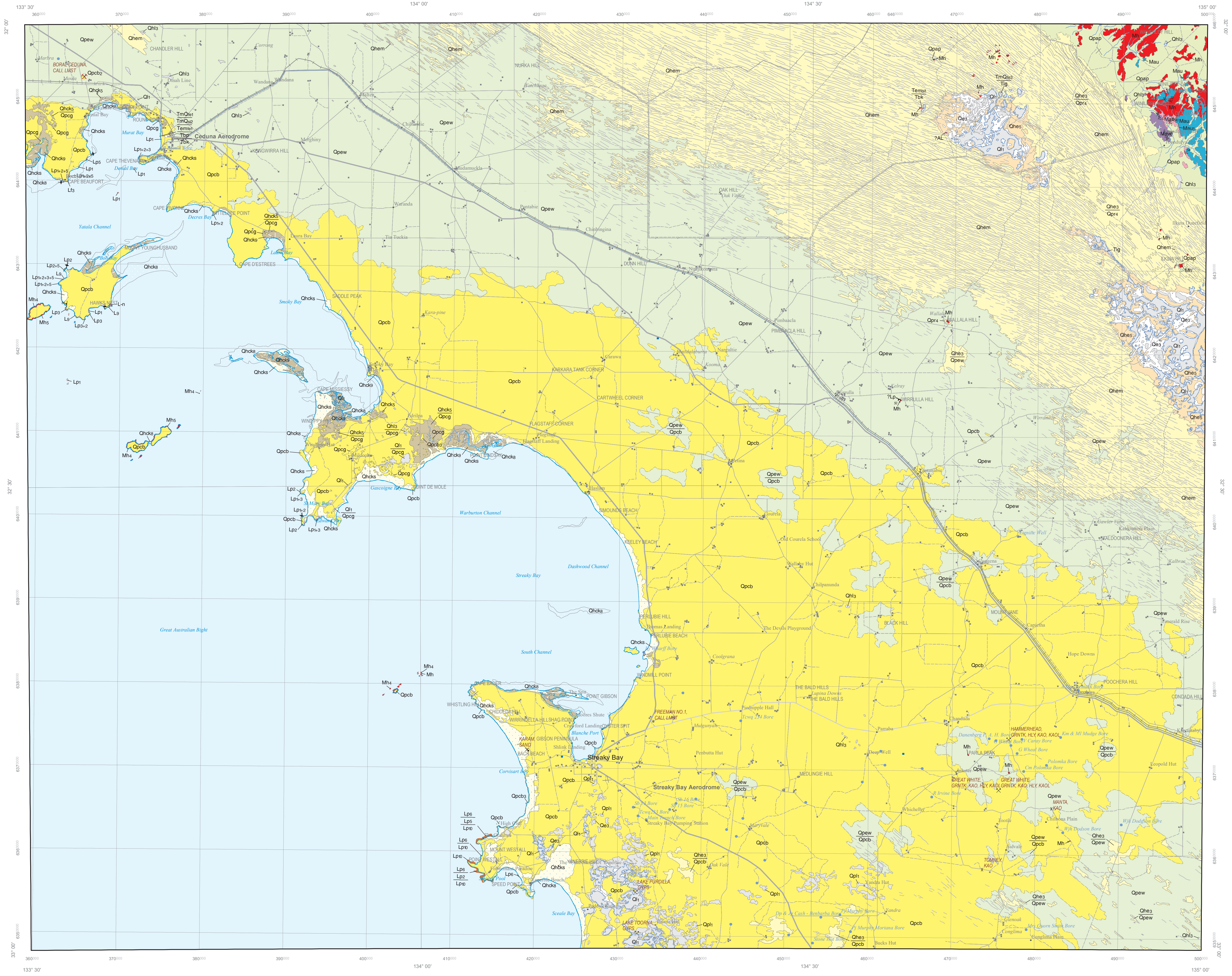
STREAKY BAY

GEOLOGICAL SURVEY OF SOUTH AUSTRALIA
DEPARTMENT FOR ENERGY AND MINING

AUSTRALIA 1:250 000

SA GEOLOGICAL ATLAS SERIES SHEET SI5302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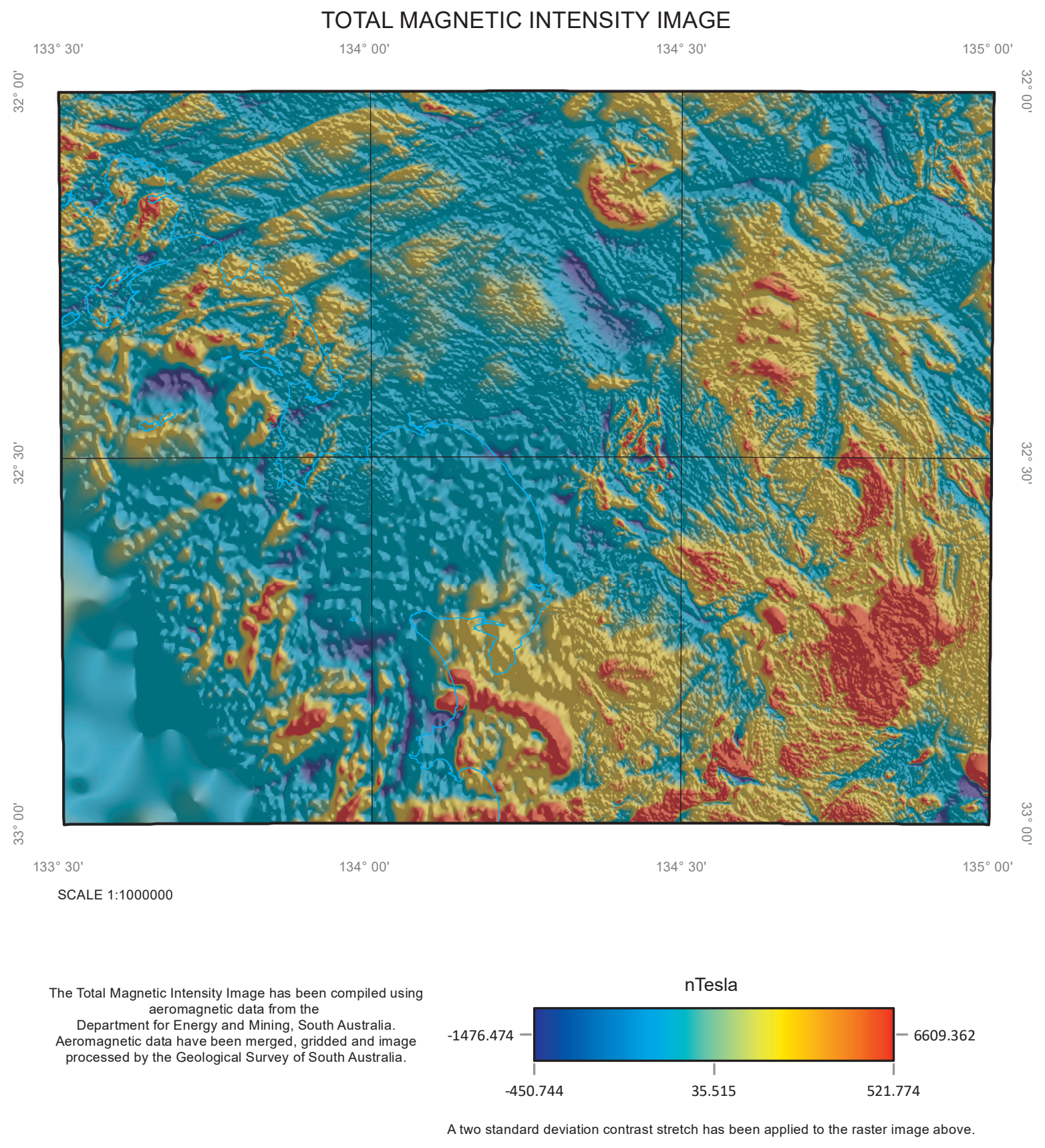
Qpew
Qhem
Qhl3
CHANDLER HILL
Marbra
BORAL CEDUNA, CALI, LMST
Qpcb2
Moule
Dinah Line
Qhcks
Ql1
Qhck8
Qhck5
Qpcg
Denial Bay
LOW POINT
ROUND POINT
TmQfe1
TmQsi2
Temfe1
Tbp
Tbk
Ceduna Aerodrome
Murat Bay
Lp1
Lp1+2+3
Lp5
CAPE THEVENARD
Denial Bay
Lp1+2+5
CAPE BEAUFORT
Lf3
Yatala Channel
CAPE VIVONNE
WITTELBEE POINT
Decres Bay
Lp1+2
Laura Bay
CAPE D'ESTREES
MOUNT YOUNGHUSBAND
Bob Bay
Lp2
Lp2+5
L9
Lp1+2+3+5
HAWKS NEST
L-n
Mh4
Mh5
Lp3
Lp3+2
Smoky Bay
SADDLE PEAK
Kara-pine
Qpcb
Qhck9
CAPE MISSIESSY
Edrilpa
WINDIPPY HILL
Qhl3
Qpcb3
POINT LINDSAY
Flagstaff Landing
FLAGSTAFF CORNER
Mildoola
