WILUNA

AUSTRALIA 1:250000 GEOLOGICAL SERIES | **GEOLOGICAL SURVEY OF WESTERN AUSTRALIA** | **SHEET SG 51-9**

SYMBOLS

Geological boundary
- exposed
- concealed
- concealed, interpreted from aeromagnetic data

Structural symbols are labelled according to the sequence of local deformation events, where known
- Archaean deformation
- D_1, D_2

Fault or shear zone
- exposed
- concealed
- concealed, interpreted from aeromagnetic data

Strongly foliated rock

Small-scale fold axis, showing trend and plunge
- unspecified
- S-vergence

Bedding, showing strike and dip
- inclined
- vertical
- horizontal
- trend of bedding

Way-up indicator
- pillow structure
- sedimentary structure

Metamorphic foliation, showing strike and dip
- inclined
- vertical

Mineral lineation, showing trend and plunge
- inclined
- horizontal
- crenulation, showing trend and plunge of axis, inclined

Intersection lineation, showing trend and plunge, inclined

Joint, fracture, or vein, showing strike and dip
- inclined
- vertical

Airphoto lineament
- prominent trend, unspecified
- fracture pattern in granitoid rock

Aeromagnetic lineament

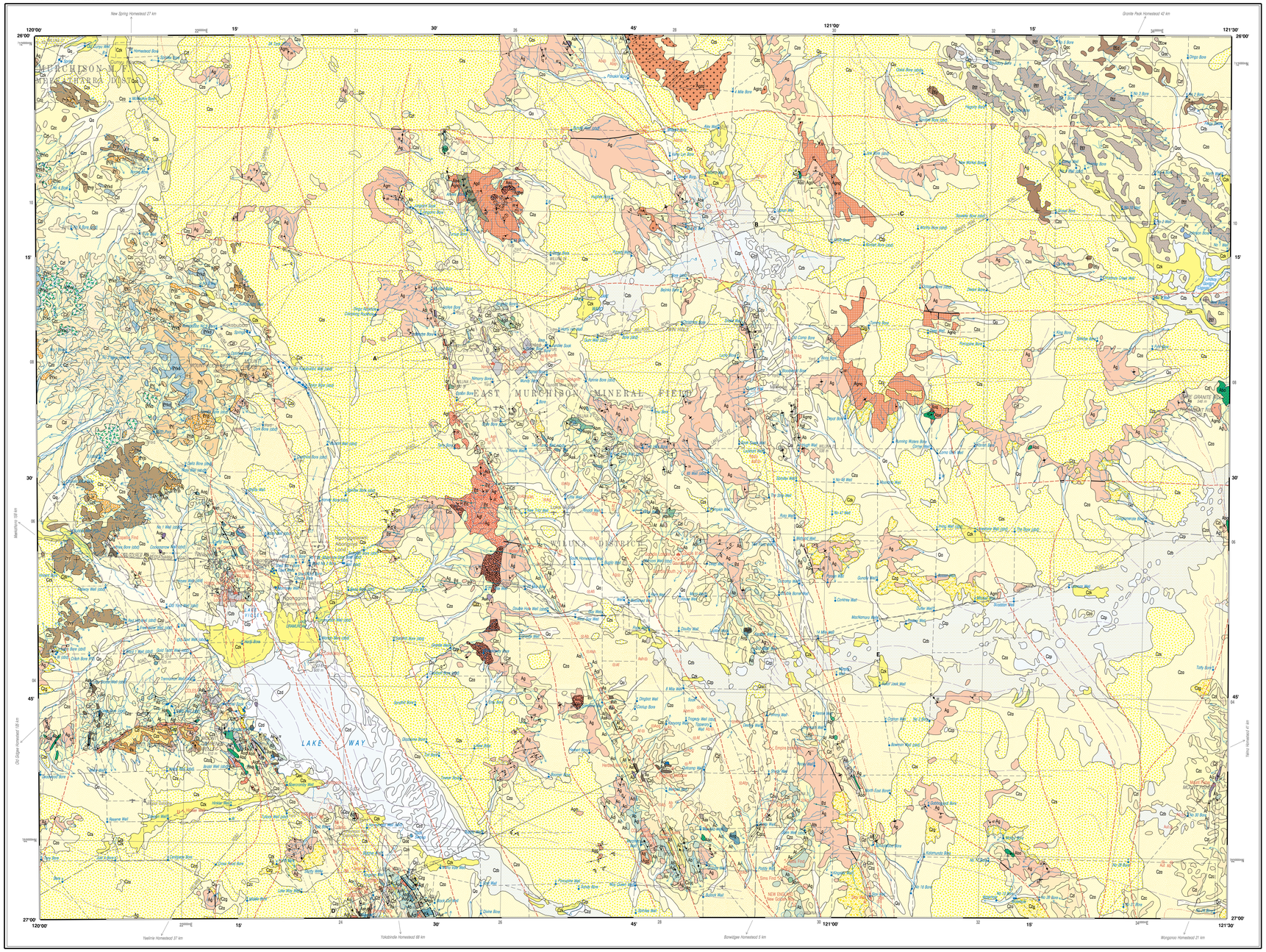
Formed road
Track
Railway, abandoned
Powerline
Landing ground
Homestead — Milrose
Building
Yard
Microwave repeater station
Horizontal control, minor
Breakaway
Sand dune

