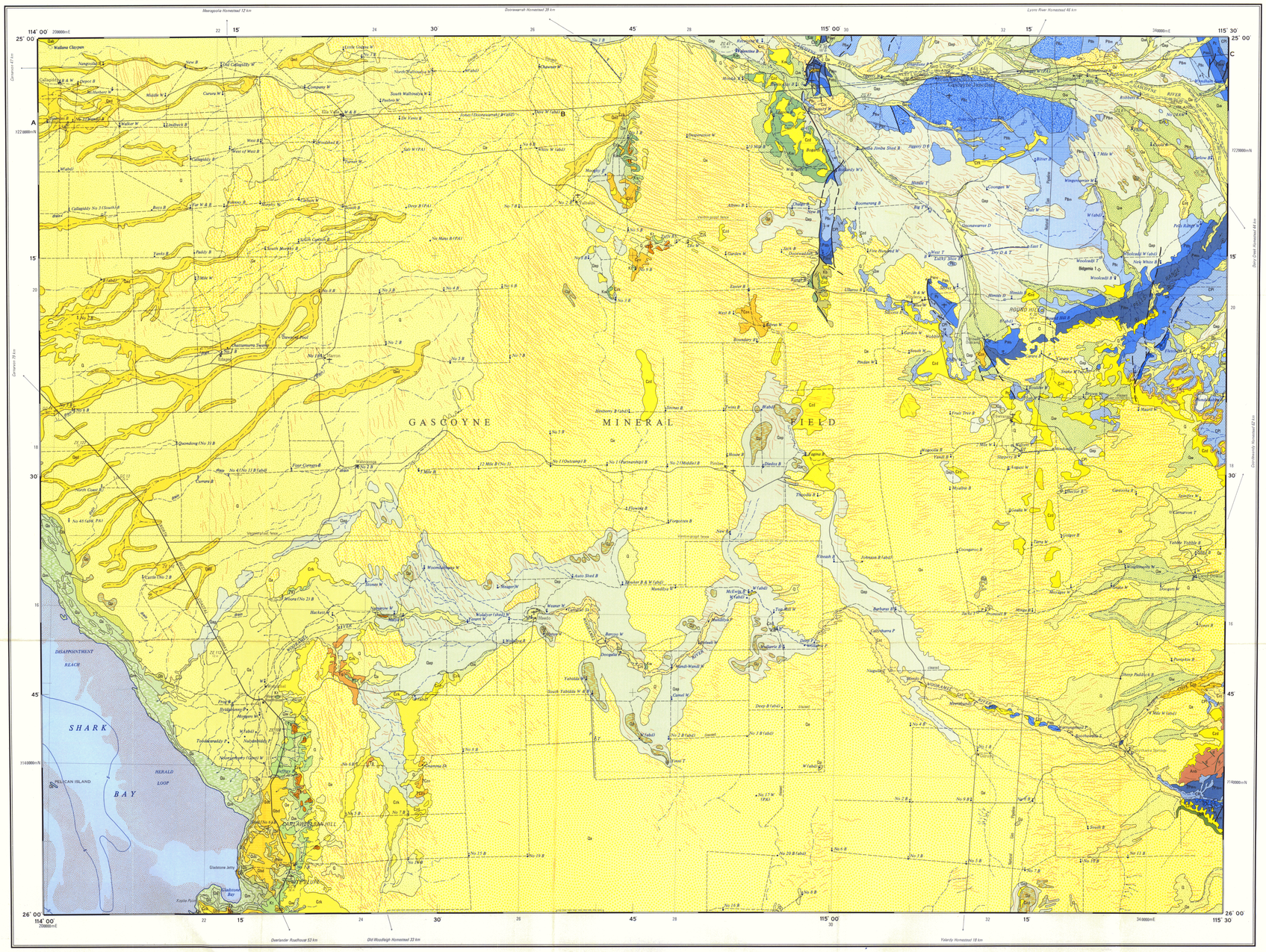
# WOORAMEL

AUSTRALIA 1:250 000 GEOLOGICAL SERIES

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA

SHEET SG 50 - 5

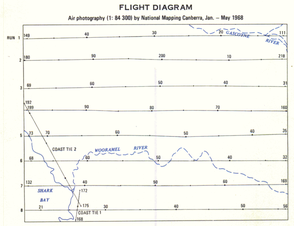



## SYMBOLS

- Geological boundary
- Fault
  - accurate
  - approximate
- Synclinal fold axis
- Bedding
  - inclined
- Air photo lineament
  - reflecting underlying bedding
  - structural origin
- Palaeocurrent from cross-stratification
- Karst locality
- Type section
- Petroleum exploration well, dry, abandoned
- Highway with national route marker
- Formed road
- Track
- Townsite gazetted, pop less than 1000 — Gascoyne Junction
- Homestead — Edagee
- Building
- Airfield, Landing ground
- Horizontal control; major, minor
- Benchmark, height accurate — ZE 122 / 15 m
- Sand dune
- River or creek, intermittent
- Palaeodrainage
- Pool
- Pipeline
- Bore drain, permanent — drain
- Bathymetric contour line, depth in metres — 5
- Artesian bore
  - flowing
  - non-flowing
- Sub-artesian bore
- Well — W
- Bore — B
- Windpump
- Dam — D
- Tank — T
- Soak — Sk
- Spring — S
- Abandoned — (abd)
- Position approximate — (PA)
- Submerged algal and sea-grass banks