Gascoigne Bay
POINT DE MOLE
St Mary Bay
Edward Bay
Warburton Channel
SIMOUNDS BEACH
KEELEY BEACH
Dashwood Channel
Streaky Bay
PERLUBIE HILL
Thomas Landing
PERLUBIE BEACH
Great Australian Bight
South Channel
WINDMILL POINT
CAPE BAUER
The Spit
POINT GIBSON
WHISTLING HILL
CHIDDEDA HILL
WIRRINDELLA HILL
SHAG POINT
Moores Shute
Crawford Landing
OYSTER SPIT
Blanche Port
GIBSON PENINSULA
KARAM, SAND
Shlink Landing
BACK BEACH
Streaky Bay
Corvisart Bay
Qpl1
Qe3
High Cliff
MOUNT WESTALL
POINT WESTALL
Fishermans Paradise
Smooth Pool
SPEED POINT
Lp6
Lp5
Lp10
Lp2
Sceale Bay
LAKE PURDILLA, GYPS
Paddys Plain
LAKE TOORNA, GYPS
Streaky Bay Aerodrome
Streaky Bay Pumping Station
FREEMAN NO.1, CALI, LMST
Piednipple Hall
Mulgunyah
Penbutta Hut
MEDLINGIE HILL
Oak Vale
Maryvale
Yandra Hut
Yandra
Whichelby
Parraba
Deep Well
Chandada
PARLA PEAK
HAMMERHEAD, GRNTK, HLY, KAO, KAOL
