



NORTHWEST MULGATHING COMPLEX INTERPRETED PRE-CAMBRIAN BASEMENT GEOLOGY

by Patrick Lyons

SCALE 1:250 000

UNIVERSAL TRANSVERSE MERCATOR PROJECTION
GEOCENTRIC DATUM OF AUSTRALIA



A typical Mulgathing landscape

Photo: M. Pejo

Palaeozoic

Officer and Arckaringa Basins



Neoproterozoic

Gairdner Dyke Swarms

Mesoproterozoic

Hiltaba Suite

Am Anorthogenic granulite (associated volcanics not shown)

Muckanippie Anorthosite Complex

Am Probable layered igneous complex

Undefined gabbroic intrusions

Am

Palaeoproterozoic

Hould Complex

Am Weakly to strongly deformed granulite and gabbroic rocks - 1.67 Ga

Archaean

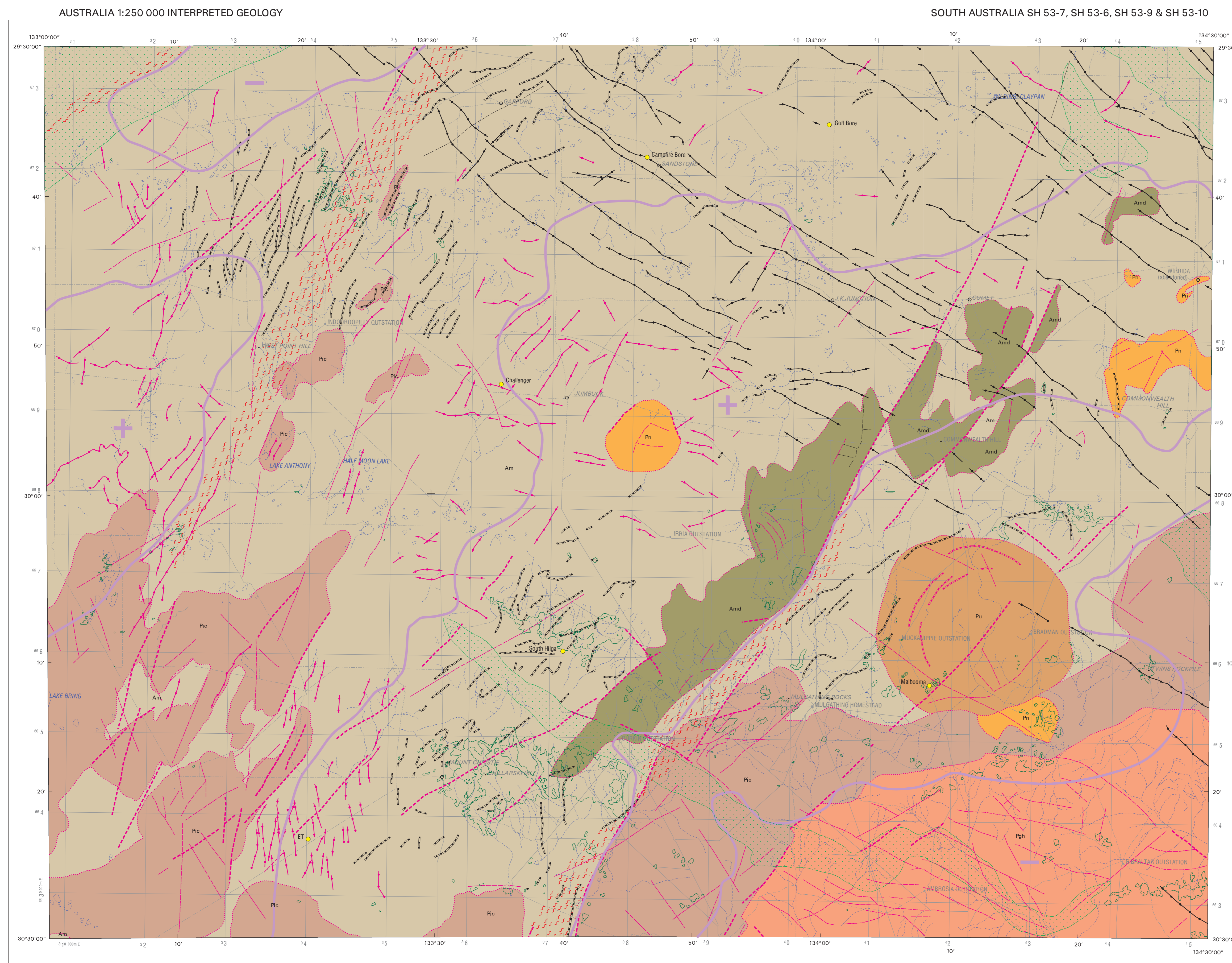
Am Orthogneiss, paragneiss, granulite, BF, numerous mafic intrusions of undetermined age

