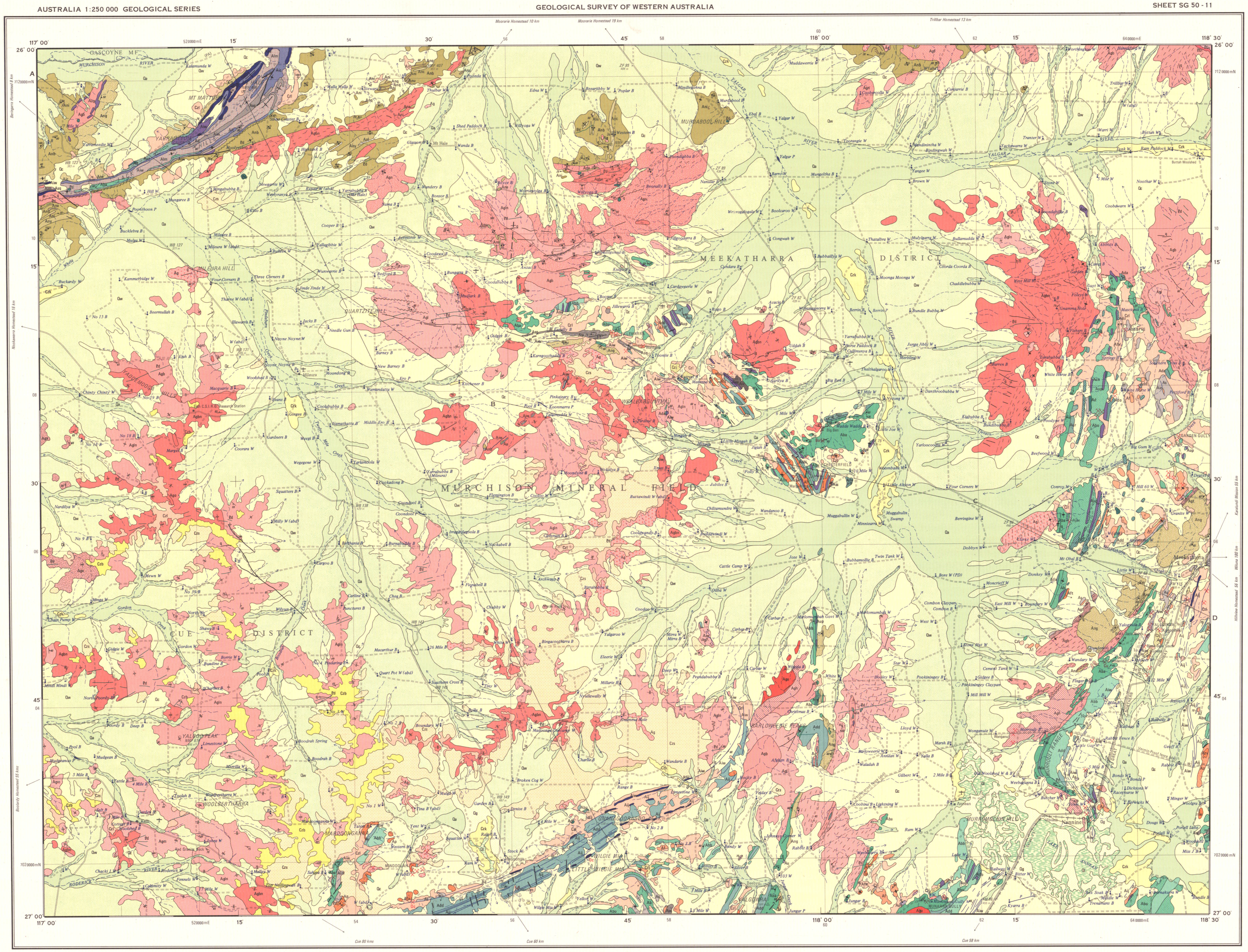
AUSTRALIA 1:250 000 GEOLOGICAL SERIES

BELELE

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA

SHEET SG 50-11



SYMBOLS

Geological boundary
Fault
- accurate
- inferred
- recent (?) fault line

Fold axial trace
- anticline
- syncline
- overturned syncline

Bedding
- inclined
- vertical

Facing
- graded bedding
- layered sill
- pillow structures in lava

Primary alignment of phenocrysts and nebulitic layering in granitoids
- inclined
- vertical
- trend

Metamorphic foliation and compositional layering in gneissic rocks
- inclined
- vertical
- trend