GREAT WHITE, GRNTK, KAO, HLY, KAOL
MANTA, KAO
TOMNEY, KAO
Chilbona Plain
Sidvale
Tootla
Glenoak
Conglima
Conglima Plain
Bucks Hut
Leopold Hut
POOCHERA HILL
Poochera
CONDADA HILL
Hope Downs
Capietha
MOUNT JANE
Emerald Rise
BLACK HILL
The Devils Playground
Chilpanunda
Coolgrana
THE BALD HILLS
Lupina Downs
Cungena
Old Courela School
Wallaby Hut
Courela
Haslam
Yantanabie
KALDOONERA HILL
Kaldoonera Plain
Gawler View
Lignite Well
Kalbrae
Wirrulla
WIRRULLA HILL
?Lp
Kelray
Wirrambie
Pimbaacla
PIMBAACLA HILL
Narcultie
Kooma
Carawa
KARKARA TANK CORNER
CARTWHEEL CORNER
WALLALA HILL
Qpr4
Qhe3
Qhe5
Qe3
Ql1
Tig
Temsi1
WINILIBBEA HILL
Mau
Mau1
Mab
Maw
Qpap
Toondulya Bluff
ILKINA HILL
Ilkina Dunefield
?AL
NURKA HILL
Nunjikompita
Chinbingina
Puntabie
Mudamuckla
Merghiny
Chilundie
KONGWIRRA HILL
Wandana
Maltee
Tia Tuckia
Waranda
Corrong
Watchurae
OAK HILL
Oak Valley
DUNN HILL