Mulgathing Complex

Am Paragneiss, amphibolite, metamorphosed mafic and ultramafic rocks, chert, marble, organic granites

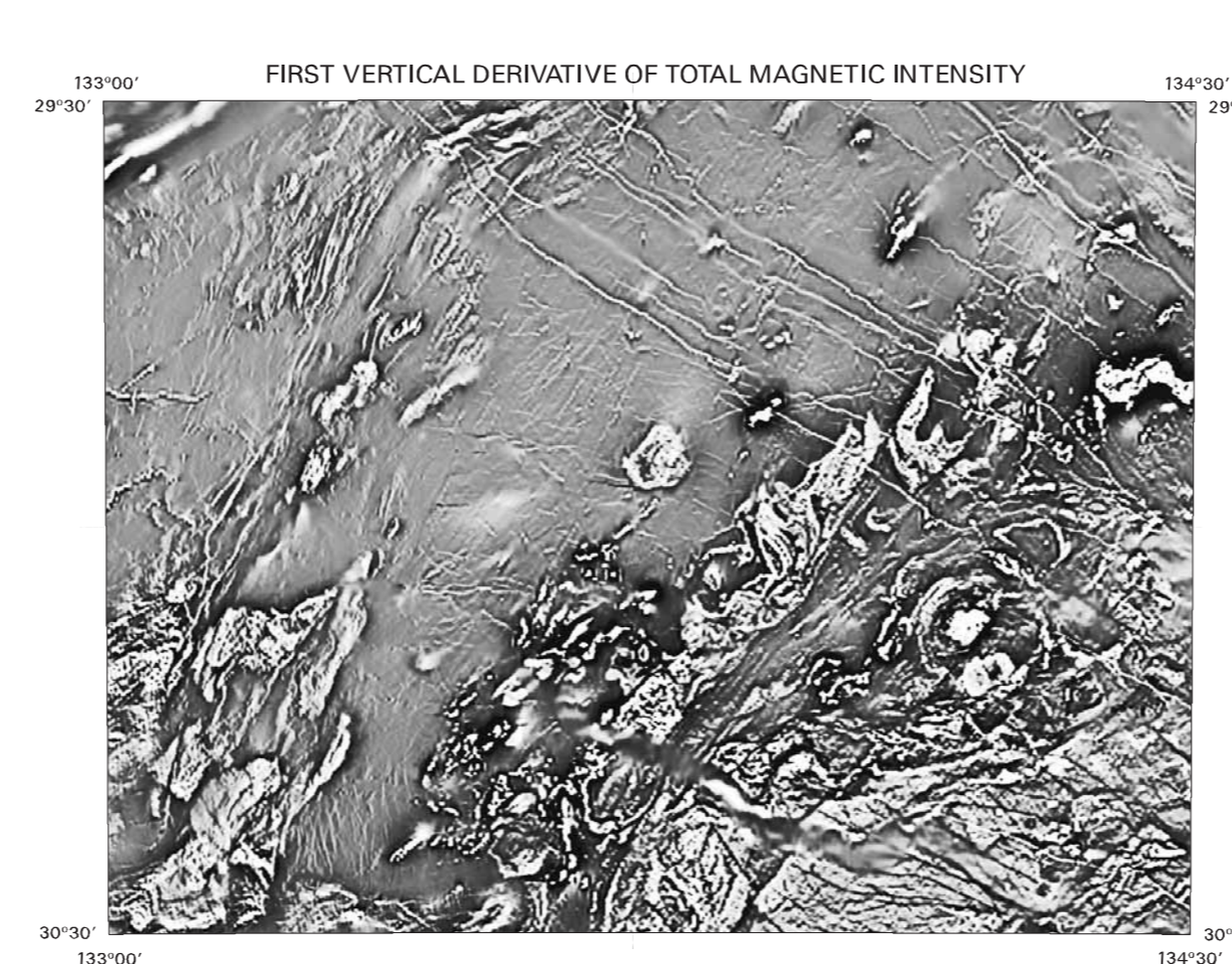
BF BF marker bed

- Geological boundary interpreted from geophysical data
- Fault interpreted from geophysical data
- Fracture or fault interpreted from geophysical data
- Dike or vein interpreted from geophysical data
- BF marker unit
- Undifferentiated, highly magnetic marker unit
