STREAKY BAY

GEOLOGICAL SURVEY OF SOUTH AUSTRALIA
DEPARTMENT OF MINES AND ENERGY ADELAIDE

GEOPHYSICAL DATA

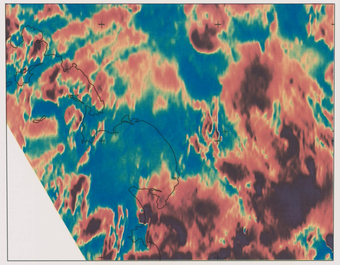
The magnetic pixel maps below combine the data from two airborne magnetic surveys of the STREAKY BAY sheet, and include the 1988 Eyre Peninsula Airborne Geophysical Survey and the 1959 Airborne Geophysical Survey flown for the South Australian Department of Mines and Energy and the Bureau of Mineral Resources (see inset map). The data from the older survey were originally collected in analogue form and were recently converted to digital form by the Bureau of Mineral Resources. The data were processed by the Bureau of Mineral Resources to produce a seamless picture for the whole area. A 250 metre grid cell size has been used to present the data in Pixel Map form.

Geophysical data compiled by D.H. Tucker, Ph.D.
Data processing by Pitt Research Pty Ltd

Scale 1 : 1 000 000

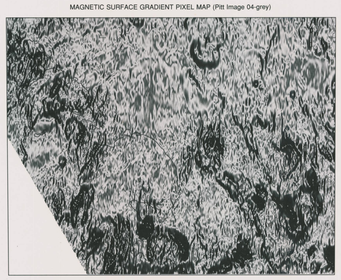
Transverse Mercator Projection

RESIDUALS OF TOTAL MAGNETIC INTENSITY PIXEL MAP (Pitt Image 01-colour)



The Residuals of Total Magnetic Intensity Pixel Map assigns a rainbow range of colour to the amplitude of the data, such that the lowest values are blue and the highest values are red. The colours are linearly applied to the full amplitude range of 3000nT depicted on the sheet.

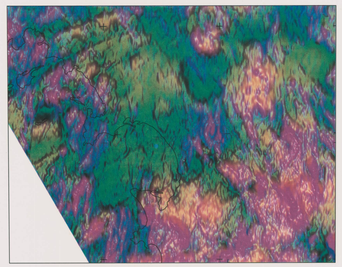
MAGNETIC SURFACE GRADIENT PIXEL MAP (Pitt Image 04-grey)



The gradient technique is particularly useful for highlighting short wavelength anomalies caused by small near-surface magnetic susceptibility changes which have caused sudden changes in the surface "slope" of the data under study.

The Magnetic Surface Gradient Pixel Map depicts the steepest descent slope at any point, in any direction, of the surface representing the Residuals of Total Magnetic Intensity. High gradient is represented by dark areas and low gradient by light areas.

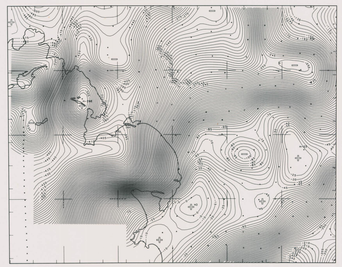
COMPOSITE MAGNETIC PIXEL MAP (Pitt Image 06-colour)



The Composite Magnetic Pixel Map combines the results from three presentations of the magnetic data by assigning a variable to each of the three colour guns available in image processing as follows:
1. Residuals of Total Magnetic Intensity in the red colour gun.
2. Magnetic Surface Gradient in the green gun, and.
3. Magnetic Variation in the blue gun.

The first two of these presentations are described above. The Magnetic Variations, used in the blue colour gun, is a mathematical treatment which selectively enhances short wavelength anomalies and steps in the data, boosts the low amplitudes and attenuates the high amplitudes.

BOUGUER GRAVITY ANOMALY CONTOURS



Bouguer gravity anomaly reduction density: 2.67 T/m³
Station spacing: 7 kilometres onshore, 2.7 kilometres offshore
Contour interval: 5 micrometres/second squared (0.5 milligal).