TOTAL MAGNETIC INTENSITY IMAGE
133° 30'
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135° 00'
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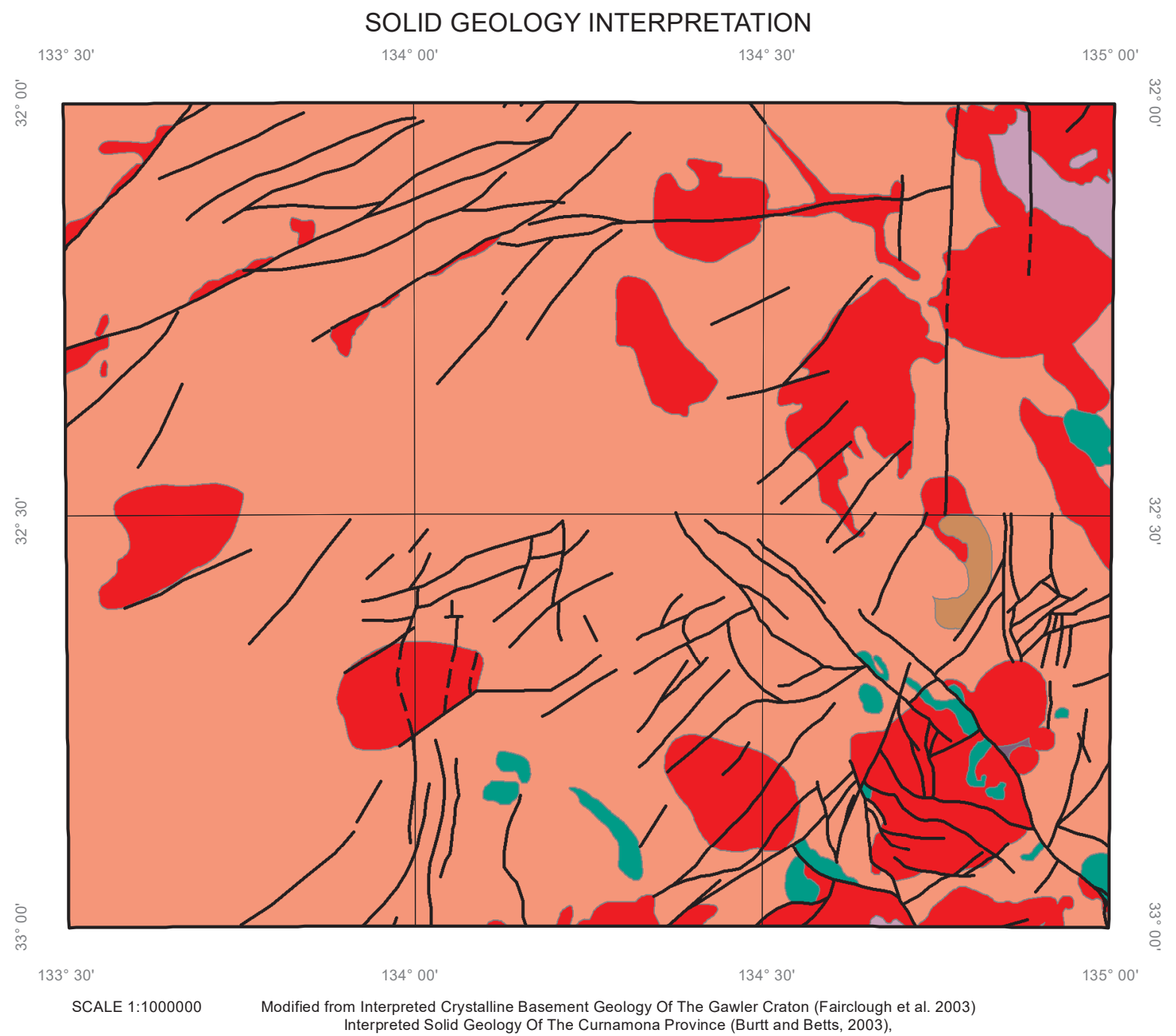
SCALE 1:1000000
nTesla
-1476.474
6609.362
-450.744
35.515
521.774