Metamorphic foliation and cleavage
- inclined
- vertical

Secondary foliation in granite and gneiss
Lineation and minor fold axis
- trend and plunge

Shear or mylonite zone
Air photo lineament
Hematite ore lens

Mineral field boundary
Mineral field district boundary
Highway, with route marker
Road
Track
Railway (3'6"), disused, with siding
Townsite, gazetted, population less than 1000 — Meekatharra
Homestead — Kalli
Building
Landing ground
Position approximate — PA
Horizontal control: major, minor
Benchmark, height accurate — WB 123 383 m
Breakaway

Watercourse, intermittent
Pool — P
Pipeline — P
Well — W
Bore — B
Windpump
Tank — T
Position doubtful — (PD)
Abandoned — (abd)

Mining centre — CHESTERFIELD
Mine, may or may not be working (gold unless otherwise indicated) — Ajax
Mine, abandoned
Mineral occurrence
- Barite — Ba
- Copper — Cu
- Magnesite — Ms
- Ochre — Oc

REFERENCE

CAINOZOIC — QUATERNARY

Qc	Qw	Qa	Ql	Qg

Qc Colluvium – quartz and rock fragments in loam, unconsolidated, forming scree and talus slopes
Qw Colluvium and alluvium – unconsolidated sand and silt in sheetwash plains, mostly with low windblown sand banks
Qa Alluvium – unconsolidated sand, silt and gravel in drainage lines and adjacent floodplains
Ql Lake deposits – clay, silt and grit, saline and gypsiferous
Qg Deposits marginal to salt lakes – mainly eolian quartz sand and gypsum banks, contains numerous small claypans

Czs	Czk

Czs Eolian sand in dunes and sheets overlying Czl, contains lateritic gravel in places
Czk Valley calcrete – sheet carbonate formed around lakes and in major drainage lines

TERTIARY

Czl	Czj	Czb

Czl Laterite, massive and pisolitic ferruginous duricrust, includes silcrete over granitic rocks
Czj Siliceous caprock, brown, fawn and cream in colour, developed on various rocks of greenstone belts
Czb Silcrete, siliceous duricrust with angular quartz grains, over granitoid rock

EARLY PROTEROZOIC

Glengarry Group (ƁG)

ƁGs Shale and sandstone, contains detrital magnetite
ƁGf Mature quartz sandstone, cross-bedded, minor conglomerate (FINLAYSON SANDSTONE)

Ɓd Diorite, tonalite and dolerite dykes, dolerite plugs
q Quartz vein

ARCHAEAN

Ag Undivided granitoid

Agb	Agl	Agbn	Agln	Agm	Ago	Agx
Agu	Agf	Agh	Agt			

Agb Biotite granite, adamellite, granodiorite and tonalite, even-grained
Agl Biotite granite, adamellite and granodiorite, porphyritic with microcline megacrysts
Agbn Biotite adamellite and granodiorite, even-grained, with sparse feldspar megacrysts, commonly has biotite entrainment and nebulitic banding, granitic texture
Agln Biotite adamellite and granodiorite, sparse to abundant feldspar megacrysts, commonly aligned, nebulitic banding defined by megacryst and biotite content, granitic texture
Agm Mixed granitic rocks, Agbn and Agln in approximately equal amounts, net-veined by adamellite and pegmatite dykes
Ago Granodiorite and adamellite dykes containing leucocratic ellipsoids
Agx Mixture of granitoid and recrystallized gneiss, heterogeneous facies marginal to plutonic complex
Agu Muscovite alkali granite, medium and coarse-grained, quartz-rich, contains accessory fluorite
Agf Leuco-adamellite, medium to coarse-grained, sparse biotite altered to chlorite
Agh Hornblende tonalite and granodiorite, unfoliated, contains scattered small mafic xenoliths
Agt Biotite tonalite, mylonitic texture, dark grey in colour

Agn Nebulitic to well-banded gneiss and granofels of adamellite and granodiorite composition, even-grained, mostly recrystallized and migmatized gneiss, grades into Anb

Ang Adamellite and granodiorite gneiss with strong gneissic foliation and lineation, commonly compositional banded, includes augen gneiss

Aiw	Aij	Aic

Aiw Banded iron-formation, black and white banded, may be recrystallized to a fine granular texture
Aij Jaspilite, red, black and white banded iron-formation
Aic Banded chert, may be recrystallized to a fine granular quartzite

