

BIRKSGATE

GEOLOGICAL SURVEY OF SOUTH AUSTRALIA
DEPARTMENT FOR ENERGY AND MINING

SA GEOLOGICAL ATLAS SERIES SHEET SG5215

REFERENCE

HOLOCENE

- Qha HOLOCENE ALLUVIAL/FLUVIAL SEDIMENTS: Undifferentiated
Holocene alluvial/fluviol sediments.
- Qhs HOLOCENE AEOLIAN SEDIMENTS: Undifferentiated Holocene aeolian
sediments.
- Qhs1 HOLOCENE AEOLIAN UNIT 4: Holocene gypsiferous dunes/knolls.
- Qhs2 HOLOCENE LAQUSTRINE/PLAUA UNIT 1: Holocene playa sediments.

PLEISTOCENE-HOLOGENE

- Qhs3 QUATERNARY REGOLITH/COLLUVIAL UNIT 1: Quaternary
glacier-mantled colluvium. Based on Q on MURDOCCOPPE.
- Qhs4 PLEISTOCENE REGOLITH/COLLUVIAL UNIT 5: Pleistocene red sand
with maghite gravel veneer, typically ridge-covered.
- Qhs5 PLEISTOCENE REGOLITH/COLLUVIAL UNIT 6: Pleistocene ironstone
gravel spread on alluvium and colluvium. Based on blue dot overprint
when Qhs on CURBARRA, Qhs on TRINGOON.
- Qhs6 PLEISTOCENE CALCRETE: Undifferentiated Pleistocene calcare.

MIOCENE-PLEISTOCENE

- TmQm MANGATTIA FORMATION: Limestone to dolomite, micritic, cream,
beadstone, with calcareous chert. Sparitic. Sandy clay to
sandstone, red-brown, calcareous, grey, granular conglomerate, basaltic,
where clay mottled red and green, alluvial. Palaeocene to Mi.
- TmQs EOCENE-MIOCENE SILCRETE UNIT 1: Regionally older silcrete, approx
Late Eocene/early Miocene.

ORDOVICIAN-SILURIAN

- OrQs MOUNT CHANDLER SANDSTONE: Quartz sandstone, well rounded, fine
to medium grained, white, cross-bedded with heavy mineral laminae.
Sandstone, feldspathic, barrowed, orange to redish, minor signs of
polished quartz pebbles.

CAMBRIAN

- CaT TABLE HILL VOLCANICS: Basalt, massive and altered amygdaloid
granite, dark grey, medium, iron-green; sandstone, medium, fine,
underlying greywacke, grey, silty, feldspathic, sandstone, red-brown
and green, fine grained, white. Age 544-548 Ma (Pb, U/Pb, zircon, U/Pb).
- CaS TRANHILL SANDSTONE: Sandstone, well sorted, basaltic,
feldspathic, calcareous, white, grey, red-brown, silty and claystone,
residual, red-brown, patty texture.
- CaM WIRRALDAR BEDS: Sandstone, arkosic, feldspathic and micaceous,
silty, silty, micaceous.

NEOPROTEROZOIC

- NpP PUNKERIN SANDSTONE: Sandstone, purple and red-brown, quartzite,
folds, massive, coarse, lower unit, sandstone, red and white, feldspathic,
upper unit.
- NpS WRIGHT HILL BEDS: Silty, quartzite and sandstone, feldspathic,
cross-bedded, with quartz granules, chert, green, purple-brown or yellow,
partly brecciated or black, dolite.
- NpM PANDYK SANDSTONE: Basal conglomerate, fine, sandstone, medium to
coarse-grained, cross-bedded, shaly, white, rare chert, limestone and
dolomite.