Watercourse with ephemeral pool, rockhole, soak, spring or waterhole
Waterhole
Soak
Spring
Bore
Well
Pipeline
Windpump
Tank
Abandoned
Position doubtful

Mineral field boundary
Mining centre — WILUNA
Mine (gold, unless otherwise indicated) — Sims Find
Major opencut — Jundee
Opencut — Hoppy Jock
Prospect
Treatment plant
Mining area
- mode ground
- tailings, mullock

Mineral exploration drillhole, showing subsurface data — 89 Agm

Mineral occurrence
- Nickel — Ni
- Uranium — U



SHEET INDEX

1:100000 maps shown in block

Published 1:100000 maps used in compilation

1:250000 maps shown in brown

See current GSWA map catalogue for full range of published products

The lines indicate magnetic declination, 1996. A bearing illustration is axial and correction must be added to compass bearing to give true bearing. Conversely subtract from true bearing to give compass bearing. Annual change is 1' easterly.

Compiled by T. R. Farrell 1997

Geology after GSWA and AGSO maps (see sheet index)

Edited by N. Tellow and G. Loon

Cartography by D. Lockbrook and B. Williams

Topography from the Department of Land Administration Sheet SG 51-9 with modifications from geological field survey

Published by the Geological Survey of Western Australia. Copies available from the Information Centre, Department of Minerals and Energy, 100 Plain Street, East Perth, WA, 6004. Phone (08) 9222 3459, Fax (08) 9222 3444

This map is also available in digital form

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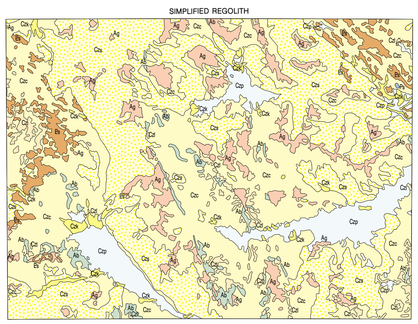
SIMPLIFIED REGOLITH



Czp Playa deposits

Czs Czc Sandplain deposits; Colluvium and sheetwash deposits

Czk Czl Calcrete; Duricrust

Pz Permian sedimentary rock

Ep Proterozoic rock

Ag Archaean granitoid rock and associated alluvium

Ab Archaean greenstone and associated alluvium

Ep Paterson Formation

Ep Proterozoic sedimentary rock, unassigned

Etcw Chiall Formation, Wandiwarra Member

Etcd Windidda Formation

Etz Frere Formation

Ety Yelma Formation

Eh Maroloou Formation

Eh Killara Formation

Ehc Borte Member

Ehd Medium- to coarse-grained dolerite dykes and sills

Ehf Aphyric tholeiitic basalt

Eh Thaduna Formation

Eh Johnson Cairn Formation

Eh Juderina Formation

Eh Bubble Well Member

Eh Finlayson Member

Eastnedy Group; Mooloogool Subgroup; Yerida Group; Wingdale Subgroup; ERAWIRDY BASIN; VERDUS BASIN

Etz / Mafic dyke; dashes indicate concealed by younger rock

q / Quartz vein

Agn Agnq Syenite; Monzonite

Ag Granitoid rock, mainly monzogranite

Agb Agbq Interlayered foliated granitoid and mafic rocks

Agnq Granitoid rock and quartzofeldspathic gneiss in various proportions

Angb Angbq Layered sequence of quartzofeldspathic gneiss, monzogranite, and metamorphosed mafic rock

