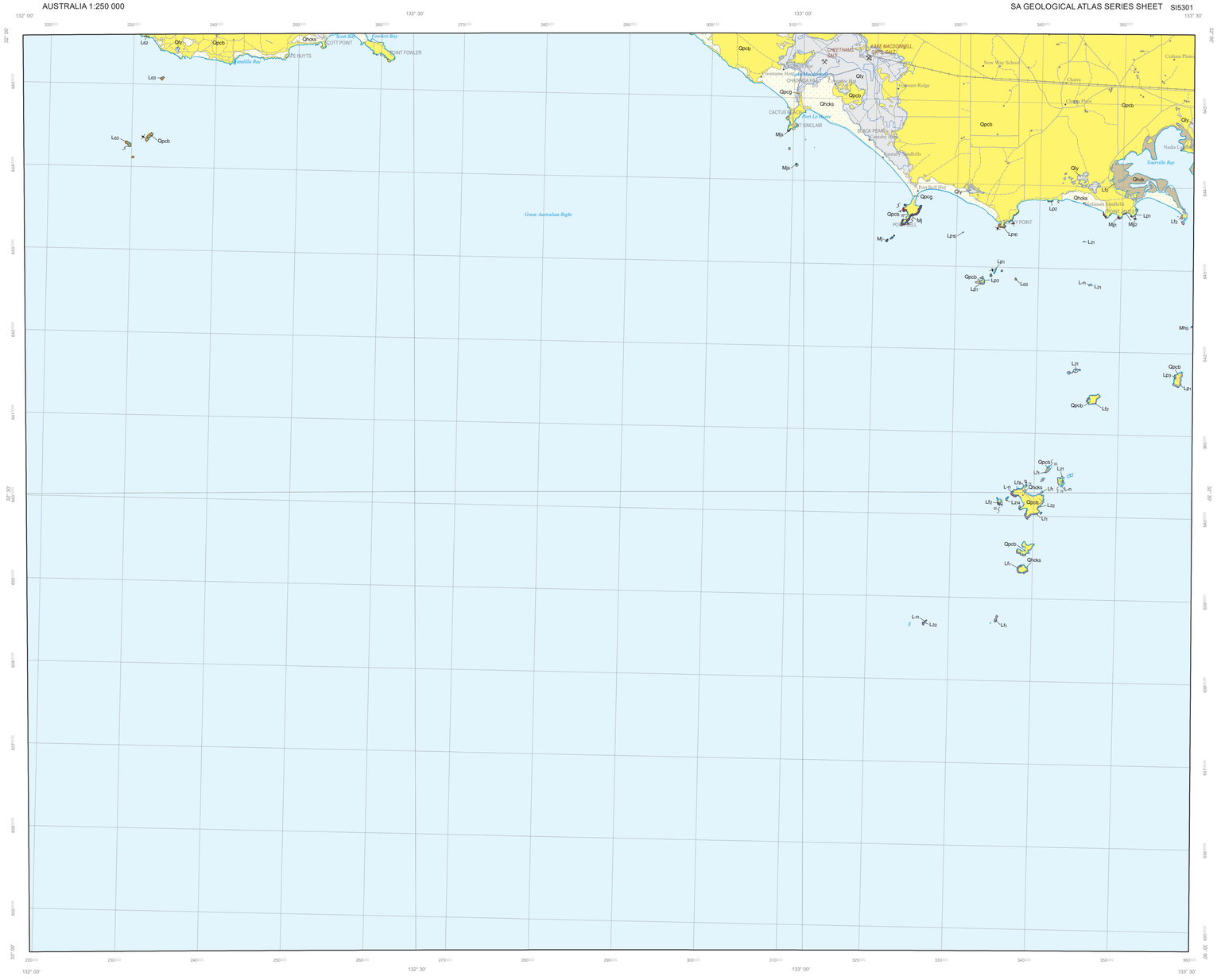
NUYTS

GEOLOGICAL SURVEY OF SOUTH AUSTRALIA
DEPARTMENT FOR ENERGY AND MINING

AUSTRALIA 1:250 000

SA GEOLOGICAL ATLAS SERIES SHEET SI5301



REFERENCE

HOLOCENE

- Qhsk — SAINT KILDA FORMATION: Coastal marine sediment: calcareous, fossiliferous sand and mud of intertidal sand flats, beaches and tidal marshes; organic, gypseous clay of supratidal flats.
- Qhcks — SEMAPHORE SAND MEMBER: Unconsolidated white bioclastic quartz-carbonate sand of modern beaches and transgressive dune fields.

PLEISTOCENE-HOLOCENE

- Qty — YAMBA FORMATION: Clay, lacustrine, gypsiferous; gypsum-quartz sand . Dunes, playa lakes.

