WILUNA

AUSTRALIA 1 : 250 000 GEOLOGICAL SERIES

GEOLOGICAL SURVEY OF WESTERN AUSTRALIA

SHEET SG 51 - 9

SYMBOLS

Geological boundary
Fault
- Accurate
- Inferred
- Concealed

Fold
- Parasitic fold (sense of asymmetry indicated), plunge of axis
- Minor fold, plunge of axis

Bedding
- Inclined
- Vertical
- Horizontal

Facing
- Pillow structures in lava
- Graded bedding

Cleavage, fracture or crenulation
- Inclined
- Vertical

Foliation, primary igneous
- Trend

Foliation, gneissic banding
- Inclined
- Vertical
- Trend

Foliation, metamorphic
- Inclined
- Vertical
- Trend

Foliation, secondary in granite
Lineation, metamorphic
- Showing plunge
- Horizontal

Lineation, non-penetrative or crenulation intersection
- Showing plunge
- Horizontal

Shear zone
Air photo lineament
Microfossil locality

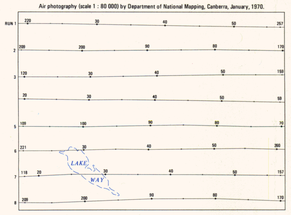
Goldfield boundary
Formed road
Track
Telegraph line
Townsite — Wiluna
Homestead — Lake Way
Building
Airfield
Landing ground
Horizontal control: major
Benchmark, height accurate
Low scarp or breakaway
Sand dune

Watercourse, intermittent
Bore — B
Well — W
Windpump
Soak — Sk
Rockhole — RH
Abandoned — (abd)
Position doubtful — (PD)

Mining centre — COLES FIND
Mine, not being worked (gold unless otherwise indicated) — M
Prospect — Pr
Battery, abandoned
Mineral occurrence
- Antimony and gold — Sb
- Arsenic and gold — As
- Chrysotile (asbestos) — Ac
- Nickel — Ni
- Uranium — U

