

THE UNIVERSITY OF ADELAIDE
DEPARTMENT OF GEOLOGY AND MINERALOGY

GEOLOGY OF THE MT. CHAMBERS GORGE REGION,
FLINDERS RANGES, SOUTH AUSTRALIA

Report on Geological Investigations
Submitted in Partial Fulfilment of the
Course Requirements of
Honours Geology

by

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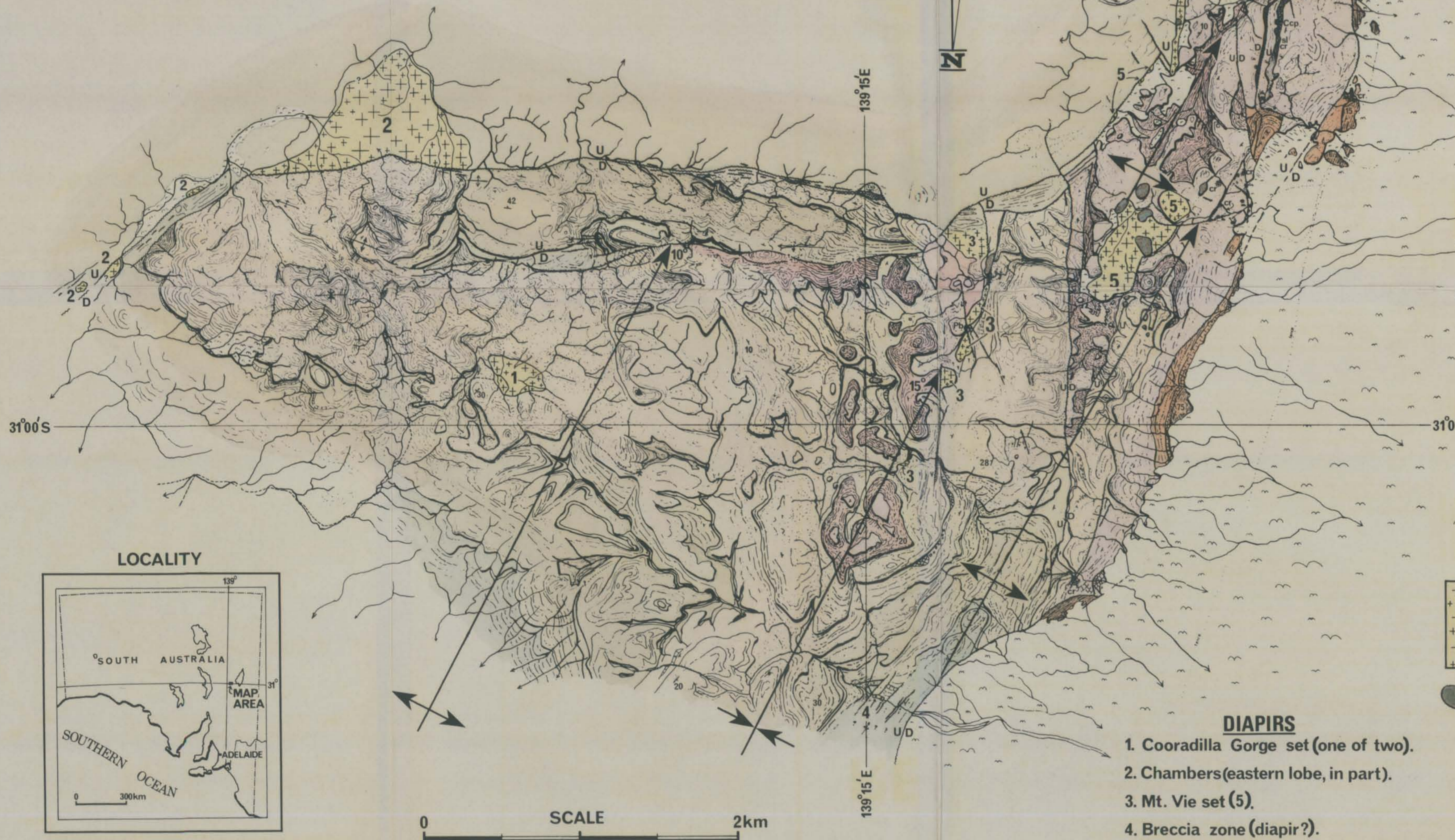
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MT. CHAMBERS GORGE REGION

