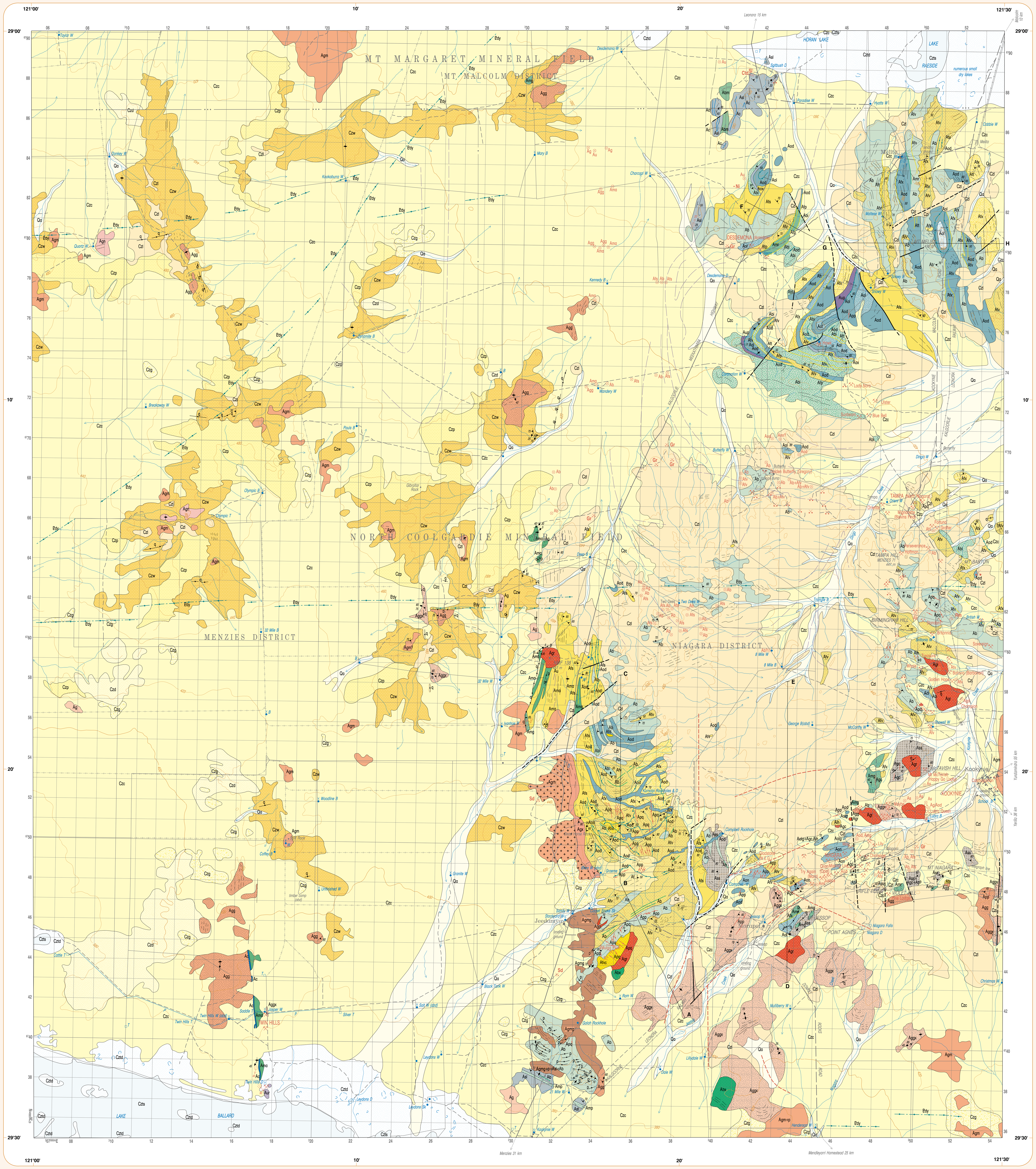
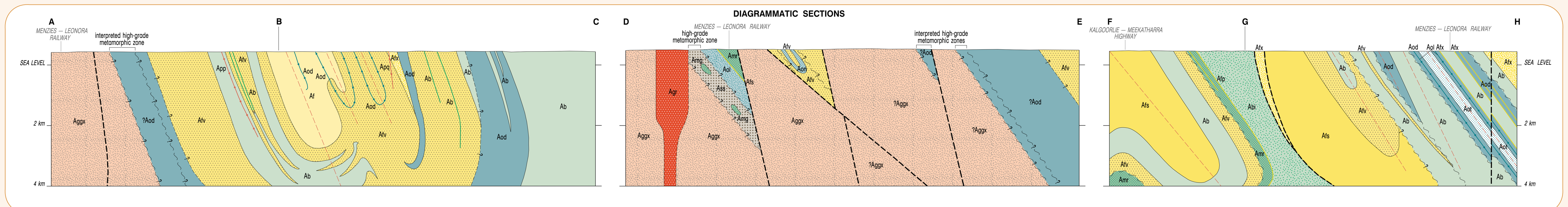
MELITA