As	Ass	Asq	Alm	Alc

As Undivided sediment, generally poorly-exposed, fine-grained, schistose rocks, in part tuffaceous
Ass Shale, mudstone
Asq Quartzite and micaceous quartzite, fine to medium-grained, quartz wacke and conglomerate in places
Alm Quartz-mica schist, contains garnet and andalusite in places, pelitic metasediment
Alc Quartz-chlorite-carbonate schist, chloritic metasediment

Af	Aft	Afx	Az	Azv

Af Undivided intermediate and felsic volcanic rock, mainly tuffaceous
Aft Crystal-lithic felsic tuff, fine-grained, generally schistose
Afx Lapilli tuff and agglomerate, medium to coarse-grained, angular and rounded clasts in a felsic matrix
Az Andesitic lava, tuff and minor fine-grained tuffaceous sediments
Azv Agglomerate, coarse-grained, blocks of andesitic lava in fragmental matrix of similar composition

Ap Felsic porphyry, quartz and feldspar phenocrysts

Ad	Add	Ado	Adr	Ada

Ad Undivided mafic intrusive rock
Add Dolerite, medium-grained
Ado Gabbro, coarse-grained
Adr Granophyre, medium-grained, has graphically intergrown quartz and feldspar
Ada Amphibolite, medium-grained, dynamically metamorphosed dolerite with foliation and amphibole growth

Ab	Abb	Abu	Aba	Aa

Ab Undivided mafic extrusive rock
Abb Basalt, fine-grained, pillowed and/or vesicular in places, intergranular texture
Abu Basalt containing fresh or altered skeletal clinopyroxene, mostly komatiitic
Aba Amphibolite, fine-grained, schistose with growth of amphibolite in foliation; metamorphosed Abb and Abu
Aa Hornblende-plagioclase (-clinopyroxene) amphibolite

Au	Aup	Aux	Aue	Aur

Au Undivided ultramafic rock
Aup Serpentinized peridotite, cumulate olivine texture preserved
Aux Metapyroxenite, medium to coarse-grained actinolite after clinopyroxene, original texture preserved
Aue Talc-carbonate schist, altered olivine-rich ultramafic rock
Aur Chlorite-amphibole schist, fine-grained, altered pyroxene-rich rock including ultramafic komatiite

Anb	Anc	Any	Anq	Anl	Ani	Ana	Anu

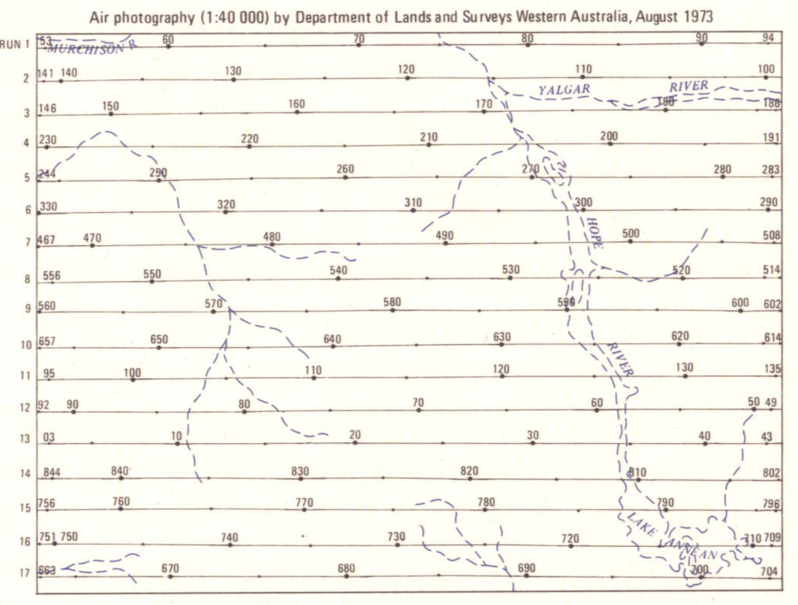
Anb Quartz-feldspar-biotite gneiss and migmatite, compositionally banded
Anc Calc-silicate paragneiss, quartz-feldspar-clinopyroxene-hornblende assemblages, compositionally banded
Any Pelitic schist and granofels, quartz-feldspar-muscovite-biotite-garnet-cordierite-andalusite-kyanite assemblages, compositionally banded
Anq Quartzite, minor amphibole, shows relict bedding
Anl Micaceous quartzite containing green muscovite
Ani Quartz-magnetite-amphibole layered rock, metamorphosed banded iron-formation
Ana Amphibolite, hornblende-calcic plagioclase (-clinopyroxene-garnet), metamorphic texture, may be compositionally banded
Anu Ultramafic rock, metamorphic texture, clinopyroxene-chlorite-serpentine-amphibole assemblage

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 Tce., Perth.