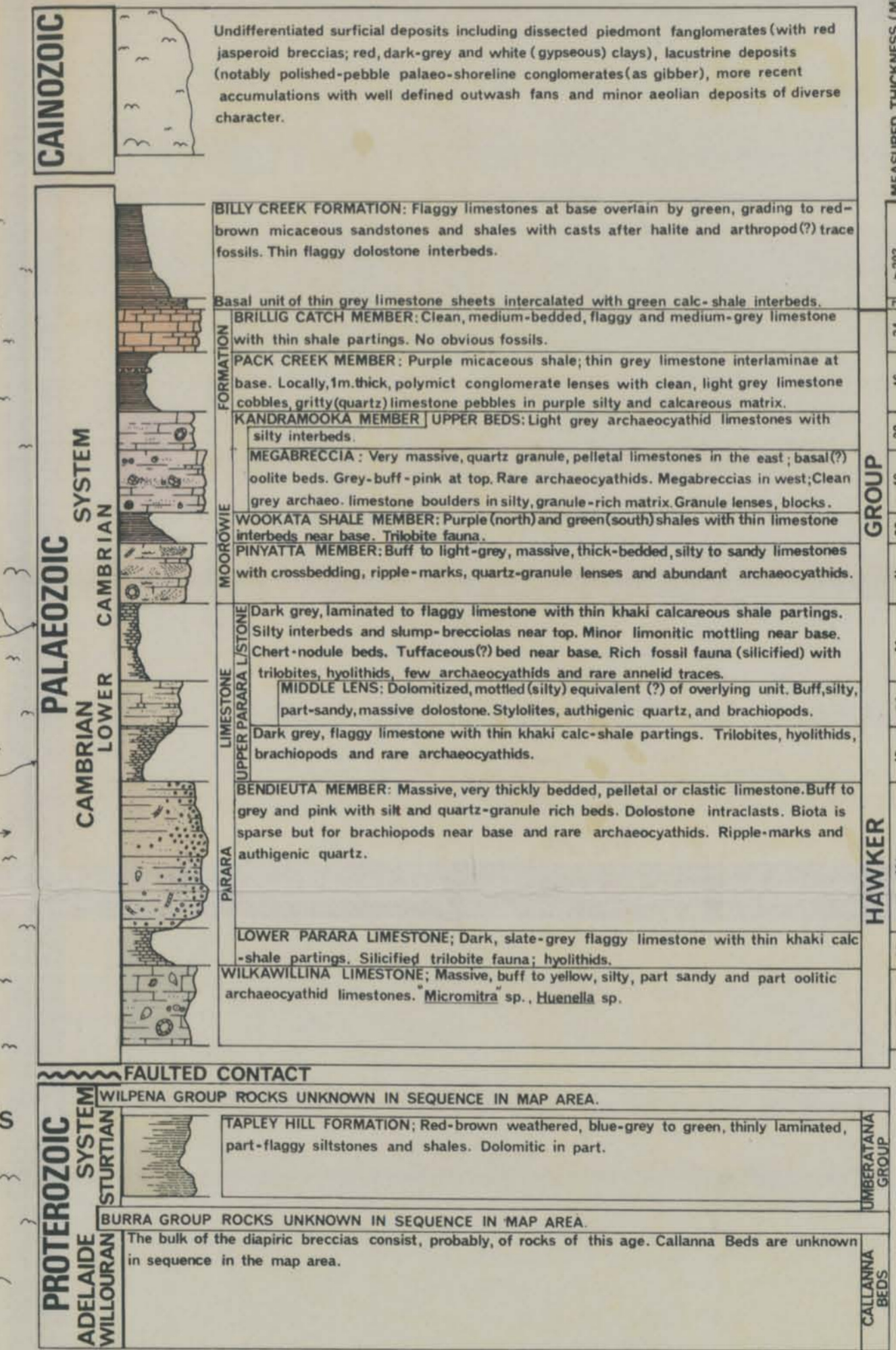
FLINDERS RANGES

SOUTH AUSTRALIA

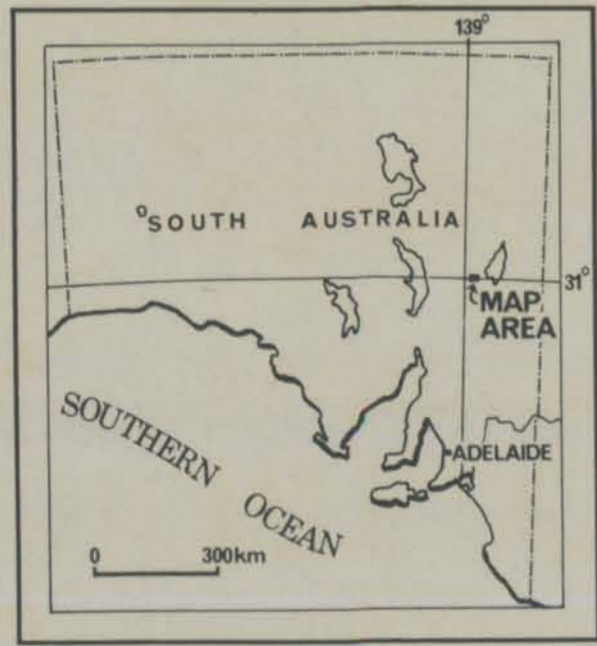
GEOLOGICAL MAP



COMPOSITE STRATIGRAPHIC COLUMN



LOCALITY



- #### DIAPIRS
1. Cooradilla Gorge set (one of two).
 2. Chambers (eastern lobe, in part).
 3. Mt. Vie set (5).
 4. Breccia zone (diapir?).
 5. Moorowie set (6).

- #### DIAPIR
- UNDIFFERENTIATED DIAPIRIC BRECCIA: Lithologies include; (1) Intrusive Callanna Beds(?) material; typically (a) Medium to coarse grained, heavy mineral laminated and finely crossbedded quartzites with ripple-marks, flute-casts and thin green shale partings. Halite casts. Grade to coarse arkoses featuring quartz and red jasperoid granules. (b) Pastel-coloured (purple, mauve, pink, blue, green, pale-grey), part-micaceous siltstones. Abundant halite casts. (c) Dark weathered, cream-white, well-bedded dolostones; quartz granule laminae. (d) Basic-effusive igneous rocks (see below).
- (2) A suite of diapiric-metamorphic minerals and rocks including 5cm. authigenic-quartz xtls. (flow-aligned); specularite.