Ang Quartzofeldspathic gneiss dominant

Aa Aa+M Ac Acf Metasedimentary rock dominant

Aa+M Mixed sequence of metamorphosed sedimentary and felsic rocks

Ac Chert and layered chert; metamorphosed

Acf Banded iron-formation; metamorphosed

Af Afdp Afl Metamorphosed felsic rock dominant

Afdp Porphyritic dacite; metamorphosed

Afl Intermediate volcanic rock; metamorphosed

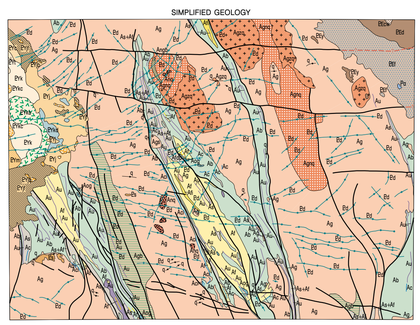
Afb Metamorphosed mafic rock dominant

Aog Metagabbro

Au Metamorphosed ultramafic rock dominant

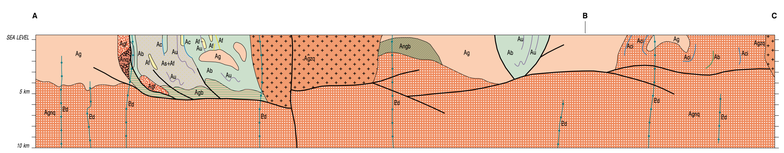
YILGARN CRATON

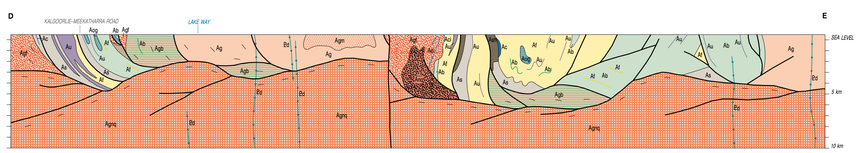
SIMPLIFIED GEOLOGY



DIAGRAMMATIC SECTIONS

NATURAL SCALE





REFERENCE

PHANEROZOIC — CAINOZOIC — QUATERNARY

Qa Qac Alluvium — clay, silt, sand, and gravel; in channels and on floodplains; Clay and silt in claypans

Czb Czd Czp Ephemeral lake and dune deposits — clay, silt, and sand; in drainage basins adjacent to playa lakes; Dune deposits — sand, silt, clay, gypsum, and carbonate; in low dunes adjacent to playa lakes; Playa deposits — saline and gypsiferous evaporites, clay, and sand in playa lakes

Czs Czk Sheetwash deposits — clay, silt, and sand in extensive fans; commonly ferruginous; Sandplain deposits — unconsolidated sand and minor silt; includes stabilized dunes

Czc Czcq Czl Czg Colluvium — silt, sand, and rock debris as slope deposits and proximal sheetwash; includes ironstone fragments; Quartz vein rubble and debris; Ferruginous rubble — degraded lateritic duricrust, and ferruginous debris; Sand over granitoid rock — quartzofeldspathic sand

Czk Czl Czu Czz Calcrete; Duricrust; Silica caprock over ultramafic rock; Silcrete

PALAEOZOIC — PERMIAN

Pz PATERSON FORMATION: sandstone, pebbly siltstone, and conglomerate

PROTEROZOIC — PALAEOPROTEROZOIC

Ep Conglomerate, quartz-rich sandstone, arkosic sandstone, and microbial laminates; commonly silicified and brecciated

Eastnedy Group — ERAWIRDY BASIN

Etcw CHIALL FORMATION: Wandiwarra Member: siltstone and shale, and subordinate sandstone

Etcd WINDIDDA FORMATION: limestone and shale

Etz FRERE FORMATION: granular iron formation, ferruginous siltstone, and shale; minor banded iron-formation and chert

Ety YELMA FORMATION: sandstone, shale, and minor conglomerate

Yerida Group — VERDUS BASIN

Mooloogool Subgroup

Eh KILLARA FORMATION: undivided mafic intrusive and extrusive rocks (simplified geology only)

Ehc Borte Member: chertified microbial laminates with barite and anhydrite nodules

