



HIGH GRADE METAMORPHIC AND STRUCTURAL RELATIONSHIPS  
NEAR AMATA, MUSGRAVE RANGES, CENTRAL AUSTRALIA

Volume 2

by

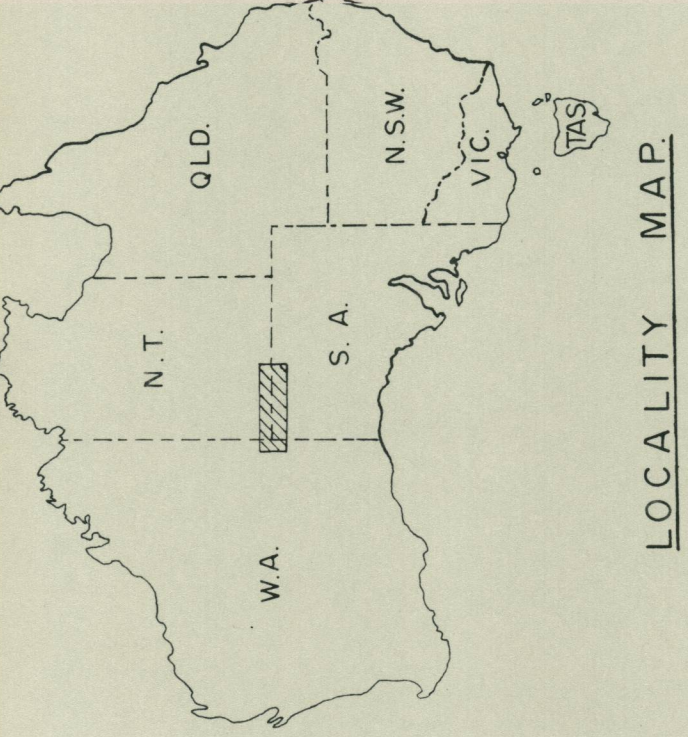
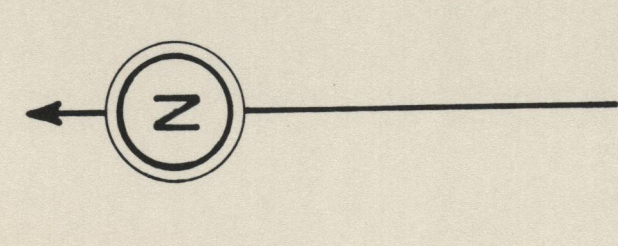
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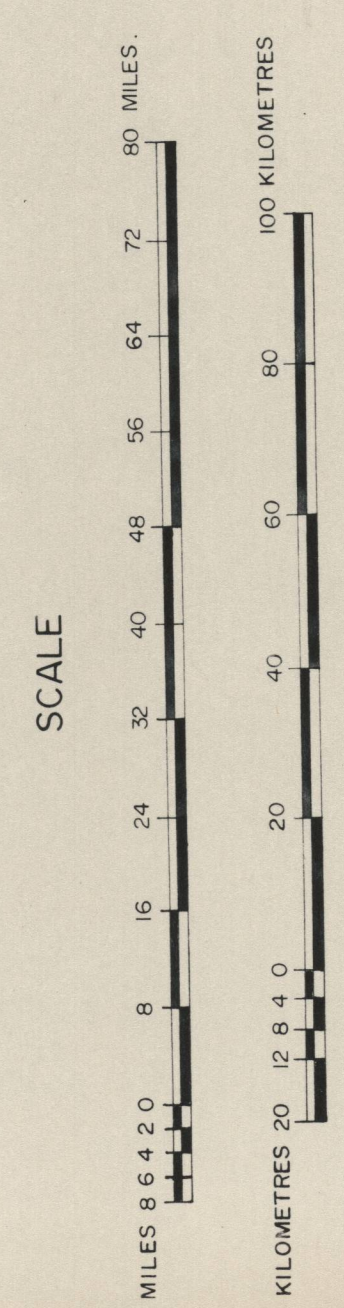
August, 1972



LOCATION MAP OF THE MUSGRAVE BLOCK SHOWING REGIONAL GEOLOGICAL AND GEOGRAPHICAL FEATURES.



