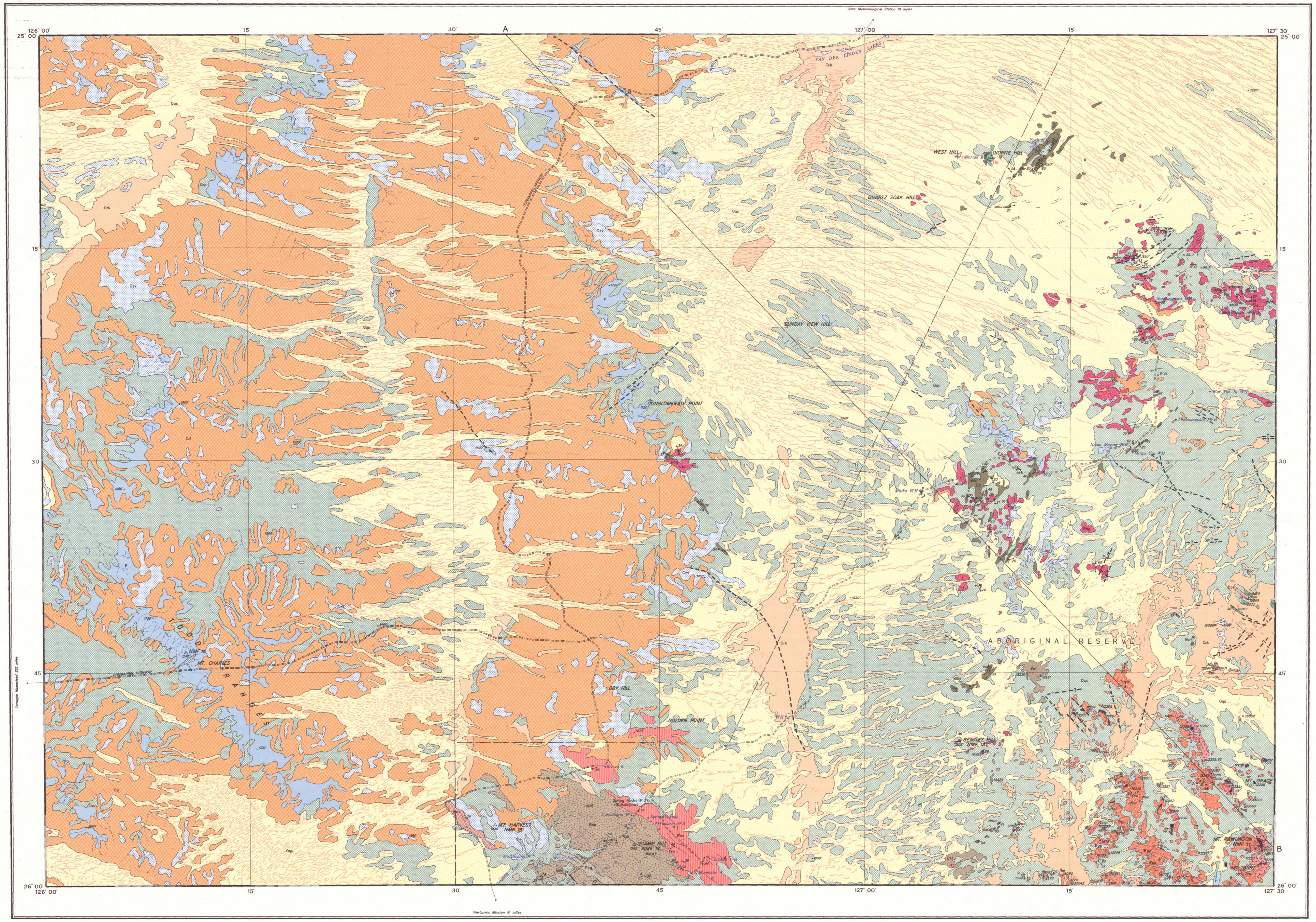
BENTLEY

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA



SYMBOLS

- Geological boundary
- Fault
  - Approximate
  - Concealed
  - Inferred and concealed
- Bedding
  - Strike and dip measured — 32
  - Strike and dip unmeasured
  - Horizontal
  - Vertical
  - Overturned — 61
  - Trend of bedding or foliation
- Plunge of minor fold axis — FA 30
- Lineation with plunge — 72
- Elongation of stretched pebbles — S
- Igneous banding
  - Inclined — 29
- Metamorphic foliation
  - Inclined — 62
  - Vertical
- Cleavage
  - Inclined — 25
  - Vertical
- Current direction (cross-bedding)
- Flow lineation in acid volcanics — F
- Specimen locality — × 18333