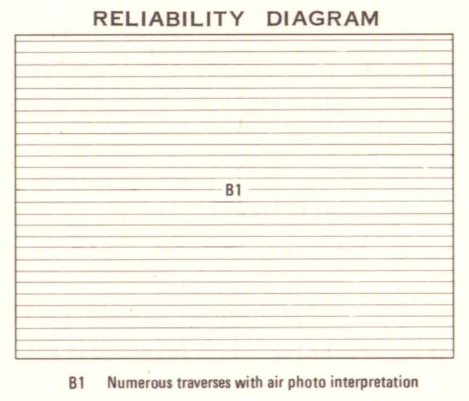
Geology by: M. Elias 1977-78, P.H. Wharton 1977, I.W. Walker 1978, S.J. Williams 1978.

FLIGHT DIAGRAM

Air photography (1:40 000) by Department of Lands and Surveys Western Australia, August 1973



RELIABILITY DIAGRAM



B1 Numerous traverses with air photo interpretation

HON. P. DOWDING, M.L.C.
MINISTER FOR MINES
A.F. TRENDALL, DIRECTOR, GEOLOGICAL SURVEY

SCALE 1:250 000

5 0 5 10 15 20 25 30 Kilometres

TRANSVERSE MERCATOR PROJECTION
ZONE 1 AUSTRALIA SERIES
Grid represents 10000 metre superimposed Australian Map Grid

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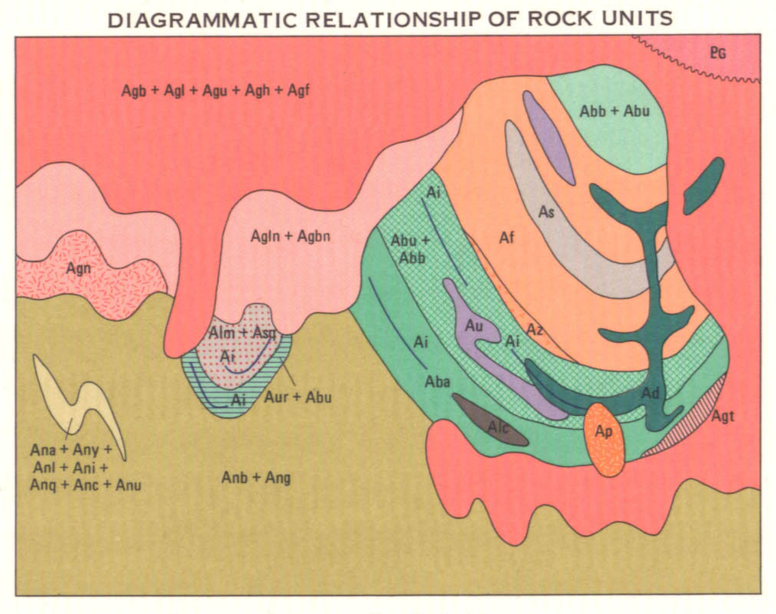
MURGOO SG 50-14	CUE SG 50-15	SANDSTONE SG 50-16

DECLINATION DIAGRAM

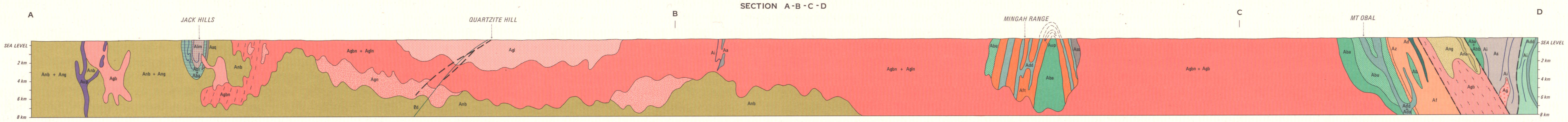
DIAGRAMMATIC RELATIONSHIP OF ROCK UNITS



DIAGRAMMATIC SECTION

NATURAL SCALE

SECTION A-B-C-D



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FIRST EDITION 1983