## FLIGHT DIAGRAM

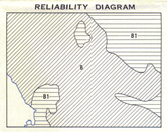
Air photography (1: 84 000) by National Mapping Canberra, Jan. – May 1968





Compiled and published by the Geological Survey of Western Australia. Cartography by the Geological Mapping Section, Department of Mines. Topographic base from compilations by the Department of Lands and Surveys.
Copies of this map may be obtained from the Geological Survey of Western Australia, 66 Adelaide Ter., Perth.
Printed by the Government Printing Office, Perth.

## RELIABILITY DIAGRAM




B — Traverses with air photo interpretation

B1 — Numerous traverses with air photo interpretation

HON. DAVID PARKER, M.L.A.
MINISTER FOR MINERALS AND ENERGY
A. F. TRENDALL, DIRECTOR, GEOLOGICAL SURVEY DIVISION

SCALE 1:250 000

5 0 5 10 15 20 25 30 Kilometres

TRANSVERSE MERCATOR PROJECTION
ZONE 50 AUSTRALIAN MAP GRID

## INDEX TO ADJOINING SHEETS

| | | |
|---|---|---|
| QUOBBA SG 49 - 4 | KENNEDY RANGE SG 50 - 1 | MT PHILLIPS SG 50 - 2[illegible] |
| SHARK BAY SG 49 - 8 | WOORAMEL SG 50 - 5 | GLENBURGH SG 50 - 6[illegible] |
| EDEL SG 49 - 12 | YARINGA SG 50 - 9 | BYRO SG 50 - 10[illegible] |

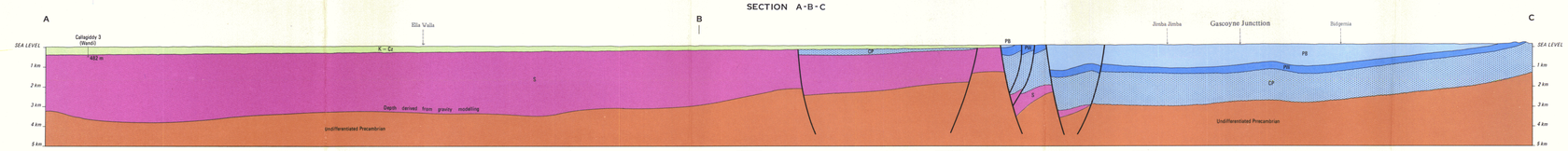
## DECLINATION DIAGRAM

The lines indicate magnetic declination, 1980
+ 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

## DIAGRAMMATIC SECTION

SCALE $\frac{V}{H}$ - 2

### SECTION A-B-C




K – Cz — Cretaceous and Cainozoic, undifferentiated

Pb — Early Permian, Byro Group

Pw — Early Permian, Wooramel Group

CP — Late Carboniferous – Early Permian Lyons and Callytharra Formations

S — Silurian, undifferentiated

## REFERENCE

### CAINOZOIC — QUATERNARY — HOLOCENE

- Qm — Tidal flat deposits – shelly lime-silt, sand, gravel; extensively bound by algal mats
- Qu — Supratidal flat deposits – shelly lime-silt, sand, gravel; minor authigenic gypsum and salt
- Qb — Beach, beach ridge and coastal dune deposits – calcarenite; locally contains oolds and small *Fragum erugatum* shells

### PLEISTOCENE TO HOLOCENE

- Q — Deposits of mixed or uncertain origin – alluvial, colluvial, eluvial and eolian clay, silt, sand and gravel; commonly in older alluvial and eluvial deposits partially reworked by eolian processes
- Qa — Alluvium – clay, silt, sand and gravel; locally calcreted, associated with drainage lines
- Qw — Diluvium and colluvium – clay, silt, sand and gravel; locally calcreted, no well-defined drainage pattern
- Qe — Sandplain and dune deposits – reddish-brown to yellowish eolian sand; includes interdune deposits
- Qap — Playa and dune deposits – alluvial, diluvial and eolian clay, silt, sand and gravel in mixed dune and playa terrain; commonly associated with major palaeodrainage
- Qp — Claypan and salt lake deposits – clay, silt, sand and gravel in larger claypans and coastal saline lakes

### PLEISTOCENE

- Qb — **BIBRA LIMESTONE** : shelly calcarenite to calcirudite; shallow marine and beach ridge deposits; minor calcretization
- Qclc — **Carbla Oolite Member** : oolitic calcarenite; coastal dune and ? shallow marine deposits; extensively calcreted; forms low ridges
- Qd — **DAMPIER LIMESTONE** : shelly calcarenite to calcirudite; shallow marine and beach ridge deposits; extensively calcreted
- Qbd — Undifferentiated; commonly obscured by thin alluvial/diluvial layer