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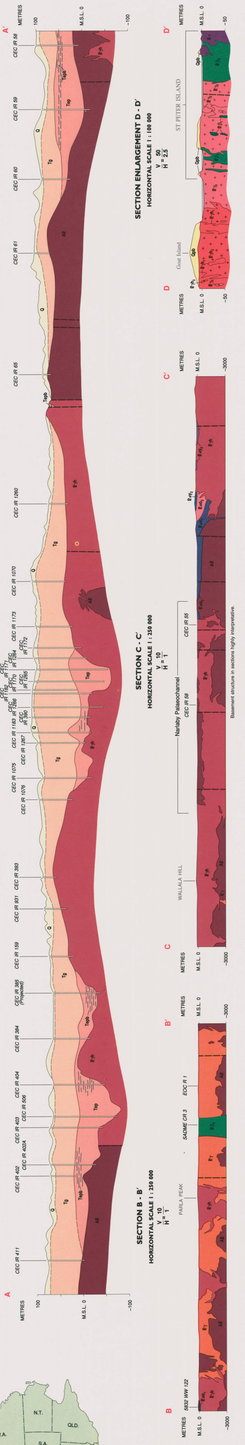
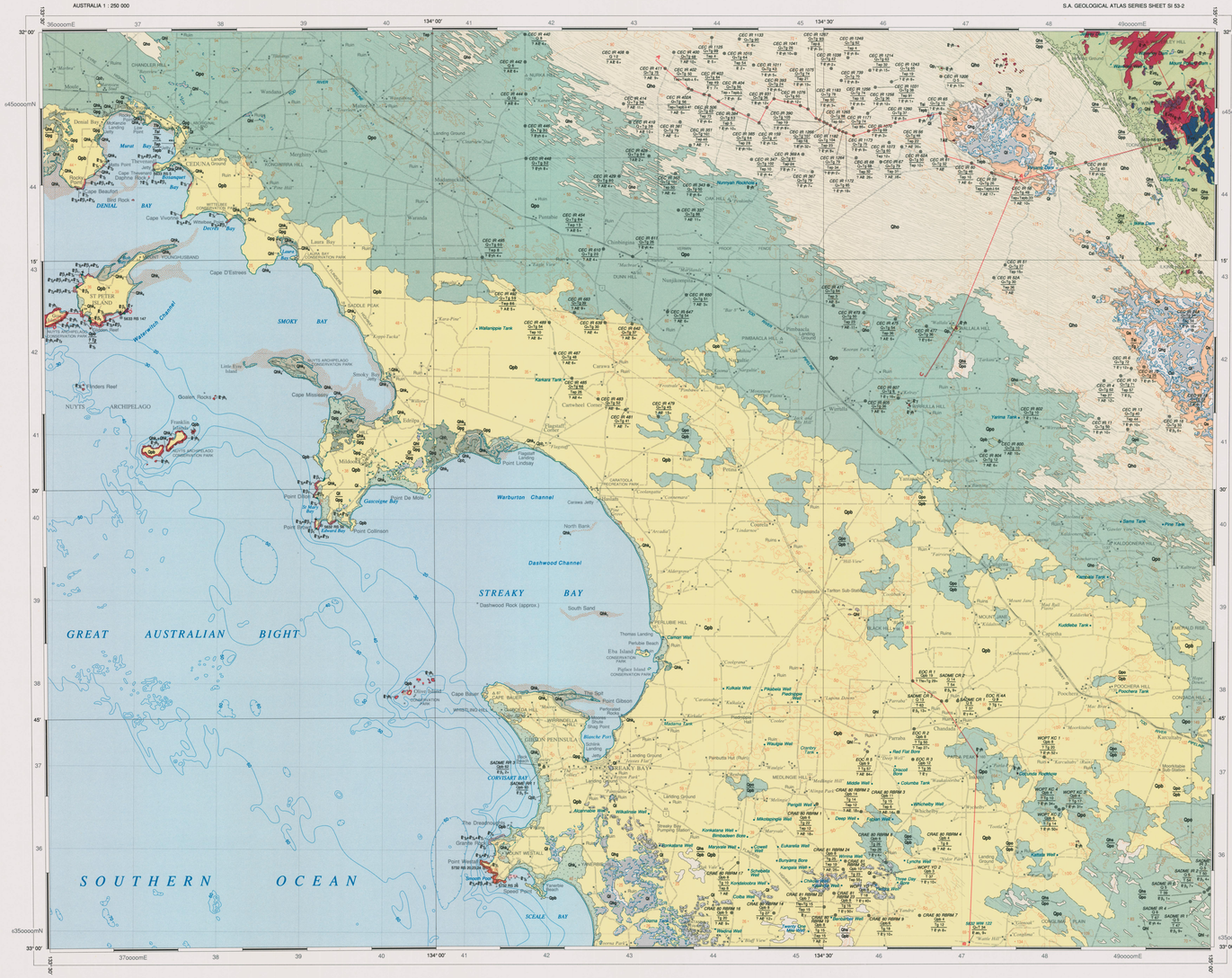
Bibliographic Reference: Rankin L.R. and Flint R.B., 1991. STREAKY BAY map sheet. *South Australia Geological Survey. Geological Atlas 1 :250 000 Series*, sheet SI 53-2.



Copies of this map may be obtained from the Geological Survey of South Australia, Department of Mines and Energy, Adelaide, or the Bureau of Mineral Resources, Geology and Geophysics, Canberra, A.C.T. Printed for the Geological Survey of South Australia as a contribution to the Geological Map Series of the Commonwealth.

AUSTRALIA 1 : 250 000

S.A. GEOLOGICAL ATLAS SERIES SHEET SI 53-2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GREAT AUSTRALIAN BIGHT
SOUTHERN OCEAN
SMOKY BAY
STREAKY BAY
Waterwitch Channel
Warburton Channel
Dashwood Channel
DENIAL BAY
Gaskerdine Bay
Point Brown
Point Bell
Point Collinson
Point Gibson
Point Bell
Point Weetall
Point Kirkpatrick
Speed Point
SCEALE BAY
CORYSART BAY
Cape Bauer
Cape Blanche
Cape Adieu
Cape Carnot
Cape Catastrophe
Cape Bouchoir
Cape Bouchoir
Cape Blanche
Cape Adieu
Cape Carnot
Cape Catastrophe