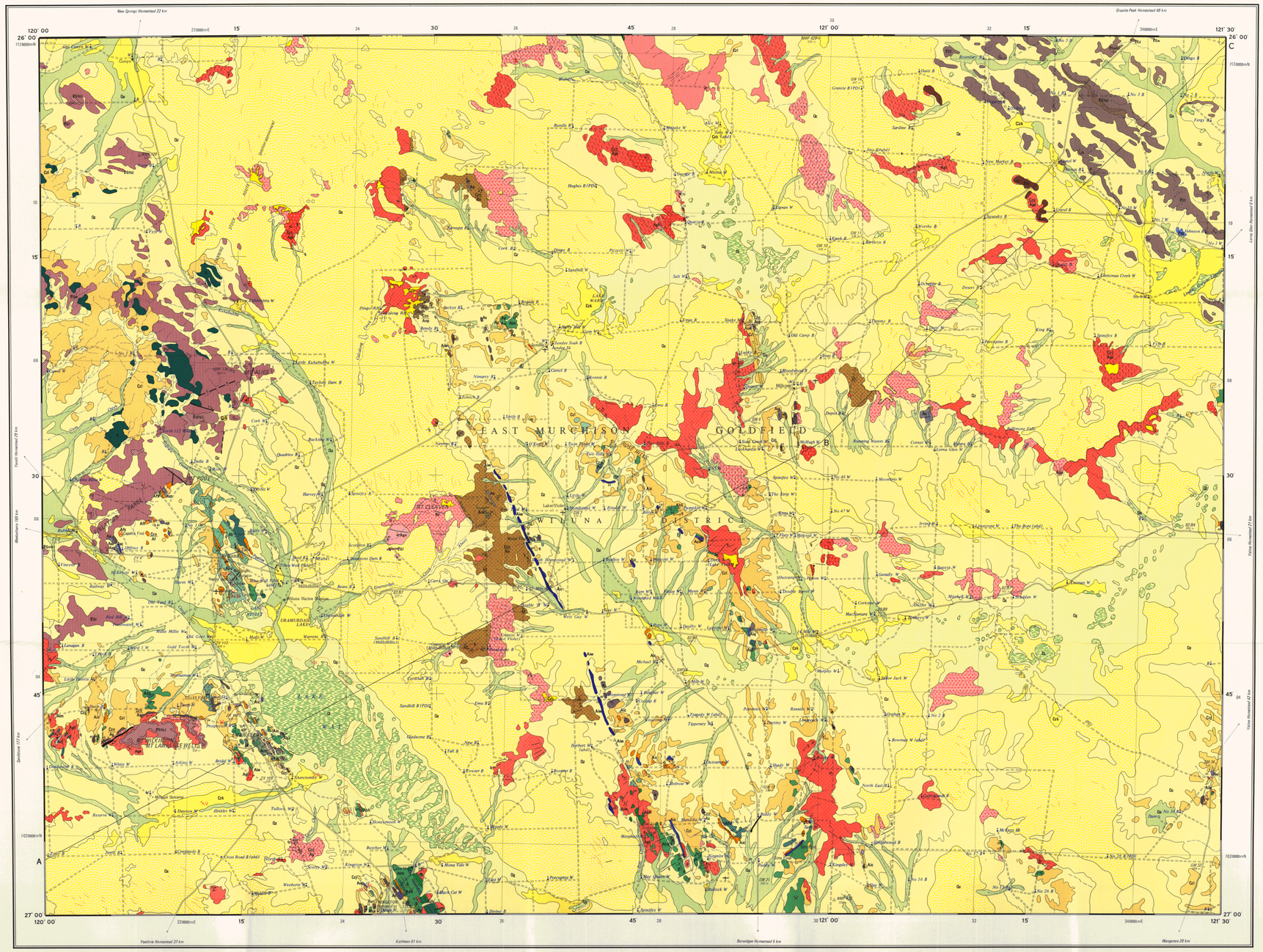
FLIGHT DIAGRAM

Air photography (scale 1 : 80 000) by Department of National Mapping, Canberra, January, 1970.



DIAGRAMMATIC RELATIONSHIP OF ROCK UNITS

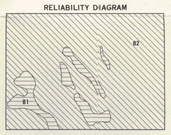
- Granitoid (Ag, excluding Agn), (sheared)
- Gneissic rocks (An, Agn)
- Amphibolite (Aa)
- Banded iron-formation and chert (Ai)
- Conglomerate (Aac)
- Fine-grained sediments, tuffs (Aa, Aas, Aag, Aat)
- Felsic volcanic rocks (Af, Ap)
- Mafic intrusive rocks (Ad)
- Mafic extrusive rocks (Ab)
- Ultramafic rocks (Au)
- Mafic dyke
- Unconformity
- Tectonic lineament or fault



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.

RELIABILITY DIAGRAM



B1 Numerous traverses with airr photo interpretation
B2 Air photo interpretation whith a few traverses

HON. P.V. JONES, M.L.A.
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 51 AUSTRALIAN MAP GRID

INDEX TO ADJOINING SHEETS

PEAK HILL SG 50 - 8	NABBERU SG 51 - 5	STANLEY SG 51 - 6
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DECLINATION DIAGRAM

The lines indicate magnetic declination, 1976
+ 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

Annual change is -0° westerly

Geology by M. Elias and J. A. Bunting, 1976

DIAGRAMMATIC SECTION

NATURAL SCALE

Topography and Cainozoic units omitted

SECTION A - B - C

Note : see Rock Relationship Diagram for explanation of units

REFERENCE

CAINOZOIC

QUATERNARY

Qa Qc Qz Qa Qa Qg

Qa Eolian sand in dunes and sheets, red-brown
Qc Colluvium – quartz and rock fragments in loam, unconsolidated, grades into Qz
Qz Colluvium and alluvium – red-brown sandy and clayey loam as sheetwash deposits, grades into Qa
Qa Alluvium – unconsolidated gravel, sand and silt in drainage lines and adjacent floodplains
Ql Lake deposits – clay and silt, saline and gypsiferous
Qg Deposits marginal to salt lakes – quartz sand and gypsum, mainly eolian, generally contains numerous small claypans

TERTIARY

Crl Crh Crj Cro Crk Crc

Crl Laterite – massive and pisolitic ferruginous duricrust, in places contains relict structures of parent rock
Crh Silcrete – sub-vitreous siliceous duricrust with angular quartz grains, over granitic rocks
Crj Chalcedonic and silicified capping over ultramafic rocks
Cro Deeply weathered rock, kaolinized, subsequently ferruginised and silicified
Crk Calcrete – massive, nodular and sheet carbonate with minor chalcedony, in lines of ancient drainage
Crc Hardpan – poorly bedded ferruginous gravel, sand and silt, consolidated colluvium