- KEY**
- Superficial Deposits
  - Pterozoic Cover Rocks
  - Tollu Volcanics
  - Giles Complex Intrusions
  - Gneisses and Granulites
  - Woodroffe Thrust
  - Davenport Shear Zone
  - Geological Boundary
  - N.T.—State Border
  - S.A.
  - KULGERA Settlement
  - MT DAVIES CAMP Settlement Abandoned
  - MULGA PARK Homestead
  - Road



GEOLOGY AFTER REGIONAL MAPPING BY THE GEOLOGICAL SURVEY OF SOUTH AUSTRALIA (S.A.) THE GEOLOGICAL SURVEY OF WESTERN AUSTRALIA (W.A.) AND THE BUREAU OF MINERAL RESOURCES (N.T.)





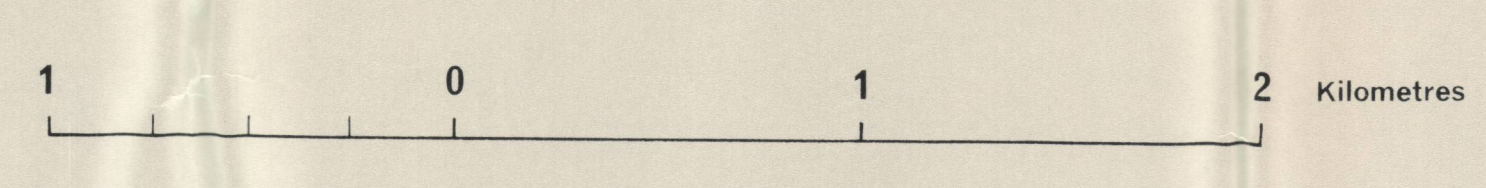


# GEOLOGICAL MAP AMATA AREA MUSGRAVE RANGES

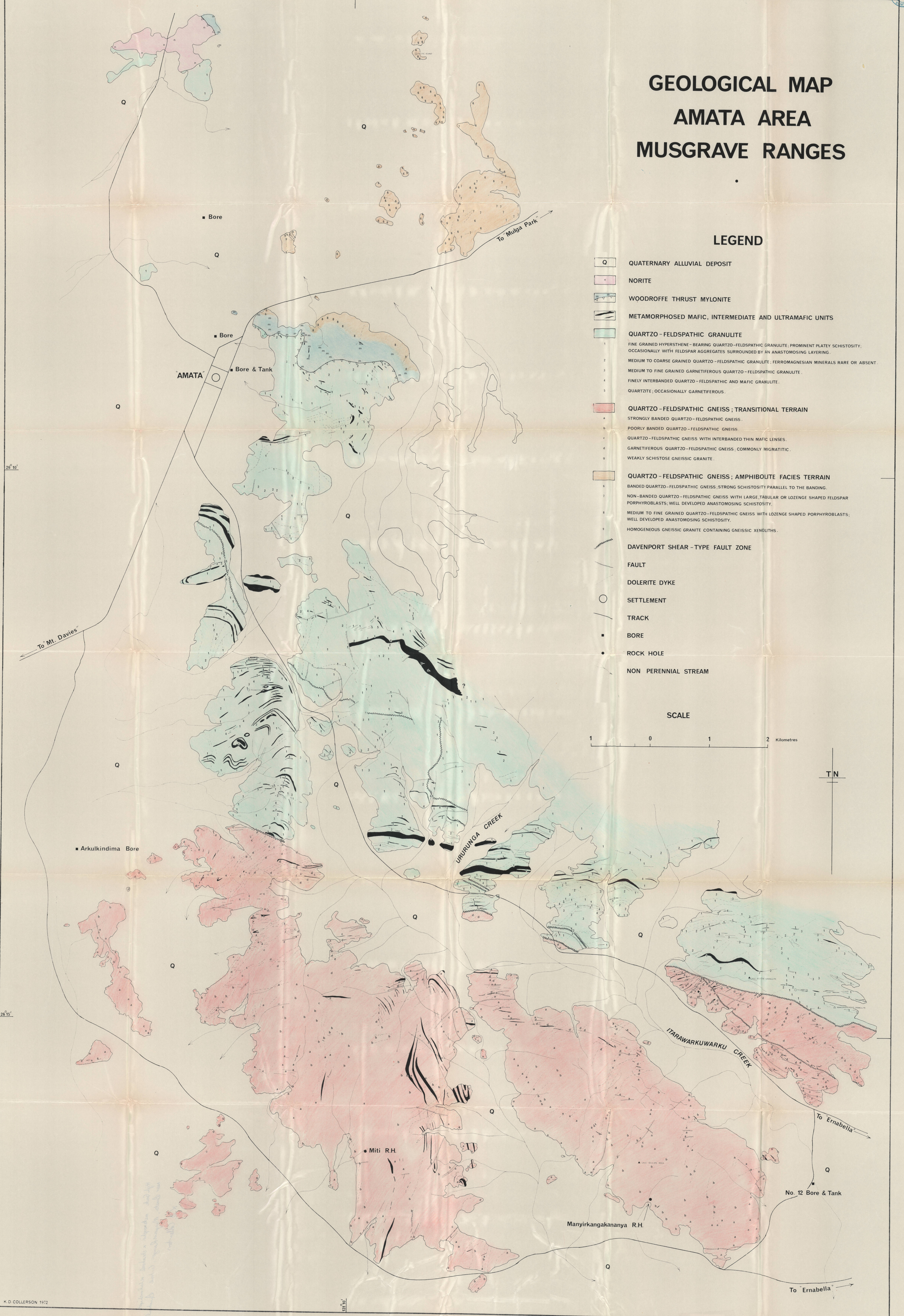
## LEGEND

- QUATERNARY ALLUVIAL DEPOSIT
- NORITE
- WOODROFFE THRUST MYLONITE
- METAMORPHOSED MAFIC, INTERMEDIATE AND ULTRAMAFIC UNITS
- QUARTZO - FELDSPATHIC GRANULITE
  - 1 FINE GRAINED HYPERSTHENE-BEARING QUARTZO-FELDSPATHIC GRANULITE, PROMINENT PLATEY SCHISTOSITY, OCCASIONALLY WITH FELDSPAR AGGREGATES SURROUNDED BY AN ANASTOMOSING LAYERING.
  - 2 MEDIUM TO COARSE GRAINED QUARTZO-FELDSPATHIC GRANULITE, FERROMAGNESIAN MINERALS RARE OR ABSENT.