- Extent of mapped outcrop
- Zone of shearing
- Gravity domain
- Relative gravity high
- Relative gravity low
- Mine or prospect
- Lake, intermittent
- River or creek, intermittent
- Minor road
- Vehicle track
- Homesite or outstation



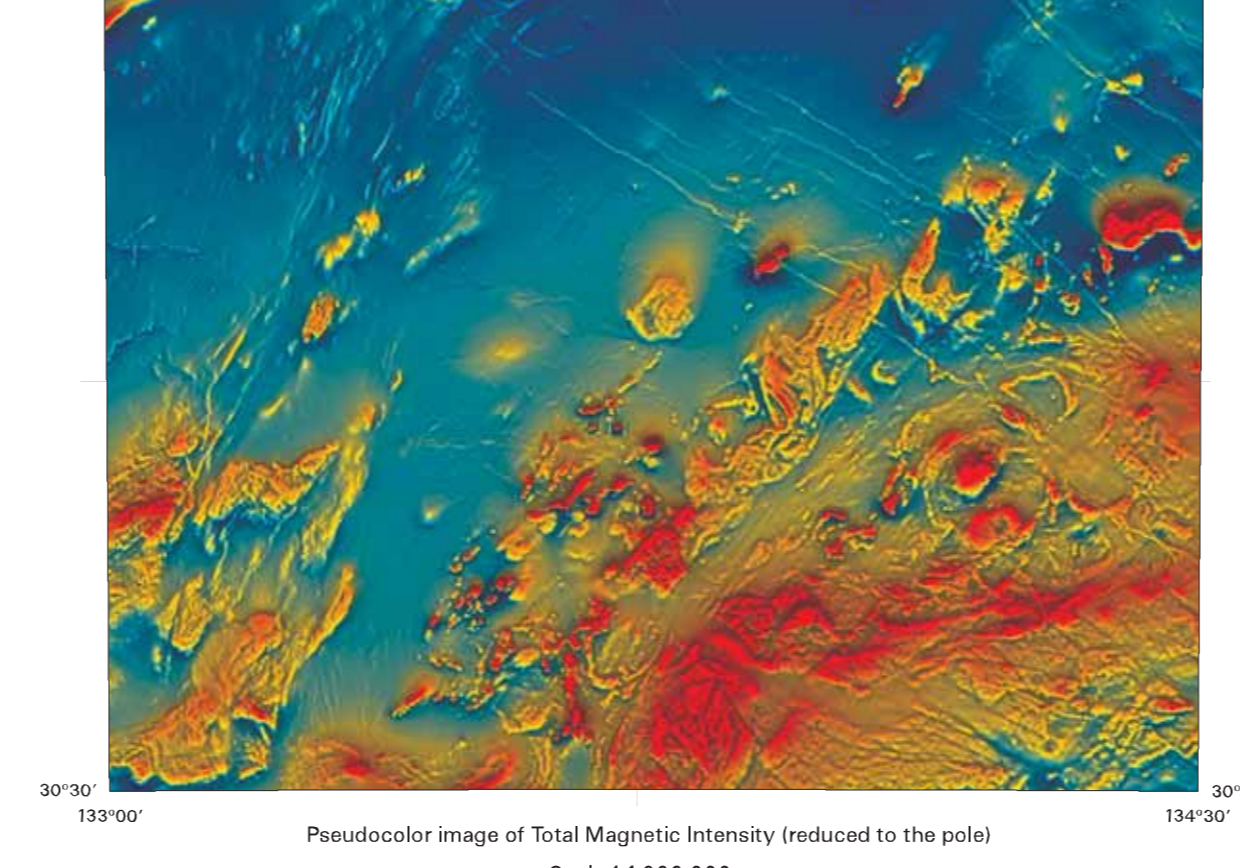
Transparent polygons of interpreted Pre-Cambrian Basement Geology integrated with First Vertical Derivative of Total Magnetic Intensity using additive colour modulation technique