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.

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


SOLID GEOLOGY INTERPRETATION
133° 30'
134° 00'
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Modified from Interpreted Crystalline Basement Geology Of The Gawler Craton (Fairclough et al. 2003) Interpreted Solid Geology Of The Curnamona Province (Burtt and Betts, 2003), Musgrave Block, Central Australia: regional geology from interpretation of aeromagnetic data (Rankin and Newton, 2002), Solid Geology South Australia (Cowley, 2006).

Solid Geology

Mh	Hiltaba Suite	Ln	Tunkillia Suite
Mh6	Hiltaba Suite unit 6	L36	Palaeoproterozoic unit 36
Ma8	Gawler Range Volcanics unit 8	ALs	Sleaford Complex
L44	Palaeoproterozoic unit 44		

Solid Geology - Linear Structure

Fault position accurate ———

Fault position approximate — — — —

REFERENCE

HOLOCENE

$Qhck_5$	SAINT KILDA FORMATION UNIT 5: Supratidal sand/mud flats: gypseous clay.
$Qhck_8$	SAINT KILDA FORMATION UNIT 8: Shelly/quartz muddy sand of intertidal flats; bare or Zostera-colonised. Veneered by cobbles and gravel in western upper Spencer Gulf.
$Qhck_9$	SAINT KILDA FORMATION UNIT 9: Organic/shelly sand/mud of mangrove woodland and samphire-algal marsh.
Qhcks	SEMAPHORE SAND MEMBER: Unconsolidated white bioclastic quartz-carbonate sand of modern beaches and transgressive dune fields.
Qhe_3	HOLOCENE AEOLIAN UNIT 3: Holocene sand spread.
Qhe_5	HOLOCENE AEOLIAN UNIT 5: Holocene brown sand in depressions.
Qhem	MOORNABA SAND: Sand, aeolian, off-white and pale yellow, quartz-rich with carbonate pipes.
Qhl_3	HOLOCENE LACUSTRINE/PLAYA UNIT 3: Holocene claypan and lagoonal sediments.

PLEISTOCENE-HOLOCENE

Qe_3	QUATERNARY AEOLIAN UNIT 3: Quaternary gypsiferous dunes/lunettes.
Ql_1	QUATERNARY LACUSTRINE/PLAYA UNIT 1: Quaternary playa sediments.
Qly	YAMBA FORMATION: Clay, lacustrine, gypsiferous; gypsum-quartz sand . Dunes, playa lakes.

PLEISTOCENE

Qpew	WIABUNA FORMATION: Silt to fine-grained sand, orange-brown, calcareous, conglomeratic in part. Aeolian.
Qpap	POORAKA FORMATION: Clay, sand and carbonate earth, silty, with gravel lenses.
Qpcb	BRIDGEWATER FORMATION: Coastal barrier and shallow sub-tidal sediments: bioclastic and aeolian cross-bedded calcarenite, palaeosol horizons, often capped by calcrete.
$Qpcb_3$	BRIDGEWATER FORMATION UNIT 3: Upper Member. Based on Qpbu on STREAKY BAY.
Qpcg	GLANVILLE FORMATION: Clay, mottled, shelly; calcarenite, skeletal, coquina. Geochron age 132 000+/-6 000 years Bp on TL.
$Qpcb_2$	BRIDGEWATER FORMATION UNIT 2: Lower Member. Based on Qpbl on STREAKY BAY.
Qpl_1	PLEISTOCENE LACUSTRINE/PLAYA SEDIMENTS UNIT 1: Pleistocene playa sediments.
Qpr_4	PLEISTOCENE REGOLITH/COLLUVIAL UNIT 4: Pleistocene gravel, clay, silt and sand with soft carbonate, overlying nodular/tabular calcrete.

MIOCENE-PLEISTOCENE

$TmQ\backslash fe_1$	MIOCENE-PLEISTOCENE FERRICRETE UNIT 1: Miocene to Pleistocene ferricrete in palaeochannel sediments (Yapinga Ferricrete). BARTON sheet.
$TmQ\backslash fe_3$	MIOCENE-PLEISTOCENE FERRICRETE UNIT 3: Miocene to Pleistocene ferruginisation approx coeval with TmQ\si1.

EOCENE-PLEISTOCENE

TeQii	ILKINA FORMATION: Clay, silt, sand, laminated to thinly bedded, local clasts of silcrete and ferricrete. Locally capped by gypsum crust. Palaeochannel fill.
Tig	GARFORD FORMATION: Mudstone, carbonate, stromatolitic, oncolitic and oolitic, gastropods, minor sandstone and grit horizons. Upward change from argillaceous to carbonate mudstone. Lacustrine to flood plain.
Tbk	KHASTA FORMATION: Sandstone, fine grained, sponge spicules, lamination, cross lamination, vertical Skolithus burrows, small ripples.
Tbp	PIDINGA FORMATION: Siltstone, carbonaceous; lignite; sand, carbonaceous. Palaeochannel fill.