  - 3 MEDIUM TO FINE GRAINED GARNETIFEROUS QUARTZO-FELDSPATHIC GRANULITE.
  - 4 FINELY INTERBANDED QUARTZO-FELDSPATHIC AND MAFIC GRANULITE.
  - 5 QUARTZITE, OCCASIONALLY GARNETIFEROUS.
- QUARTZO - FELDSPATHIC GNEISS; TRANSITIONAL TERRAIN
  - 6 STRONGLY BANDED QUARTZO-FELDSPATHIC GNEISS.
  - 7 POORLY BANDED QUARTZO-FELDSPATHIC GNEISS.
  - 8 QUARTZO-FELDSPATHIC GNEISS WITH INTERBANDED THIN MAFIC LENSES.
  - 9 GARNETIFEROUS QUARTZO-FELDSPATHIC GNEISS, COMMONLY MIGMATITIC.
  - 10 WEAKLY SCHISTOSE GNEISSIC GRANITE.
- QUARTZO - FELDSPATHIC GNEISS; AMPHIBOLITE FACIES TERRAIN
  - 11 BANDED QUARTZO-FELDSPATHIC GNEISS, STRONG SCHISTOSITY PARALLEL TO THE BANDING.
  - 12 NON-BANDED QUARTZO-FELDSPATHIC GNEISS WITH LARGE TABULAR OR LOZENGE SHAPED FELDSPAR PORPHYROBLASTS, WELL DEVELOPED ANASTOMOSING SCHISTOSITY.
  - 13 MEDIUM TO FINE GRAINED QUARTZO-FELDSPATHIC GNEISS WITH LOZENGE SHAPED PORPHYROBLASTS, WELL DEVELOPED ANASTOMOSING SCHISTOSITY.
  - 14 HOMOGENEOUS GNEISSIC GRANITE CONTAINING GNEISSIC XENOLITHS.
- DAVENPORT SHEAR - TYPE FAULT ZONE
- FAULT
- DOLERITE DYKE
- SETTLEMENT
- TRACK
- BORE
- ROCK HOLE
- NON PERENNIAL STREAM