- Aboriginal reserve boundary (approximate)
- Highway, formed only
- Track
- Horizontal control, major
- Spot height, approximate — • 1650'
- Locality — Spring Rocks
- Position doubtful — (P D)
- Sand dunes

- Watercourse, intermittent
- Ancient drainage line, mainly in calcrete
- Waterhole — • WH
- Rockhole — • RH
- Gnamma hole — • GH
- Well — • W
- Bore — • B

- Mineral occurrence
  - Copper — Cu
  - Fluorite — Fl
  - Hematite — He
  - Ochre — Oc
  - Titaniferous magnetite with vanadium — V

REFERENCE

CAINOZOIC

QUATERNARY
- Qra — Alluvium and river gravel
- Qrl — Lake deposits—clay and gypsum
- Qqs — Eolian sands
- Qqc — Colluvium—partly consolidated

? TERTIARY
- Czk — Calcrete, calcareous gravel and opaline silica
- Czl — Laterite and lateritic gravel
- Czx — Deeply weathered rock—weathering mainly affects Phanerozoic rocks

? UPPER PALAEOZOIC — ? PERMIAN
- P — Sandstone, porcelanous siltstone, and pebble beds—fluvioglacial and glacial deposits

MIDDLE PROTEROZOIC — Bentley Supergroup
- Ews — **TOWNSEND QUARTZITE:** quartzite and sandstone

Palgrave volcanic association
- Epp — Porphyritic acid volcanic rocks. Some white pyritic rhyolite
- Epo — Devitrified obsidian—abundant perlitic cracks
- Epa — Agglomerate—acid volcanic fragments
- Ept — Tuff—epidotic, grey-green
- Eps — Quartzite with minor acid lava and tuff

Scamp volcanic association
- Esr — Siliceous breccia—possibly associated with faulting in Esa
- Esf — Felsite—pink to brown, finely crystalline, altered Esa
- Esa — Porphyritic acid volcanic rock—abundant flow-banding, much white pyritic rhyolite

(Confined to cauldron subsidence areas. Not part of the regional layering.)

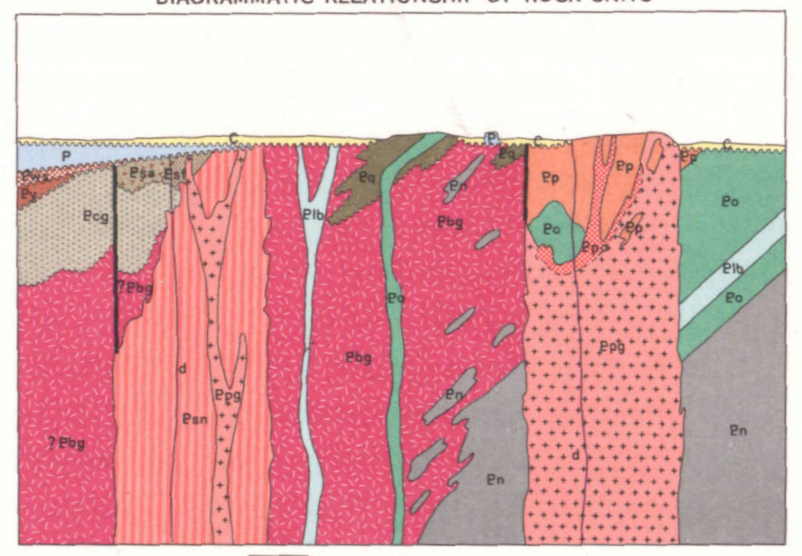
Pussy Cat Group
- Ecg — **GLYDE FORMATION:** amphibolite, mica schist and marble. Originally basic amygdaloidal lavas, tuff, shale, siltstone and dolomite
- Elb — Amphibolite and garnet amphibolite—originally amygdaloidal basic lavas
- Eq — Quartzite and quartz-muscovite schist—well-bedded, relict cross-bedding

IGNEOUS ROCKS

MIDDLE PROTEROZOIC
- d — Dolerite sheets and dykes—several ages
- p — Pegmatite
- Epg — Granophyre and minor granite—genetically related to the Palgrave volcanic association
- Epc — Porphyritic microgranite—related to Epg

Giles Complex
- Eo — Gabbro, troctolite, anorthositic gabbro —generally well banded
- Eom — Contaminated gabbroic rocks
- Eog — Granophyre—closely related to Eo
- Esn — Granitic gneiss—closely related to Esa and Esf
- Ebg — Complex of adamellite gneiss, adamellite and relict masses of granulite, much migmatisation