Ehd Medium- to coarse-grained dolerite dykes and sills

Ehf Aphyric tholeiitic basalt

Wingdale Subgroup

Eh JUDERINA FORMATION: quartz sandstone; local siltstone, chert breccia, and conglomerate

Ehb Bubble Well Member: stromatolitic chert and chert breccia; minor dolomite

Ehy Finlayson Member: quartz arenite and subordinate siltstone; planar-bedded or cross-stratified; commonly ripple-marked

Etz Mafic dyke

q Quartz vein

ARCHAEAN — YILGARN CRATON

Agn Agnq Syenite (simplified geology and subsurface); Monzonite (subsurface only)

Ag Agn Agb Agd Agl Agg Agm Agmp Agmq Agmq Agmb Agng Agnq Agb Agd Agl Agg

Ag Granitoid rock, undivided; Agn Fine-grained granitoid rock; Agb Foliated granitoid rock with interlayered mafic rock; Agd Diorite and quartz diorite; Agdb Quartz diorite and quartz monzodiorite (subsurface only); Agl Foliated granitoid rock; Agg Granodiorite; Agm Biotite monzogranite; Agmh Hornblende monzogranite (subsurface only); Agmp Porphyritic biotite monzogranite; Agmq Granitoid rock and quartzofeldspathic gneiss; minor calc-silicate gneiss and mafic gneiss; Agmb Hornblende quartz monzonite; minor quartz diorite

Angb Interlayered quartzofeldspathic gneiss, monzonite, and metamorphosed mafic rock; Anq Quartzofeldspathic gneiss, commonly with diffuse layering

Aqp Quartz–feldspar schist

Aa Aac Aad Aah Aas Metamorphosed sedimentary rock, undivided; includes minor felsic volcaniclastic rock; Aa Aac Polymictic conglomerate; metamorphosed; Aad Dolomite; metamorphosed; Aah Shale, and minor siltstone and sandstone; metamorphosed; Aas Sandstone and minor siltstone; metamorphosed

Ac Acf Ac Chert and banded chert; metamorphosed; Acf Banded iron-formation; metamorphosed

Af Afdp Afl Afp Afs Aft Af Metamorphosed felsic rock, undivided; Afdp Porphyritic dacite; metamorphosed; Afl Intermediate volcanic rock; metamorphosed; Afp Porphyritic felsic rock; metamorphosed; Afs Felsic schist; Aft Felsic tuff; metamorphosed

Aog Aogf Aogb Aog Metagabbro; Aogf Strongly foliated gabbro; metamorphosed; Aogo Olivine gabbro; metamorphosed

Ab Abo Abf Abg Abm Abs Aby Ab Metamorphosed fine- to medium-grained mafic rock, undivided; includes some metagabbro; Abo Amphibolite; generally fine- to medium-grained; Abf Strongly foliated metamorphosed mafic rock; Abg Strongly foliated metamorphosed mafic rock interlayered with minor foliated granitoid rock; Abp Porphyritic basaltic andesite; metamorphosed (subsurface only); Abm High-Mg basalt; commonly with pyroxene-spinifex and varioitic textures; metamorphosed; Abs Mafic schist; chlorite-rich schist, probably after high-Mg basalt; Aby Amygdaloidal basalt; metamorphosed

Au Aug Aua Aut Aux Metamorphosed ultramafic rock, undivided; Aug Peridotite; metamorphosed; Aua Serpentinised ultramafic rock; Aut Talc-chlorite-carbonate schist; Aux Pyroxenite; metamorphosed

GOVERNMENT OF WESTERN AUSTRALIA
HON. NORMAN MOORE, M.L.C.
MINISTER FOR MINES

DEPARTMENT OF MINERALS AND ENERGY
L. C. RAWFORD, DIRECTOR GENERAL

NGMA
PRODUCT OF THE NATIONAL GEOSCIENCE MAPPING ACCORD

AGSO

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA
DAVID BLIGHT, DIRECTOR

SCALE 1:250 000

5000 0 5 10 15 20 25 30
Metres Kilometres

TRANSVERSE MERCATOR PROJECTION
HORIZONTAL DATUM: AUSTRALIAN GEODETIC DATUM 1984
VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
Grid lines indicate 20 000 metre interval of the Australian Map Grid Zone 51

WILUNA

SHEET SG 51-9

SECOND EDITION 1999

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