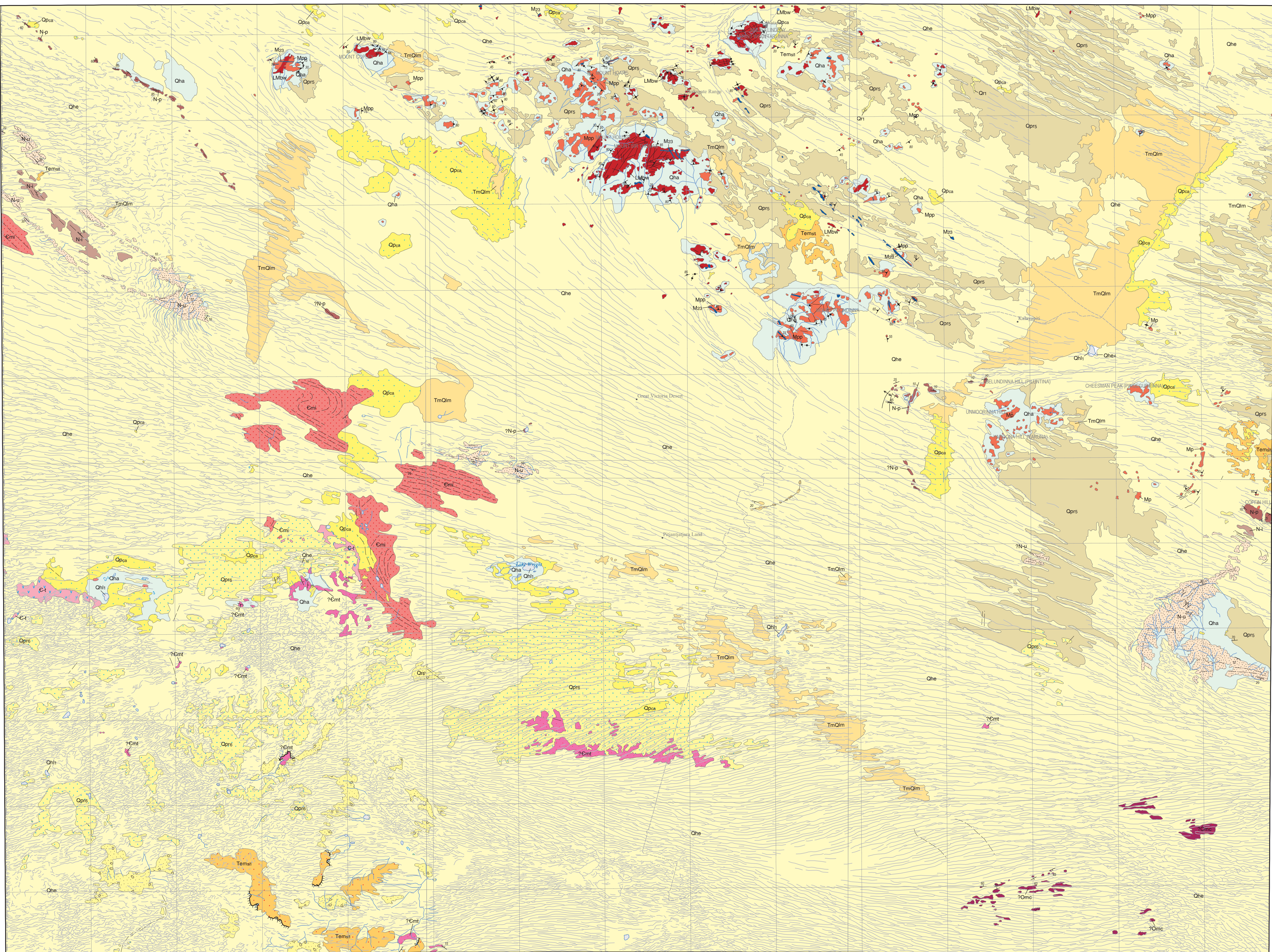
MESOPROTEROZOIC

- Mp23 MESOPROTEROZOIC UNIT 23: Undifferentiated detrital/igneous dikes
of the Magpie Block.
- Mp24 PTAMANTJARA SUPERSUITE: Arkal granite to diorite, primarily quartz
monzonite, with orthopyroxene, clinopyroxene, hornblende or biotite,
commonly porphyritic, isolated to massive. A to 4-type, ~1225-1120 Ma,
grey and pinkish-grey, orthopyroxene.
- Mp25 PERMANO ADAMELITE: Adameleite, isolated.