EOCENE-MIOCENE

$Tem\backslash si_1$	EOCENE-MIOCENE SILCRETE UNIT 1: Regionally older silcrete; approx Late Eocene-Mid Miocene.
$Tem\backslash fe_1$	EOCENE-MIOCENE FERRICRETE UNIT 1: Eocene to Miocene ferruginisation approx coeval with Tem\si1. Based on Tfe1 on TARCOOLA.

TERTIARY

T\si	TERTIARY SILCRETE: Undifferentiated Tertiary silcrete.

MESOPROTEROZOIC

Mh_5	HILTABA SUITE UNIT 5: Granite, pink, medium, even-grained; aplite, adamellite. Based on Prot-gamma-h2 on STREAKY BAY.
Mh_4	HILTABA SUITE UNIT 4: Grey, medium-coarse porphyritic granite, adamellite. Based on Prot-gamma-h1 on STREAKY BAY.
Mh	HILTABA SUITE: Granite, syenite, quartz monzonite, granodiorite, monzodiorite: coarse, megacrystic to equigranular, to fine-grained, granophyric, equigranular or porphyritic. Undeformed to locally strongly deformed. Minor mafic to ultramafic intrusive rocks. I to A-type, ~1600-1575 Ma.
Mau	EUCARRO RHYOLITE: Rhyolite, massive, red to pink, columnar-jointed, euhedral phenocrysts of plagioclase, olivine, pyroxene and hornblende, rare free quartz. A-type.
Mau_1	EUCARRO RHYOLITE UNIT 1: Dacite, dark grey, densely welded at or near base. Based on unit within Eucarro Rhyolite on YARDEA.
Mab	BITTALI RHYOLITE: Rhyolite to rhyodacite lavas and ignimbrites, feeder dykes and tuffs.
Maw	WAGANNY DACITE: Dacite-rhyodacite, porphyritic; dacite; andesite. Age of equivalent at Toondulya Bluff (U-Pb)1591+/-3 Ma.

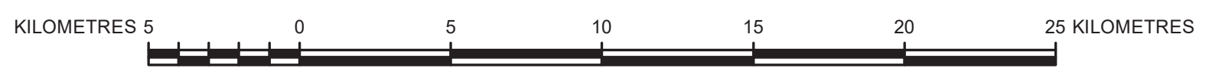
PALAEOPROTEROZOIC

L_9	PALAEOPROTEROZOIC UNIT 9: Gabbro and diorite dykes and plugs; intrudes Nuyts Volcs. Based on Prot-beta3 on STREAKY BAY.
Lf_3	ST FRANCIS SUITE UNIT 3: Massive, grey, pink porphyritic leucocratic granite. Intrudes Lp1, Lp5 (Cape Beaufort). Based on Prot-gamma7 on STREAKY BAY.
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.
Lp	ST PETER SUITE: Granite; monzogranite; granodiorite; diorite; amphibolite; dolerite; local lamprophyre. Comagmatic suite with magma mingling and magmatic layering. Calc-alkaline, I-type, 1633-1608 Ma.
Lp_{10}	ST PETER SUITE UNIT 10: Migmatitic granodiorite/granitic gneiss; amphibolite; granite, granite gneiss. Based on Prot-gamma-1 on NUYTS (Rocky Point area) and Prot-gamma-1 on STREAKY BAY.
Lp_6	ST PETER SUITE UNIT 6: Granite, medium, pink, weakly foliated porphyritic plugs/dykes. Based on Prot-gamma-5 on STREAKY BAY.
Lp_5	ST PETER SUITE UNIT 5: Medium grained, foliated porphyritic granodiorite, adamellite. Comagmatic with Lp1, Lp2, Lp3. Based on Prot-gamma-4 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.

ARCHAEAN-PALAEOPROTEROZOIC

AL	ARCHAEAN-PALAEOPROTEROZOIC ROCKS: Undifferentiated Archaean and/or Palaeoproterozoic rocks.

SCALE 1:250,000


KILOMETRES 5
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15
20
25 KILOMETRES

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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.