Scale 1:500 000



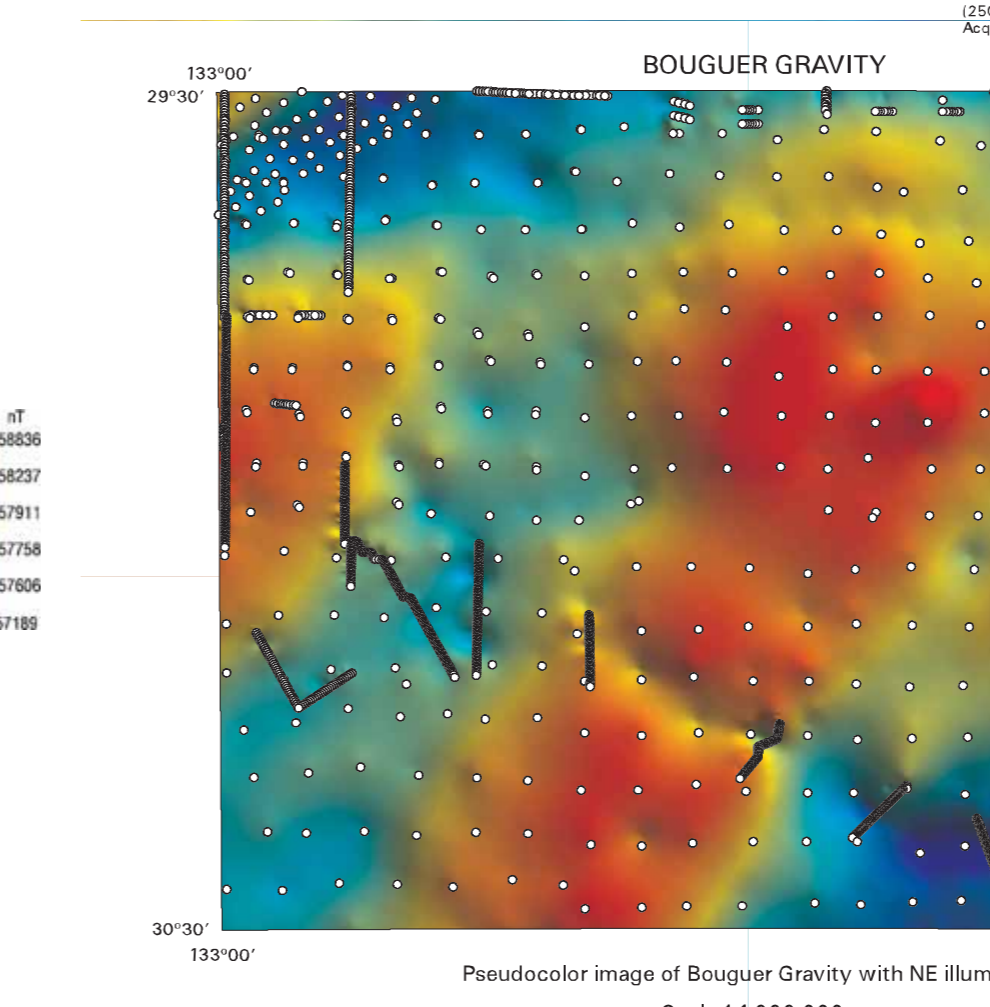
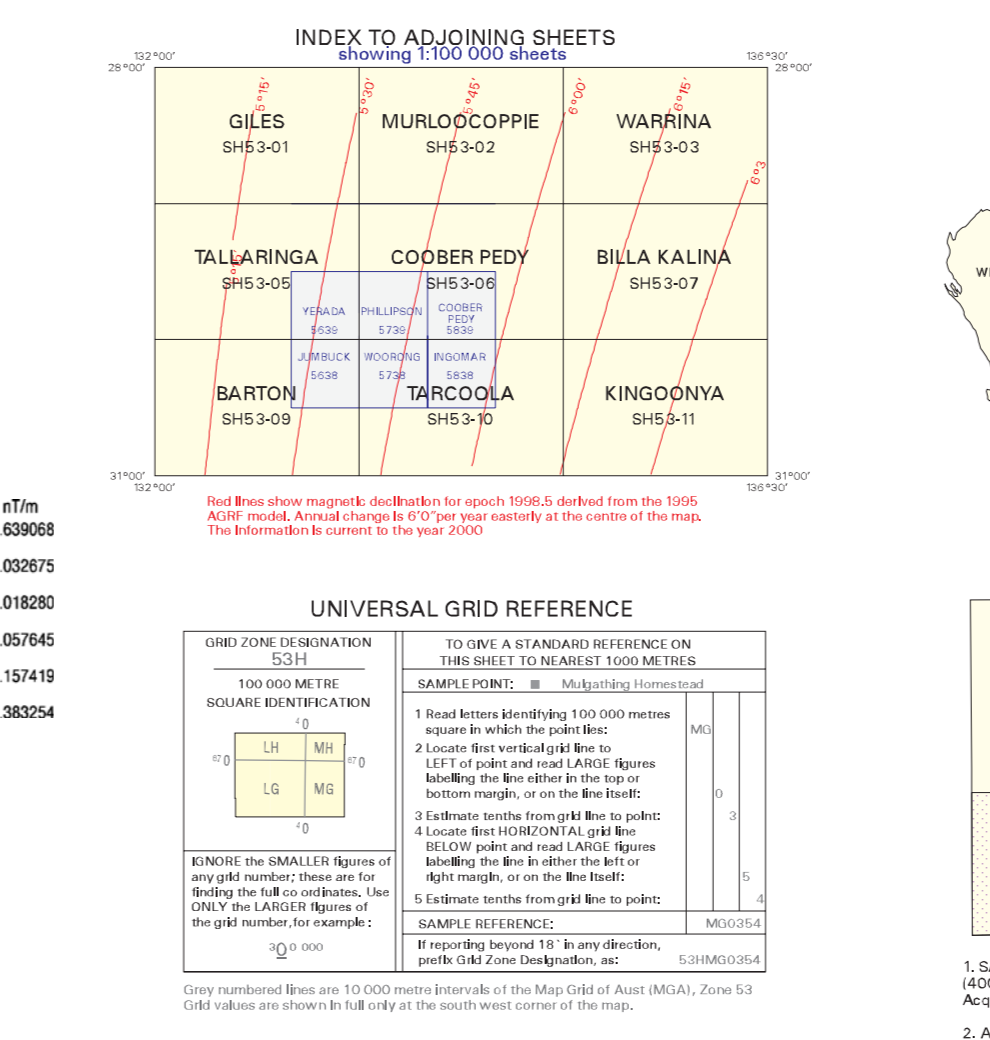
Greyscale image of TMI FVD (reduced to the pole) data (whitehigh, blacklow)