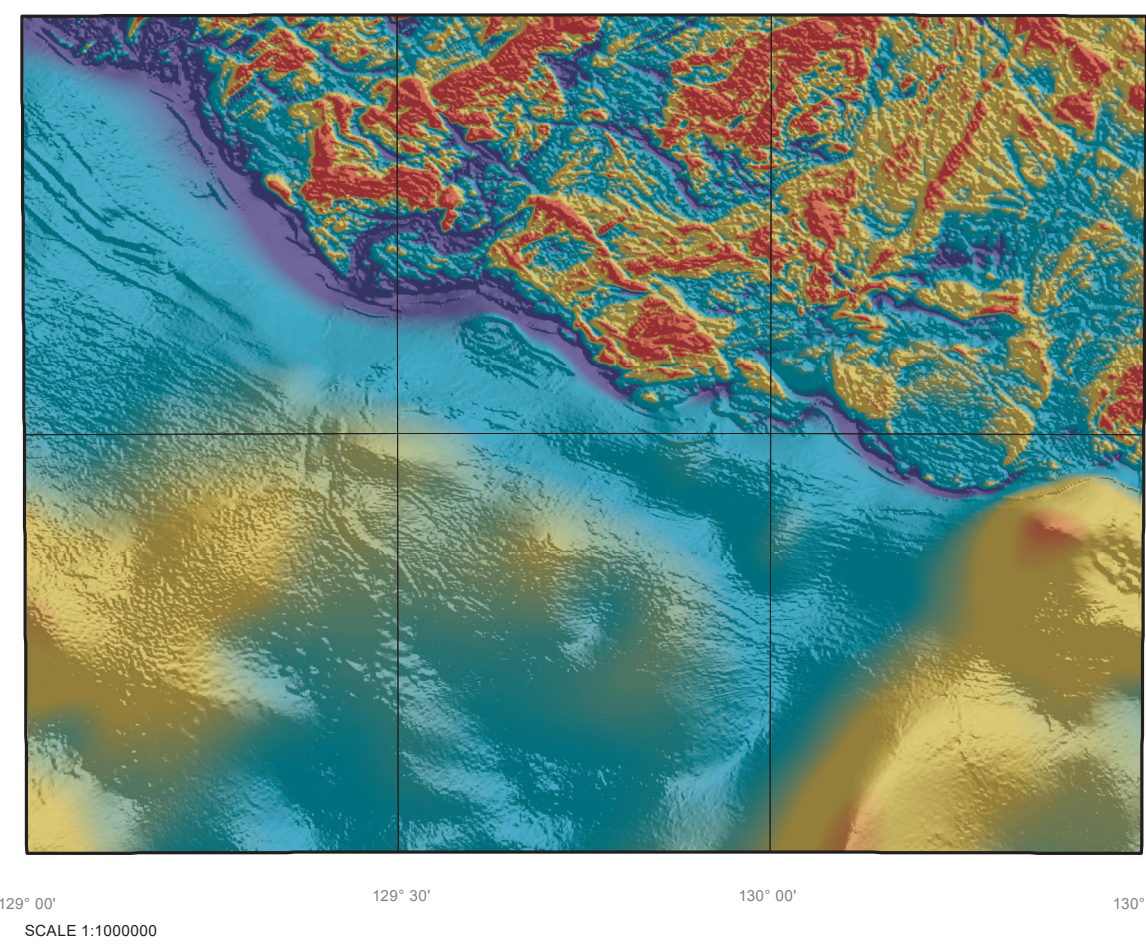
PALAEO-MESOPROTEROZOIC

- PaM ANATRU GNEISS: Gneiss, granitic, medium-grained, with hornblende,
crude and lower orthopyroxene and clinopyroxene. Amphibolite to
granulite facies.