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA



DIAGRAMMATIC SECTIONS



Legend

PHANEROZOIC — CAINOZOIC

- Qa — Alluvium—clay, sand, silt, and gravel in channels
- Czts — Evaporite interbedded with clay and sand in playas
- Cztd — Sand, silt, and gypsum in stabilized dunes adjacent to playas
- Czc — Colluvium—gravel, sand as sheetwash and talus
- Czg — Quartzo-feldspathic sand over granitoid rock
- Czd — Yellow sand in stabilized dunes
- Czp — Sandy colluvium with limonitic pisoliths on low plateaux associated with weathered granitoid (Czw)
- Czl — Laterite and reworked products
- Czw — Deeply weathered granitoid rock; mottled and leached zones of lateritic profile

PROTEROZOIC

- Ꝑdy — Mafic and ultramafic dykes—inferred from aeromagnetics

ARCHAEAN

Metamorphosed at greenschist to upper amphibolite facies

- q, p, a — Veins and dykes: q—quartz; p—pegmatite; a—aplite
- Ag — Granitoid rock, undivided

Late- to post-tectonic granitoids; massive, variably recrystallized, deformed in and near major shear zones

- Agp — Granitic pegmatite
- Agr — Biotite(-muscovite-garnet) syenogranite and alkali-feldspar granite
- Agrh — CARPET SNAKE SYENOGRANITE
- Agm — Biotite(-muscovite-garnet) monzogranite
- Agmg — **GALAH MONZOGRANITE**
- Agx — Syenogranite and monzogranite interleaved with greenstone lithologies
- Agd — Diorite (subsurface only)

Pre- to syn-tectonic granitoids

- Agg — Biotite monzogranite and granodiorite, foliated; synplutonic dykes and enclaves of diorite to tonalite common at some localities
- Aggx — Agg interleaved with granitoid schist and diverse greenstone lithologies on all scales
- Agc — Granitoid schist; thin slices within greenstones

Pre-tectonic granitoids?

- Agn — Granitoid gneiss; composition of gneissic bands ranges from biotite monzogranite to tonalite; minor deformed diorite dykes

- Apq — Quartz-feldspar porphyry
- App — Feldspar(-hornblende-biotite-quartz) porphyry

- As — Sedimentary rock, undivided (subsurface only)
- Ass — Sandstone, siltstone, and pebbly sandstone; locally associated with pelitic schist
- Asl — Quartz-mica(-feldspar) schist derived from pelitic precursor, phyllite, and slate; minor chert and black shale
- Ac — Chert

- Af — Rhyolitic to rhyodacitic volcanic rock: massive to fragmental; porphyritic
- Afx — Rhyolitic to rhyodacitic tuff and oligomictic breccia; massive to poorly bedded, with lithic clasts (>1 cm) in fine-grained to glassy matrix; includes some Afv
- Afxt — Mixed rhyolitic and trachytic tuff and oligomictic breccia
- Afv — Feldspar(-quartz) porphyry (rhyolite to rhyodacite), minor dacite?, trachyte; massive to coarsely bedded; associated with minor Afs and As
- Aft — Rhyolitic tuff; finely bedded, fine-grained to glassy
- Afvc — Dacitic to rhyodacitic rock; massive to poorly bedded; crystal-rich fragmental rock with minor lithic fragments (<1 cm)
- Afp — Quartz-plagioclase porphyry (dacitic or rhyodacitic); massive, spherulitic texture common
- Afd — Dacitic to andesitic rock; massive to flow banded to brecciated; locally spherulitic
- Afs — Biotite-quartz-feldspar schist; coarsely bedded, feldspar porphyroclasts (<2 mm), and some lithic fragments; minor oligomictic conglomerate; local Afv, As, and Agc interbeds

- Aih — Intermediate volcanic rock and breccia; plagioclase, hornblende and biotite phenocrysts, and local lithic fragments, in a fine-grained matrix

- Aol — Leucodolerite and leucogabbro, anorthositic gabbro, and anorthosite; includes quartz-bearing varieties, medium- to coarse-grained
- Aolg — Quartz-plagioclase-clinopyroxene rock; leucocratic, equigranular; massive to weakly banded
- Aod — Dolerite, quartz dolerite and amphibolite after dolerite; locally plagioclase-phyric
- Aon — Norite and gabbronorite; medium- to coarse-grained, locally with coarse hornblende oikocrysts
- Aox — Pyroxenite
- Aot — Olivine gabbronorite; olivine-plagioclase orthocumulate at base of layered sill

- Ab — Basalt and basaltic schist; locally amygdaloidal and plagioclase-phyric; pillows and hyaloclastite preserved locally
- Abi — Andesitic basalt; abundant plagioclase microlites, locally with plagioclase phenocrysts; vesicles, amygdales, and gas pipes very common; pillows locally preserved
- Abx — Mixed basalt or mafic gneiss and diorite, tonalite complex
- Abm — High-Mg basalt and tremolite-rich schist; flattened varioles locally preserved

