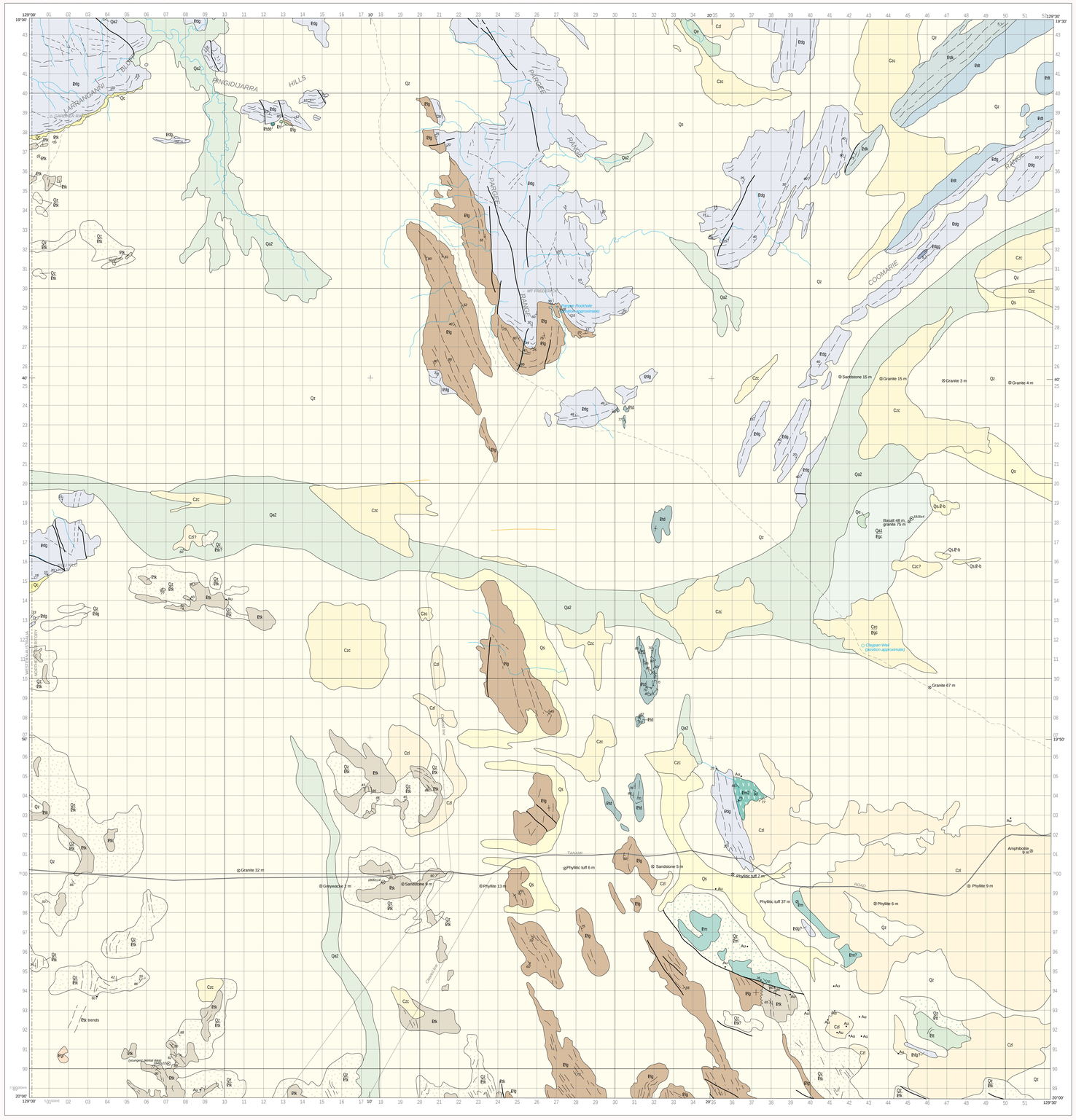
PARGEE

AUSTRALIA 1:100 000 GEOLOGY

NORTHERN TERRITORY

SHEET 4758

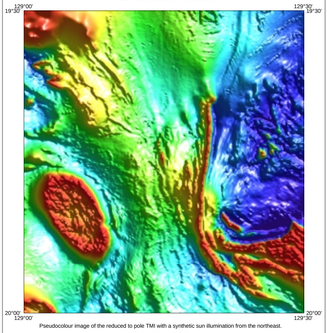


SCALE 1:100 000

1 0 1 2 3 4 5 6 7 8 9 10 Kilometres

Projection: Universal Transverse Mercator, Zone 52
Grid Coordinates: Map Grid of Australia 1994 (MGA94)
Horizontal Datum: Geocentric Datum of Australia 1994 (GDA94)

TOTAL MAGNETIC INTENSITY

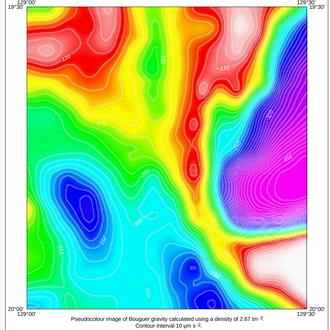


Pseudocolour image of the reduced to pole TMI with a synthetic sun illumination from the northeast.