PLEISTOCENE

- Qpcb — BRIDGEWATER FORMATION: Coastal barrier and shallow sub-tidal sediments: bioclastic and aeolian cross-bedded calcarenite, palaeosol horizons, often capped by calcrete.
- Qpcg — GLANVILLE FORMATION: Clay, mottled, shelly; calcarenite, skeletal, coquina. Geochron age 132 000+/-6 000 years Bp on TL.

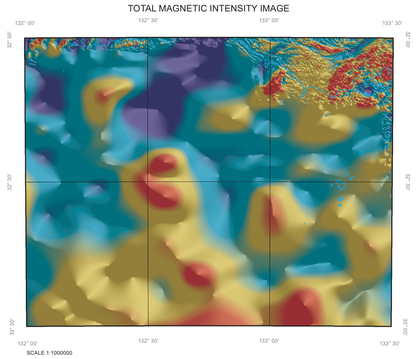
MESOPROTEROZOIC

- Mj — MUNJEELA SUITE: Leucogranite, quartz+K-feldspar+plagioclase+muscovite+biotite+/-garnet, coarse-grained, S-type, peraluminous. Deformation varies from none to mylonitic. U-Pb age 1591-1577Ma.
- Mj_2 — POINT JAMES GRANITE UNIT 1: Massive pink quartz-feldspar-biotite granite; abundant quartz or K-feldspar phenocrysts. Based on Prot-gamma-7 on NUYTS (Point James area only).
- Mj_2 — POINT JAMES GRANITE UNIT 2: Leucogranite, white-pink fine-medium, leucocratic porphyry. Based on Prot-gamma-8 on NUYTS (east of Point James only).
- Mjs — POINT SINCLAIR GRANITE: Granite, quartz+K-feldspar+plagioclase+muscovite+biotite+garnet, medium to coarse-grained, contains metasedimentary xenoliths, several intrusive phases, shear zones. U-Pb ages 1590 and 1577Ma.
- Mh_5 — HILTABA SUITE UNIT 5: Granite, pink, medium, even-grained; aplite, adamellite. Based on Prot-gamma-N2 on STREAKY BAY.

PALAEOPROTEROZOIC

- L_{22} — PALAEOPROTEROZOIC UNIT 22: Black, fine-medium grained dolerite dykes. Based on Prot-beta-2 on NUYTS.
- L_{21} — PALAEOPROTEROZOIC UNIT 21: Massive pink quartz-feldspar-biotite granite; abundant quartz or K-feldspar phenocrysts. Based on Prot-gamma-7 on NUYTS (except Point James area).
- L-n — NUYTS VOLCANICS: Rhyodacite to rhyolite, dark grey to pink, porphyritic, common xenoliths, poorly layered; rhyodacite to rhyolite and dolerite dykes. 1631-1627 Ma.
- Lf_1 — ST FRANCIS SUITE UNIT 1: Grey, hornblende/pyroxene bearing granite, porphyritic granite. Intruded by L-n1, L-n2, L22. Based on Prot-gamma-6 on NUYTS.
- Lf_2 — ST FRANCIS SUITE UNIT 2: Leucogranite, white-pink fine-medium, leucocratic porphyry. Intrudes L-n3, L22 (St Francis Is). Based on Prot-gamma-8 on NUYTS (except east of Point James).
- Lp_{10} — ST PETER SUITE UNIT 10: Migmatitic granodiorite/grantic gneiss; amphibolite, granite, granite gneiss. Based on Prot-gamma-1 on NUYTS (Rocky Point area) and Prot-gamma-1 on STREAKY BAY.
- Lp_3 — ST PETER SUITE UNIT 3: Fine-medium granodiorite/adamellite dykes. Comagmatic with Lp1, Lp2, Lp5. Age 1620+/-4Ma. Based on Prot-gamma-3 on STREAKY BAY, Prot-gamma-4 on NUYTS.
- Lp_2 — ST PETER SUITE UNIT 2: Amphibolite, diorite, dolerite, lamprophyre dykes. Comagmatic with Lp1, Lp3, Lp5. Based on Prot-beta-1 on STREAKY BAY, NUYTS.
- Lp_1 — ST PETER SUITE UNIT 1: Granite/adamellite, pink, fine to coarse massive to moderately foliated. Comagmatic with Lp2, Lp3, Lp5. Based on Prot-gamma-2 on STREAKY BAY, Prot-gamma-3 on NUYTS.
- L_{62} — PALAEOPROTEROZOIC UNIT 62: Amphibolite, foliated, folded, melanocratic and leucocratic bands, gamet/feldspar. Based on Prot-gamma-1 on NUYTS (Cape Adieu area only).
- L_{63} — PALAEOPROTEROZOIC UNIT 63: Mylonitic augen granite, medium grained granite. Based on Prot-gamma-2 on NUYTS.