### ? MIOCENE TO PLEISTOCENE

- Qab — Alluvium – deposits of Brown Channel, Gascoyne River; poorly sorted silt, sand, gravel and clay; partly calcreted
- Qed — Sandridges marking ancient drainage lines of Gascoyne River; predates Brown Channel
- Qpe — Older eolianite – yellowish to rusty brown quartz sandstone; ubiquitous soil structures

### MIOCENE

- Czk — Calcrete – nodular, pisolitic and laminated well-indurated authigenic limestone duricrust; includes minor gypcrete in Gascoyne Junction area
- Czm — **NADARRA FORMATION** : encritic limestone and calcreted mudstone; lacustrine
- Czc — Older alluvial, colluvial and diluvial deposits – consolidated clay, silt, sand and gravel

### TERTIARY — MIOCENE TO PLEISTOCENE

- Tl — **LAMONT SANDSTONE** : fine to very coarse-grained silicified quartz arenite; generally moderately sorted; ? shallow marine
- Tp — **PINDILYA FORMATION** : medium-grained to pebbly, poorly sorted sandstone and sandy siltstone; ? alluvial; mostly silcreted

### MIOCENE TO OLIGOCENE

- Czd — Ferruginous and siliceous duricrust – laterite, silcrete, some intensely ferruginized and/or silicified bedrock

### EOCENE

- Tg — **GIRALIA CALCARENITE** : glauconitic, bioclastic limestone; greenish to brownish colour, locally quartzose; shallow marine

### MESOZOIC — SANTONIAN TO MAASTRICHTIAN

- Kt — **TOOLONGA CALCILUTITE** : marly, greenish and white calcilutite, minor chert; commonly poorly exposed; low energy marine shelf

### CRETACEOUS — ALBIAN

- Kw — **WINDALIA RADIOLARITE** : radiolarian siltstone; variably porcellanized, locally varicoloured; low energy marine shelf

### CRETACEOUS — AATIAN

- Kb — **BIRDRONG SANDSTONE** : medium-grained quartz sandstone; moderately sorted, commonly ferruginized; high energy shallow marine

### PALAEOZOIC — PERMIAN — ARTINSKIAN — Byro Group

- Pbr — **NALBIA SANDSTONE** : quartz wacke, subordinate sandy siltstone; bioturbated and fossiliferous; shallow marine
- Pbw — **WANDAGEE FORMATION** : siltstone and fine quartz wacke; bioturbated and fossiliferous; offshore and shallow marine
- Pbc — **CUNDLEEG FORMATION** : quartz wacke, siltstone and shale; locally fossiliferous; shallow marine; commonly outcrops as ridges of calcareous, well-indurated quartz wacke
- Pbb — **BULGADDO SHALE** : shale, siltstone, minor quartz wacke; variably calcareous, fossiliferous; offshore marine
- Pbm — **MALLENE SANDSTONE** : quartz wacke, minor quartz arenite; bioturbated and crossbedded; shallow marine
- Pbc — **COYRIE FORMATION** : siltstone, claystone, quartz wacke; commonly thin-bedded; offshore and shallow marine

### Wooramel Group

- Pwn — **BILLIDEE FORMATION** (Pbb) : feldspathic and quartz wacke, siltstone; commonly thin-bedded; shallow marine
  - Pbbs — **Jindua Jindua Calcarenite Member** (Pbbs) : friable calcilitite and hard fossiliferous calcarenite; shallow marine with calcarenite shoals
- Pwb — **KEIGH FORMATION** (Pwb) : siltstone, sandstone, minor claystone; poorly exposed; shallow marine to deltaic
- Pdm — **MOOGOOLOO SANDSTONE** : quartz arenite; minor pebble conglomerate, quartz wacke, feldspathic wacke and siltstone; deltaic and shallow marine

### SAKMARIAN

- Pc — **CALLYTHARRA FORMATION** : friable calcareous siltstone (lower), interbedded with hard calcarenite (upper); fossiliferous; shallow marine with calcarenite shoals
- Pr — **CARRANDIBBY FORMATION** : micaceous and calcareous siltstone, sandstone and claystone; fossiliferous; shallow marine, locally glacigene

### ? CARBONIFEROUS

- CPl — **LYONS FORMATION** : quartz wacke, shale, siltstone and tillite; contains numerous glacial erratics; continental and marine, glacigene

Commonly recognized and poorly exposed or fenugreed groups

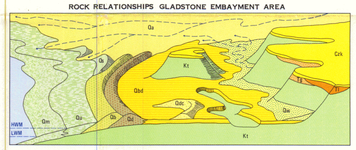
### PROTEROZOIC

- d — Dolerite dyke of variable Proterozoic age (may be weakly metamorphosed)

### ARCHAEAN

- Arnb — Banded microcline-plagioclase-quartz-biotite gneiss; coarse to fine-grained; migmatitic in part

## ROCK RELATIONSHIPS GLADSTONE EMBAYMENT AREA

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SHEET SG 50 - 5

SECOND EDITION 1985

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