### SCALE

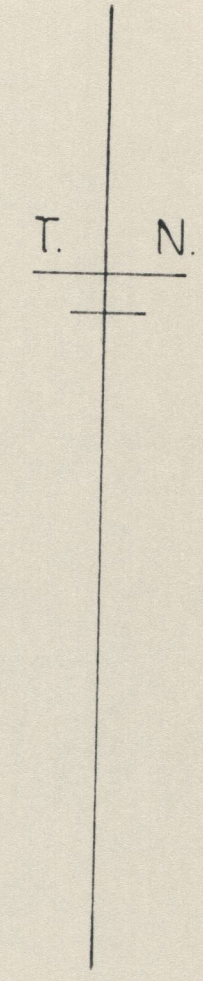


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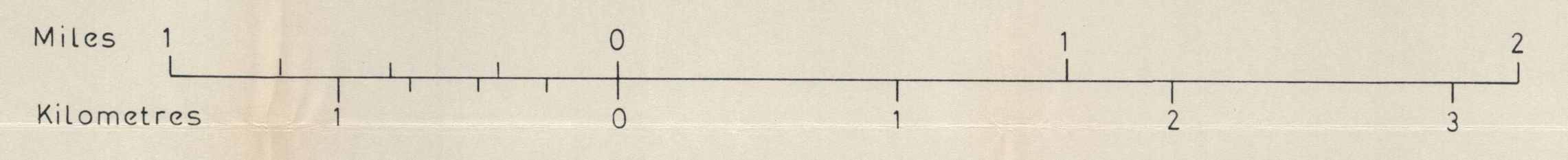


# AMATA AREA



## Strike and Dip of Planar Structural Elements

- Schistosity parallel to compositional layering
- Mylonitic layering
- Foliation in dolerite dykes
- Schistosity formed with  $F_2$  folding
- Schistosity formed with  $F_3$  folding

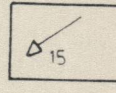
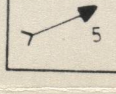
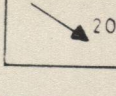
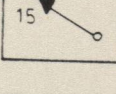
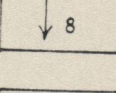
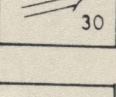
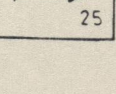


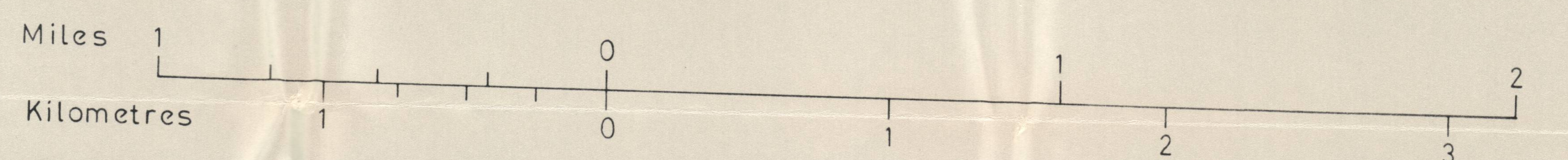


# AMATA AREA

T N

Trend and Plunge of Linear Structural Elements

-  gL<sub>1</sub> lineation
-  tL<sub>1</sub> lineation
-  tL<sub>2</sub> lineation
-  aL<sub>2</sub> lineation
-  aL<sub>3</sub> lineation
-  Mineral streaking lineation in fault zones
-  Mineral lineation in dolerite dykes





# STEREOGRAMS OF MESOSCOPIC STRUCTURAL ELEMENTS; AMATA REGION; CENTRAL MUSGRAVE RANGES.



Contour Interval % per 1% area	Sub Areas
1, 2, 4, 6, 8	1 (tS <sub>1</sub> )
1, 3, 6, 9, 12	2 (tS <sub>1</sub> )
1, 4, 8, 12, 16	3 (tS <sub>1</sub> )
	8 (aS <sub>1</sub> ), (aL <sub>2</sub> )
1, 5, 10, 15, 20	1 (tL <sub>2</sub> )    4    7
	2 (tL <sub>2</sub> )    5    8 (aL <sub>3</sub> )
	3 (tL <sub>2</sub> )    6    9

Sub Areas	Description
1, 2, 3	Rocks transitional between granulite and amphibolite facies
4, 5, 6, 7	Granulite facies
8, 9	Amphibolite facies and Woodroffe Thrust monites