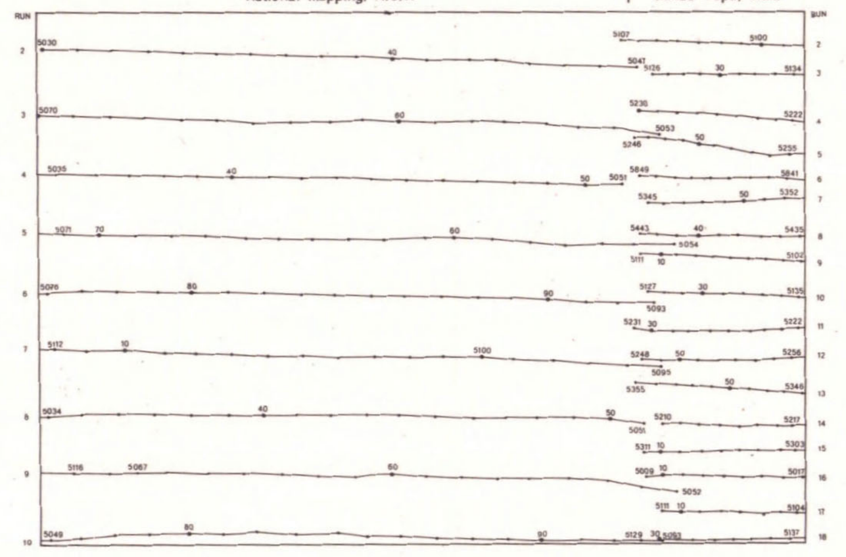
DIAGRAMMATIC RELATIONSHIP OF ROCK UNITS



- C — Undifferentiated Cainozoic
- Ep — Palgrave volcanic association
- Ey — Cassidy Group (not exposed)
- En — Granulite and downgraded granulite
- Unconformity

FLIGHT DIAGRAM

Air Photography by: Department of National Mapping, Canberra, May 1960 (scale 1 : 87,500)
Lands and Surveys Department of Western Australia, February 1959 (scale 1 : 40,000)

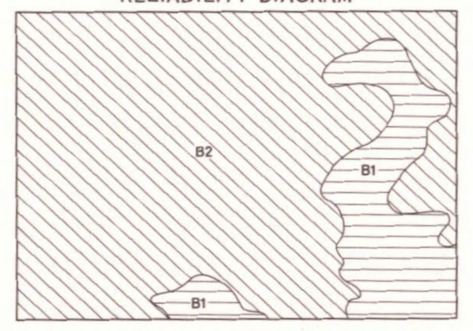


Compiled by Geological Survey of Western Australia. Cartography by Geological Drafting Section, Mines Department. Topographic base from compilations by Lands and Surveys Department, W.A. and Royal Australian Survey Corps, Department of Army.

Published by Bureau of Mineral Resources, Geology and Geophysics, Department of National Development, Canberra, A.C.T.

Copies of this map may be obtained from the Geological Survey of Western Australia in Perth; or the Bureau of Mineral Resources, Geology and Geophysics in Canberra, A.C.T.

RELIABILITY DIAGRAM



B1 Numerous traverses with air photo interpretation
B2 Air photo interpretation with a few traverses

HON. A. F. GRIFFITH, M.L.C.
MINISTER FOR MINES
J. H. LORD, DIRECTOR, GEOLOGICAL SURVEY

SCALE 1 : 250 000

5 10 15 20 Miles
10,000 20,000 30,000 Yards
5 10 15 20 25 30 Kilometres

UNIVERSAL TRANSVERSE MERCATOR PROJECTION
ZONE 52 AUSTRALIAN NATIONAL SPHEROID

INDEX TO ADJOINING SHEETS

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YOWALGA SG 51 - 12	TALBOT SG 52 - 9	COOPER SG 52 - 10

Geology by J. L. Daniels, J. J. G. Doepel and R. A. Farbridge, 1967

DECLINATION DIAGRAM

The lines indicate magnetic declination, 1965.
+ means declination is east and correction must be added to compass bearing to give true bearing.
− means declination is west and correction must be subtracted from compass bearing to give true bearing.
Annual change is +1' easterly

DIAGRAMMATIC SECTION

NATURAL SCALE

SECTION A - B

Ep — Palgrave volcanic association

BENTLEY
SHEET SG 52 - 5

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