LOWER PERMIAN

Pg Conglomerate with clayey matrix, minor sandstone; probably glacigene

EARLY PROTEROZOIC

Dr Dolerite

Earahedy Group

Ebw — WANDIWARRA FORMATION : fine to coarse-grained sandstone and shale
Ebwsi — Shaley siltstone, minor fine-grained sandstone
Ebi — WINDIDDA FORMATION : limestone and shale
Ebf — FRERE FORMATION : pelletal, oolitic and banded iron-formation, shale, hematitic shale, chert
Ebfsi — Shaley siltstone, minor chert and fine-grained sandstone
Ebv — YELMA FORMATION : quartz arenite, minor arkose, shale and quartz-pebble conglomerate

Glengarry Group

Ebm — MARALOOU FORMATION : shale, siltstone, chert, minor sandstone
Ebmch — Chert and chertified carbonate
Ebf — FINLAYSON SANDSTONE : quartz arenite, minor shale
Ebfsh — Shale
Ebfch — Chert and chertified carbonate

Bg Mafic dyke, dolerite, fine-grained

q Quartz veins; age variable

p g Vein and dyke: p: pegmatite, g: granite

Ag Agb Agc Agd Agh Agk Agn

Ag Undivided granitoid
Agb Biotite adamellite, granite and granodiorite; medium to coarse-grained
Agc Biotite adamellite, granite and granodiorite; fine to medium-grained
Agd Biotite adamellite, granite and rare granodiorite; porphyritic
Agh Albite-microcline-(-biotite) adamellite and quartz monzonite
Agk Albite-microcline-hornblende-(-clinopyroxene) -quartz monzonite
Agn Gneissic biotite granite and adamellite; nebulous banding defined by grain size and mafic content

Aiw Aic Aiq

Aiw Quartz-magnetite banded iron-formation; black and white banded
Aic Chert; banded, generally ferruginous, may be recrystallized
Aiq Spherulitic quartzite; probably recrystallized chert

As Aae Aag Aat Aac Aad

Au Undivided metasedimentary rock
Aas Shale, black shale, mudstone, minor greywacke; may be silicified to a banded chert; includes phyllite
Aag Felsic wacke and shale; shows graded bedding in places
Aat Bedded quartz-sericite-kaolin rocks; fine-grained; probably volcanogenic
Aac Conglomerate; deformed chert pebbles in wacke matrix
Aad Dolomite; fine-grained, massive and laminated; interbedded carbonate grit and phyllitic shale

Ap Quartz-feldspar porphyry in sills, dykes and irregular bodies

Af Afr Afx Afs

Af Undivided felsic volcanic rock
Afr Extrusive rhyolite to dacite; fine-grained to aphanitic; in part tuff
Afx Fragmental-textured rocks; fine to medium-grained crystal and lithic tuff
Afs Strongly schistose quartz-sericite-kaolin felsic volcanic rocks; mostly fine-grained

Ad Adc Adh Adj Adx

Ad Undivided mafic intrusive rocks
Add Metadolerite; medium-grained; generally with ophitic texture
Adh Mafic hornfels; medium-grained; contact metamorphosed Add
Adj Layered metadolerite or metagabbro; banding defined by amphibole and plagioclase proportions
Adx Metagabbro; coarse-grained

Ab Abb Abh Aba Abx Abt

Ab Undivided mafic extrusive rocks
Abb Basalt; fine-grained; locally vesicular; pillowed, and/or porphyritic; metamorphosed in the greenschist facies
Abh Mafic hornfels; fine-grained; contact metamorphosed Abb
Aba Amphibolite; fine-grained, schistose; metamorphosed basalt of higher grade than Abb
Abx Komatiitic basalt; minor plagioclase; generally has skeletal texture
Abt Mafic to intermediate extrusive rock; altered plagioclase-pyroxene glassy rock; probably andesite

Au Aup Aue Aur Aux

Au Undivided ultramafic rock
Aup Peridotite to dunite; serpentinized; commonly exhibits relict cumulus texture
Aue Talc-carbonate (-chlorite-serpentine) altered ultramafic rock; schistose
Aur Tremolite-actinolite-chlorite rocks; schistose; altered ultramafic to mafic (including komatiitic) rocks
Aux Tremolite-actinolite rock; coarse-grained; metamorphosed pyroxenite

An Anp Anq Anq

An Undivided banded gneiss; mainly quartzo-feldspathic
Anp Quartz-rich gneiss; mineralogically layered; probably paragneiss
Anc Calc-silicate gneiss; plagioclase-clinopyroxene-hornblende (-quartz-garnet) assemblages; mineralogically layered
Anq Quartz-feldspar gneiss; cataclastic texture

Abm Quartz-muscovite schist of uncertain origin

Aa Amphibolite; hornblende-plagioclase, schistose

ARCHAEAN

WILUNA
SHEET SG 51 - 9

FIRST EDITION, 1981

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