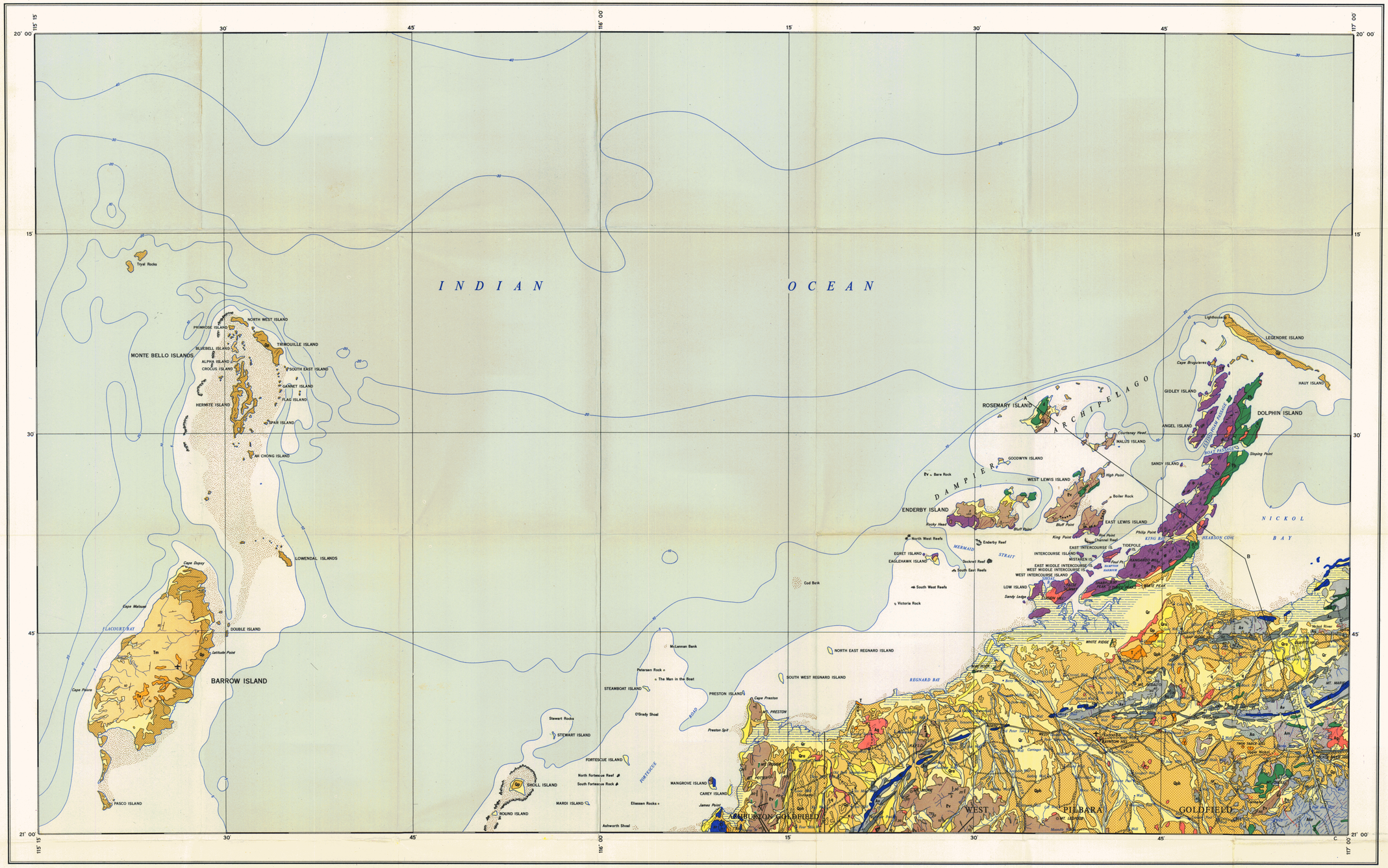
DAMPIER AND BARROW ISLAND

AUSTRALIA 1 : 250.000 GEOLOGICAL SERIES

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA

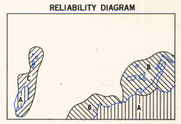
SHEET SF 50 - 2 AND PART OF SHEET SF 50 - 1



Compiled and published by Geological Survey of Western Australia. Cartography by Geological Drafting Section, Mines Department. Topographic base from compilations by Lands and Surveys Department. Printed by Govt. Printing Office, Perth, 1964.