- (3) Blocks of host-rock; including possible igneous material.
- #### IGNEOUS ROCK
- (a) BLOCKS IN DIAPIR: (i) Possible pre-diapiric basic (other?) intrusives; now amphibolites; meta-dolerite, -diorite, -gabbro. (ii) Amygdaloidal metabasalts. Probable Willouran age.
- (b) PROBABLE POST-DIAPIRIC INTRUSIVES: Basic plugs; meta-dolerite, -diorite, -gabbro. Intrude diapir(?) & Cambrian.
- #### LEGEND
- | | | | |
|--|--|--|--------------------|
| | GEOLOGICAL BOUNDARY | | ANTICLINE |
| | TREND OF BEDS | | SYNCLINE |
| | 25 DIP OF BEDS - INCLINED | | |
| | - VERTICAL | | |
| | - HORIZONTAL | | |
| | CRUSH ZONE | | MINERAL OCCURENCE |
| | SILICIFIED ZONE | | - COPPER-SECONDARY |
| | FAULT (With apparent dip-slip movement) | | - SULPHIDES |
| | VEIN; TYPICALLY COARSE (Calcite, Fe-dolomite, Sp.) | | - GALENA |
| | MINE OR PROSPECT | | - SPECULARITE |
| | SHAFT | | EPHEMERAL STREAM |
| | THRUST FAULT | | TRACK |
| | | | FENCE |
| | | | TRIG. STATION |