPRIETARY CO. LTD.  
EXPLORATION DEPARTMENT

GEOCHEMICAL SOIL SURVEY RESULTS

E.L. 1349 RUM JUNGLE, N.T.

Drawn: Y BONE Date: JAN 1981 Centre: DARWIN  
Traced: Y BONE Project No: M300 Drawing No: A2-  
Checked:

RADIOMETRIC SURVEY - CONTOUR PLAN