TOTAL MAGNETIC INTENSITY IMAGE



SCALE 1:1000000

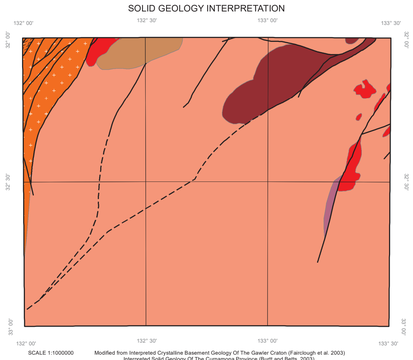
The Total Magnetic Intensity Image has been compiled using aeromagnetic data from the Department for Energy and Mining, South Australia. Aeromagnetic data have been merged, gridded and image processed by the Geological Survey of South Australia.

nTesla

-504.46 — -292.136 — -16.572 — 258.992 — 1977.352

A two standard deviation contrast stretch has been applied to the raster image above.

SOLID GEOLOGY INTERPRETATION



SCALE 1:1000000

Modified from Interpreted Crystalline Basement Geology Of The Gawler Craton (Fairclough et al. 2003) Interpreted Solid Geology Of The Curnamona Province (Burtt and Betts, 2007). - Musgrave Block, Central Australia: regional geology from interpretation of aeromagnetic data (Rankin and Newton, 2002), Solid Geology South Australia (Cowley, 2006).

Solid Geology

Mjs	Munjeela Granite	L-n	Nuyts Volcanics
Mh	Hiltaba Suite	L1,M1-4	Palaeoproterozoic-Mesoproterozoic unit 13
Mc	Mesoproterozoic Grouping C rocks	L36	Palaeoproterozoic unit 36
L44	Palaeoproterozoic unit 44		

Solid Geology - Linear Structure

- Fault position accurate
- Fault position approximate
- Mylonite zone

SCALE 1:250,000

KILOMETRES 5 — 0 — 5 — 10 — 15 — 20 — 25 KILOMETRES

Any person purchasing this map may reproduce it for their own use or that of their staff, but not for any other purpose except with the written permission of the Chief Executive, Department for Energy and Mining SA, GPO Box 320, Adelaide, South Australia, 5001.

CROWN COPYRIGHT RESERVED
Department for Energy and Mining SA.
2020

Topographic detail based on TOPO-250K GEODATA (source scale 1:250 000) supplied by Geoscience Australia - National Mapping Division, ACT. The relationship between this data and DEM data is not guaranteed.

Computer generated from SA_GEOLOGY database (Digital data available upon request) Current version 2018.Digital

Product of Spatial Information Services. Published by, and with the authority of, the Department for Energy and Mining SA.

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.

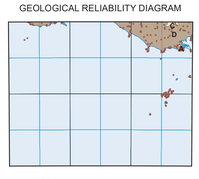
Mapping and Compilation by G.J. Ambrose, B.Sc.(Hons) with contributions by L.C. Barnes, B.Sc.(Hons), A.H. Blissett, M.Sc., A.F. Crooks, B.Sc., S.J. Daly, B.Sc., R.B. Major, B.Sc.(Hons), V. Vitols, B.Sc., and A.J. Parker, Ph.D.

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



Nuyts sheet published 1986 — SCALE 1:2000000

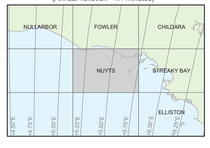
Geological Field Observations

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

Nuyts 5333	Sinclair 5433	Charra 5533
5332	Yalata Reef 5432	St Francis 5532

INDEX TO ADJOINING 1: 250 000 SHEETS
Magnetic Declination 2000
(Annual variation +1.4 minutes)



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

GEOLOGICAL BOUNDARY

- COASTLINE
- ROCK LEDGE, CORAL REEF
- GEOLOGICAL BOUNDARY POSITION ACCURATE

LINEAR STRUCTURES

- FAULT POSITION ACCURATE

STRUCTURAL FEATURES

- GNEISSOSITY OR GNEISSIC FOLIATION - VERTICAL
- GNEISSOSITY OR GNEISSIC FOLIATION
- MYLONITIC FOLIATION - VERTICAL
- MYLONITIC FOLIATION

CULTURAL FEATURES

- MINOR ROADS
- VEHICULAR TRACKS
- OPERATIONAL RAILWAY
- WATER PIPELINE
- IDENTIFIED POINT
- LANDING GROUND

HYDROGRAPHIC AND GEOMORPHIC FEATURES

- LAKE
- INTERMITTENT LAKE
- MINOR WATERCOURSE
- SWAMP
- SAND RIDGE

MINING

- MINE - METALS AND INDUSTRIAL MINERALS

COMMODITIES

GYPS	Gypsum
SALT	Salt

Government of South Australia
Department for Energy and Mining

GDA2020

GEOLOGICAL SURVEY OF SOUTH AUSTRALIA

NUYTS
SI5301