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

RELIABILITY DIAGRAM



A Detailed mapping
B Photo-interpretation with traverses
C Photo-interpretation

HON. A. F. GRIFFITH, M.L.C.
MINISTER FOR MINES

J. H. LORD, DIRECTOR, GEOLOGICAL SURVEY

SCALE 1 : 250,000

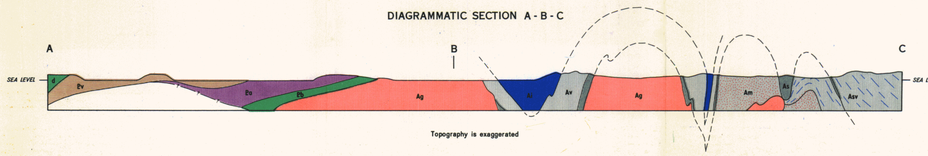
5 0 5 10 15 20 Miles

10,000 0 10,000 20,000 30,000 Yards

5 0 5 10 15 20 25 30 Kilometres

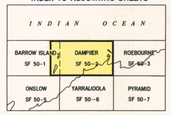
TRANSVERSE MERCATOR PROJECTION
ZONE 1 AUSTRALIA SERIES

DIAGRAMMATIC SECTION A - B - C



Topography is exaggerated

INDEX TO ADJOINING SHEETS



Geology by M. Kriewaldt, R. C. Horwitz, G. R. Ryon and W. M. Bock.
Geology of Barrow Island by West Australian Petroleum Pty. Ltd.

DECLINATION DIAGRAM

Annual change is negligible

REFERENCE

CAINOZOIC — QUATERNARY — RECENT

Qr — Alluvium and coastal deposits: silts of tidal flats; creek deposits; downwash and sheet-flood deposits; beach and aeolian sands

Qra — Dissected deposits: dune sand; downwash gravels; silt along old drainage lines containing *Anadara* sp.

CAINOZOIC — QUATERNARY — PLEISTOCENE

Qpa — Gravel or sand; fossil outwash gravels and aeolian sands; probably contains products of decalcification of underlying units

Qp — Dune limestone: lime-cemented dune sand. Correlated with COASTAL LIMESTONE

Calcareous conglomerate: lime-cemented beach conglomerate. Correlated with COASTAL LIMESTONE

Kunkar: calcareous sheet-deposits and local accumulations over bedrock

Clay: red and mottled clay with some loam and sheet kunkar. Forms high level plain

CAINOZOIC — TERTIARY

T — Laterite, ferruginised bedrock and valley-fill (with replaced wood fragments). Lateritic gravels

Si — Grey billy: siliceous coppings overlying kaolinised granitic rocks

LOWER MIOCENE — Tm — TREALLA LIMESTONE: hard, poorly bedded, sandy, fossiliferous crystalline marine limestone

UPPER EOCENE — Te — GIRALIA CALCARENITE: medium to hard, brown to yellow, ferruginous sandy fossiliferous marine limestone

PROTEROZOIC

Ei — Banded iron formation: jaspilite, hematite, chert and shale with red shale and siltstone. Correlated with BROCKMAN IRON FORMATION

Ev — MOUNT JOPE BASALT: massive, amygdaloidal scoriaceous and vesicular basic and intermediate lavas; locally with columnar jointing, interbedded pyroclastic rocks and basal arkoses

Es — Tuffaceous clastic rocks: coarse-grained to fine-grained red and green sandstone, siltstone and shale with a high proportion of volcanic material

Basal arkose

ARCHAEAN

Ai — Iron formation and shale: interlaminated jaspilite, chert, hematite and shale; red and purple shale and siltstone; manganese stains. Correlated with GORGE CREEK FORMATION

Av — Basic volcanic rocks: tough, blue, fine-grained basic rocks; spilites, pillow lavas; thin beds of chert, shale and siltstone with calcareous and ferruginous beds; quartz-amphibole schist

Asv — Volcanic and clastic rocks, recrystallised epidotised basic volcanic rocks, with intercalated blue chert, siliceous shale and siltstone and acid volcanic rocks