AUSTRALIA 1:250 000

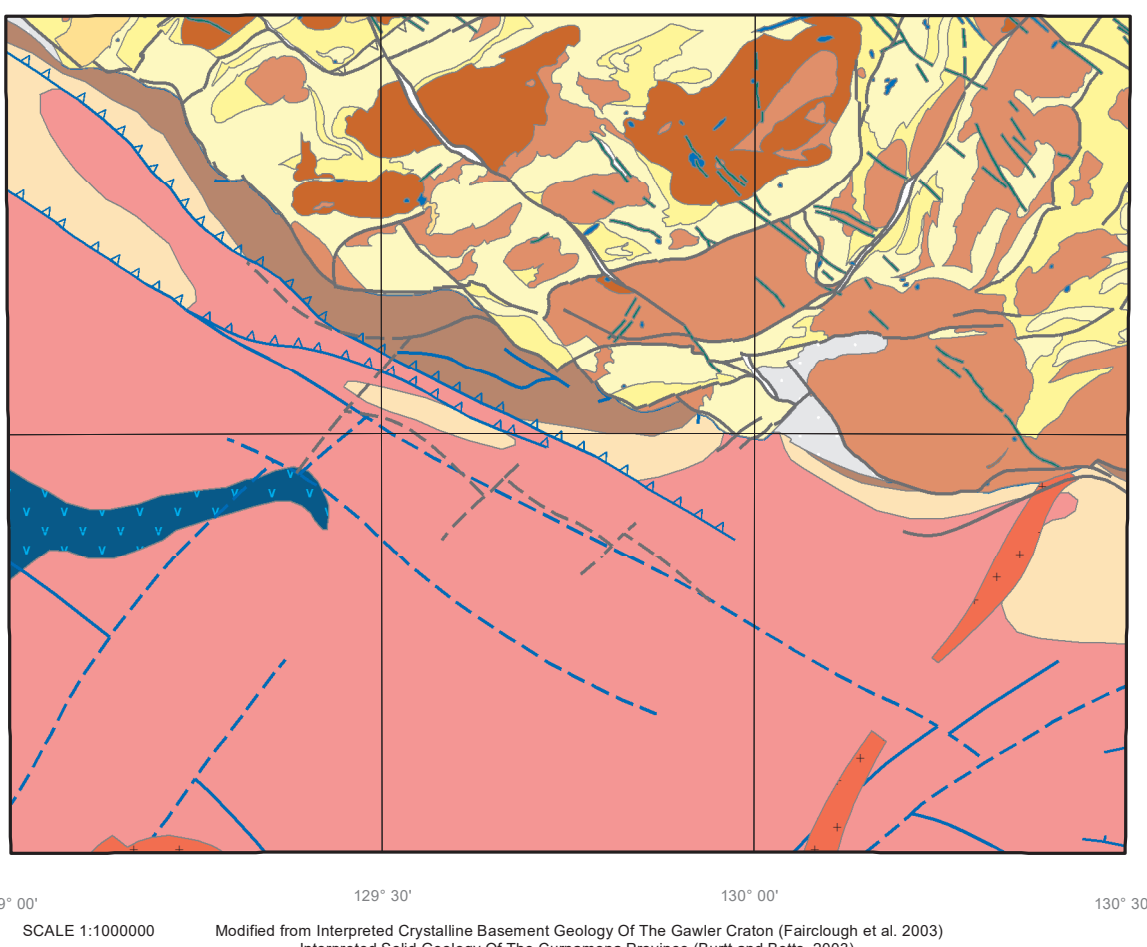


TOTAL MAGNETIC INTENSITY IMAGE



The Total Magnetic Intensity image has been compiled using
aeromagnetic data from the
Department for Energy and Mining, South Australia.
Aeromagnetic data have been merged, gridded and image
processed by the Geological Survey of South Australia.

SOLID GEOLOGY INTERPRETATION



Solid Geology

Np	Nyulung Formation	Mp13	Pitjantjara Supersuite unit 13
Em5	Maria Group unit 5	M23	Unnamed GIS Unit - see description
N2	Neoproterozoic unit 3	M24	Unnamed GIS Unit - see description
N3	Neoproterozoic unit 3	M25	Unnamed GIS Unit - see description
M41	Neoproterozoic unit 41	my2	mylonite unit 2

Solid Geology - Linear Structure

Fault position accurate
Fault position approximate
Fault reverse triangles upthrown side
Fault position accurate

SCALE 1:250,000

KILOMETRES 0 5 10 15 20 25 KILOMETRES

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2020

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The relationship between this data and GSD data is not guaranteed.

Computer generated from SA GEOLOGY database
(Digital data available upon request)
Current version 2018 Digital

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Grey numbered lines indicate the 10000 metre Map Grid
Transverse Mercator Projection, Geocentric Datum Australia, 2020.

The lake boundaries displayed on this map may have been derived from geological interpretation
and may not match lakes interpreted by topographic mapping authorities.
Not all structures are represented on this particular map.

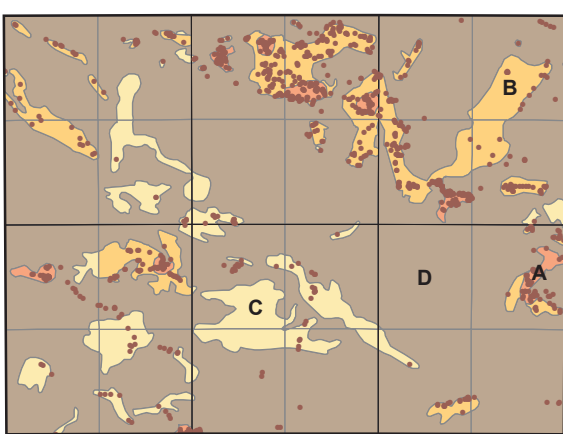
Compiled by R.B. Major, B.Sc.(Hons) Mapping by R.B. Major, B.Sc.(Hons), J.E. Johnson, and
J.A. Teak, B.Sc.(Hons)

R.C. Cobcroft, Director, Geological Survey of South Australia.

Geological boundaries displayed on this map have been
derived from geological interpretation and are not
intended to be used for navigational purposes.

Copies of this map can be obtained from the
Department for Energy and Mining SA, Adelaide
2020

GEOLOGICAL RELIABILITY DIAGRAM



Birksgate sheet published 1971
Geological Field Observations

A Detailed ground traverses
B Image interpretation with limited ground traverses
C Image interpretation with potentially some minor ground traverses
D Image interpretation only

INDEX TO 1:100 000 SHEETS

Permian	Birksgate	Ummoorina
4743	4843	4943
Nakula	Lake Wright	Coffin Hill
4742	4842	4942

INDEX TO ADJOINING 1:250 000 SHEETS

MANN	WOODROFFE
BIRKSGATE	LINDSAY
MODKINA	WELLS



DIGITAL EDITION
SUBJECT TO AMENDMENT
See published printed map for further information