- Ama — Amphibolite; medium- to coarse-grained
- Amp — Amphibolite; coarsely plagioclase-phyric
- Amr — Quartz dolerite, quartz diorite, tonalite, and mafic granophyre; Fe-rich, variably deformed, locally amphibolitic
- Amg — Mafic to intermediate gneiss; massive to spotted to banded, variably recrystallized; locally migmatitic? plagioclase-hornblende-clinopyroxene (-quartz-K-feldspar) assemblage

- Au — Ultramafic rock, undivided
- Aup — Peridotite; olivine orthocumulate at base of layered sills
- Aur — Tremolite schist; minor talc-chlorite(-carbonate) rock

Symbols

Geological boundary
- accurate
- inferred and concealed
- interpreted from aeromagnetic data

Fault
- accurate
- concealed
- interpreted from aeromagnetic data

Shear
- accurate
- interpreted

Fold
- fold axis (cross-section only)
- minor fold, showing plunge of fold axis — 45
- drag fold with vertical plunge — 90

Bedding, showing dip and strike
- inclined — 15
- inclined, showing plunge of stretching lineation — 15, 10
- vertical

Igneous layering, inclined — 50

Dominant metamorphic foliation
- inclined, with plunge of mineral or stretching lineation — 70, 50
- vertical, with plunge of mineral or stretching lineation — 70

Mineral lineation
- horizontal
- plunging — 45

Way-up indicator
- igneous layering
- pillow structure
- sedimentary structure

Aerial photo trends

Aeromagnetic trends

Mineral field boundary

Mineral field district boundary

Highway

Formed road

Track

Railway with siding — Melita

Old woodline formation

Fence, generally with track

Townsite, population less than 1000 — Kookynie

Homestead — Melita

Locality — Butterfly

Building

Horizontal control; major, minor

Sand dune

Breakaway

Contour line, 20 metre interval — 420

Watercourse, ephemeral

Pipeline — P

Bore — B

Well — W

Windpump

Dam — D

Tank — T

Mining centre — NIAGARA

Mine (gold, unless otherwise indicated) — Challenge

Open cut (gold, unless otherwise indicated)

Quarry or pit

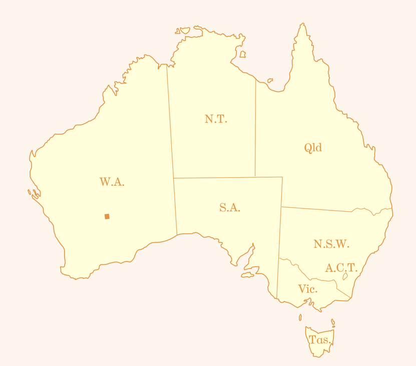
Surface prospect (gold, unless otherwise indicated)

Battery

Mineral exploration drill hole data — Ab

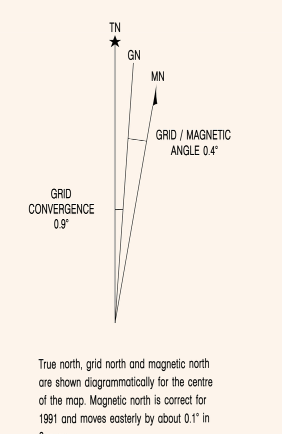
Mineral occurrence
- Nickel — Ni
- Chloritoid — Ctd

Industrial minerals
- Gravel — Gr
- Road metal, railway ballast — Rm
- Sand — Sd
- Slate — Sl



MUNJEROO 2941	WILDARA 3041	WEEBO 3141	NAMBI 3241	MOUNT VARDEN 3341	McMILLAN 3441
MOUNT ALEXANDER 2940	LEONORA SH 51-1 WILBAH 3040	LEONORA 3140	MINERIE 3240	LAVERTON SH 51-2 LAVERTON 3340	BURTVILLE 3440
MOUNT MASON 2939	BALLARD 3039	MELITA 3139	YERILLA 3239	LAKE CAREY 3339	MOUNT CELIA 3439
MULLINE 2938	MENZIES SH 51-5 RIVERINA 3038	MENZIES 3138	BOYCE 3238	EDJUDINA SH 51-6 EDJUDINA 3338	YABBOO 3438

1:100 000 maps shown in black
1:250 000 maps shown in brown



True north, grid north and magnetic north are shown diagrammatically for the centre of the map. Magnetic north is correct for 1991 and moves easterly by about 0.1° in 2 years.

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OF WESTERN AUSTRALIA

SCALE 1:100 000

1000 Metres 0 1 2 3 4 5 6 7 8 9 10 Kilometres

TRANSVERSE MERCATOR PROJECTION

Grid lines indicate 1000 metre interval of the Australian Map Grid Zone 51

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