Scale 1:1 000 000



Pseudocolour image of Total Magnetic Intensity (reduced to the pole)

Scale 1:1 000 000



Pseudocolour image of Bouguer Gravity with NE Illumination

Scale 1:1 000 000

EXPLANATORY COMMENTS
This map presents an interpretation of basement geology based on ground reconnaissance, interpretation of aeromagnetic, gravity data, and interpretation of aeromagnetic, gravity data and geological mapping.

The boundaries of some mapped units were modified to be consistent with geophysical data or ground mapping. As the map is essentially under construction, granulite facies metamorphism has developed much of the Mulgathing Complex and Arckaringa Basins. Some units could not be distinguished or differentiated. Areas where Palaeozoic cover has advanced potential fields are shown.

Gravity data come from 1985 stations out of a combined database of the Geoscience Australia (GA) and Geoscience Australia (GA) data. These data comprise Commonwealth State and open file company surveys. Gravity data were converted to Geoid Height Anomalies at the GDA 2000 datum by the method of Williams et al. (1986). GDA Height 2000 data were converted to Geoid Height Anomalies at the GDA 2000 datum by the method of Williams et al. (1986). GDA Height 2000 data were converted to Geoid Height Anomalies at the GDA 2000 datum by the method of Williams et al. (1986).

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SUBJECT TO REVISION

WARNING: Colour may deteriorate with prolonged exposure to light and moisture