As — Amphibole schists with chert, dolomite and clastic sedimentary rocks: hornblende, actinolite and tremolite schist; quartz-mica schist; quartzite; ferruginous shale, dolomite, chert with ferruginous bands, prase, fuchsite and green (nickeliferous) dolomite beds; thin beds of blue chert. Conglomerate and coarse-grained feldspathic sandstone above local unconformity

Aa — Amphibolites: massive and schistose; altered dolomite, siltstone and basic volcanic rocks

Am — Undifferentiated metamorphic rocks: massive, foliated and layered acid, basic and hybrid rocks associated with granite. A metamorphic, metasomatic and intrusive complex with remnants of acid and basic igneous rocks, calcareous sedimentary rocks and amphibolites

INTRUSIVE ROCKS

PROTEROZOIC

d — Dolerite dykes

d — Dolerite sills

Pb — Dolerite

Pa — Xenolith dyke rock: acidic rock with abundant quartzose xenoliths. Intrudes all Precambrian units except dolerite dykes

Pa — Granophyre: massive and layered acid intrusive complex; red, green, purple, blue and light-coloured, even grained to "porphyritic" and spheroidal, and with granophyric texture. Contains rafts and blocks of granitic gneiss, PROTEROZOIC arkoses and lava in various stages of assimilation. Intruded at the unconformity between PROTEROZOIC and ARCHAEAN. Petrologically similar to acid extrusive rocks of the WOONGARRA DACITE

Pb — Gabbro: massive, underlies granophyre at Dolphin Island. Relationships uncertain

b — Basic rocks, widely altered, medium-grained to coarse-grained; as dykes, sills and stocks. Not known to intrude PROTEROZOIC rocks

ARCHAEAN

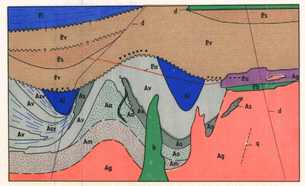
Ag — Granite, gneiss and pegmatite: coarse-grained acidic rocks ranging from strongly foliated and banded quartz-feldspar gneiss (containing, in places, remnants of basic rock, amphibolite, green chert and fuchsite schist) to massive intrusive hornblende granite and biotite granite with basic xenoliths

Ad — Dolerite; altered, truncated at local unconformity and folded with Archaean

SYMBOLS

Geological boundary		Strike and dip of lavas	25
Strike and dip of sediments	30	Strike of vertical lavas	
Strike of vertical sediments		Strike of lavas, dip unknown	
Strike and dip of sediments from photo-interpretation	30	Strike and dip of lavas from photo-interpretation	25
Plunge of drag fold		Trend lines from photo-interpretation	
Generalised plunge of fold axes		Joint pattern from photo-interpretation	
Facing (volcanic rocks)		Fault	
Strike and dip of foliation		Quartz veins	Q
Vertical foliation		Sand dunes	
Goldfield boundary		River or stream	
Highway		Pool	Cardan Pool
Road, track		Bore, well or waterhole	Lowes Well
Landmark feature	MT. SNOEL	Bore or well with windpump	Cold Well
Trigonometrical station, Major, Minor		Soak	Shearn Soak
High water areas		Dam	
Fortescue line		Foreshore sand	
Geological section	A B C	Landing ground	
Mine		Gold Au	Copper Cu

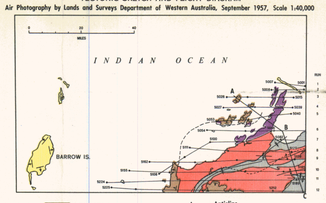
DIAGRAMMATIC RELATIONSHIP OF OLDER ROCK UNITS



Unconformity
Unconformity inferred
Arkose

TECTONIC SKETCH AND FLIGHT DIAGRAM

Air Photography by Lands and Surveys Department of Western Australia, September 1957, Scale 1:40,000



CAINOZOIC
PROTEROZOIC
ARCHAEAN

Anticline
Syncline
Strike and dip
A B C Position of Geological Section
Flight line and photo numbers
North West Coastal Highway

DAMPIER AND BARROW ISLAND

SHEET SF 50 - 2 AND PART OF SHEET SF 50 - 1

FIRST EDITION. 1964