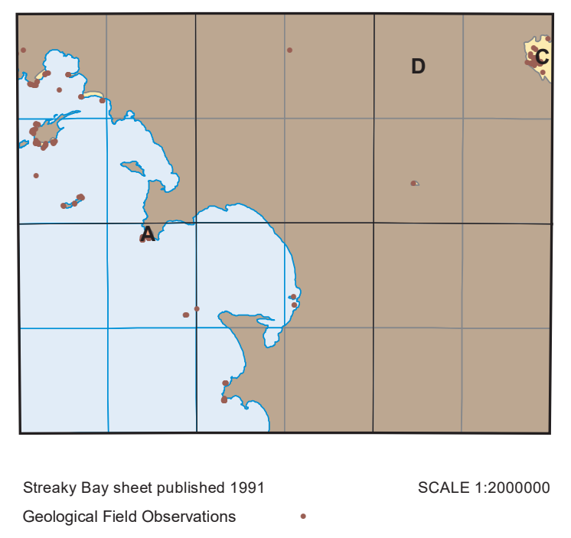
Mapping and Compilation by L.R. Rankin, B.Sc.(Hons), and G.J. Ambrose, B.Sc.(Hons) with contributions by A.H. Blissett, M.Sc., S.J. Daly, B.Sc., N.L. Watkins, B.Sc., and A.J. Parker, Ph.D., Dip.Comp.Sci.

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



Streaky Bay sheet published 1991

SCALE 1:2000000

Geological Field Observations

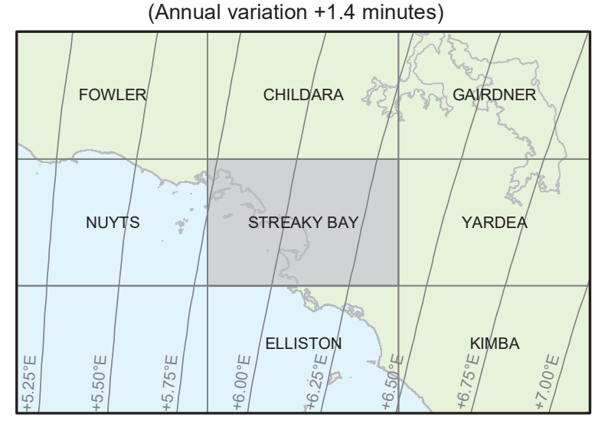
A: Detailed ground traverses
B: Image interpretation with limited ground traverses
C: Image interpretation with potentially some minor ground traverses
D: Image interpretation only

INDEX TO 1:100 000 SHEETS

Thevenard 5633	Carawa 5733	Wirrulla 5833
Collinson 5632	Streaky Bay 5732	Cungena 5832

INDEX TO ADJOINING 1: 250 000 SHEETS

Magnetic Declination 2000
(Annual variation +1.4 minutes)


FOWLER
CHILDARA
GAIRDNER
NUYTS
STREAKY BAY
YARDEA
ELLISTON
KIMBA
+5.25°E
+5.50°E
+5.75°E
+6.00°E
+6.25°E
+6.50°E
+6.75°E
+7.00°E

NT
QLD
WA
SA
NSW
VIC
TAS

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

CULTURAL FEATURES

- PRINCIPAL ROAD
- SECONDARY ROAD
- MINOR ROADS
- VEHICULAR TRACKS
- OPERATIONAL RAILWAY
- FENCE
- WATER PIPELINE
- IDENTIFIED POINT •
- BUILDING ■
- LANDING GROUND
- TOWN OR LOCALITY ○

HYDROGRAPHIC AND GEOMORPHIC FEATURES

- INTERMITTENT LAKE
- MINOR WATERCOURSE
- BORE ●
- WATER TANK ■
- SAND RIDGE

MINING

- OCCURRENCE ●
- PROSPECT x
- DEPOSIT - NO MINING
- QUARRY - CONSTRUCTION MATERIALS (HARD ROCK)
- PIT/CUT - CONSTRUCTION MATERIALS (SAND AND/OR CLAY)

STRUCTURAL FEATURES

- TECTONIC FOLIATION - VERTICAL
- TECTONIC FOLIATION
- VOLCANIC FLOW BANDING - VERTICAL
- VOLCANIC FLOW BANDING

COMMODITIES

CALI	Calcrete
GYPS	Gypsum
HLY	Halloysite
KAO	Kaolin
LMST	Limestone
SAND	Sand

GEOLOGICAL BOUNDARY

- COASTLINE
- GEOLOGICAL BOUNDARY POSITION ACCURATE
- GEOLOGICAL BOUNDARY POSITION APPROXIMATE

Government of South Australia
Department for Energy and Mining

GDA2020

STREAKY BAY
SI5302