SCALE 1:500 000

0 5 10 15 20 km

BOUGUER GRAVITY



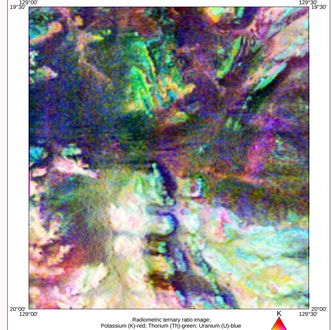
Pseudocolour image of Bouguer gravity calculated using a density of 2.67 tm^{-3}.
Contour interval 10 µm s^{-2}.

SCALE 1:500 000

0 5 10 15 20 km

Gravity data acquired by AGSO and NTGS in 1999

RADIOMETRIC RGB



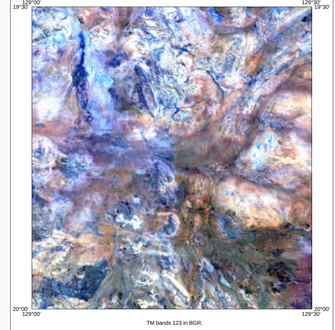
Radiometric ternary ratio image;
Potassium (K)-red; Thorium (Th)-green; Uranium (U)-blue

SCALE 1:500 000

0 5 10 15 20 km

K Th U

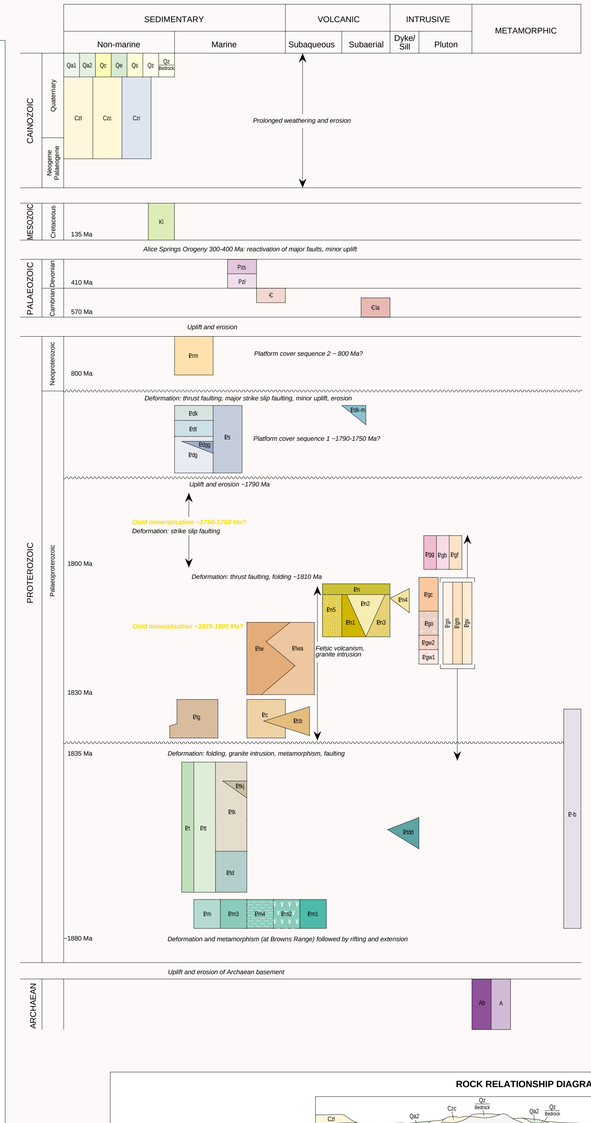
LANDSAT TM



TM bands 123 in BGR.

SCALE 1:500 000

0 5 10 15 20 km



Qa1 *Alluvial and lacustrine sediments: silt, sand and gravel; unconsolidated*

Qa2 *Alluvium: sand, silt, gravel; unconsolidated*

Qc *Colluvium: scree deposits, breccia, conglomerate, sand; unconsolidated*

Qe *Lacustrine sediments: clay, silt, sand, evaporites*

Qs *Alluvial, aeolian: sand, silt, clay; unconsolidated*

Qt *Aeolian and piedmont deposits: silt, sand and gravel; unconsolidated*

Qr Bedrock *Subcrop, saprolite (underlying unit indicated by text and stipple), vein quartz and bedrock rubble covered by thin veneer of sand*

Czl *Laterite*

Czc *Calcrete, partly silicified*

Czi • *Silcrete*

Larranganni Beds

- Kl *Sandstone, minor siltstone and conglomerate, poorly sorted, quartz rich*

Antrim Plateau Volcanics

Pedestal Beds
- Pzs *Quartzose sandstone; minor conglomerate, siltstone, shale*

Lucas Formation
- Pzl *Calcareous and non calcareous sandstone, siltstone and mudstone; minor limestone*

- C *Undifferentiated sediments: sandstone, siltstone, shale, limestone*
- C/a *Basalt lava: white, purple, brown, black, tholeiitic, weathered, generally capped by pisolitic laterite; includes minor volcaniclastic sandstone, lithic arenite and stromatolitic chert*

Redcliff Pound Group

Muriel Range Sandstone
- Etm *Sublithic arenite, quartz arenite, minor siltstone, shale, conglomerate, arkose, breccia*

Birrindudu Group

Coomarie Sandstone
- Etdk-m *Basalt or sandstone, moderate magnetic response (inferred from magnetic data)*
- Etdk *Sandstone: sublithic arenite, minor quartz arenite, siltstone and shale; medium grained, ripple marks and mud cracks common*

Talbot Well Formation
- Etdt *Stromatolitic chert, cherty arenite, siltstone, mudstone, limestone, quartz arenite, sublithic arenite*

Gardiner Sandstone
- Etdgb *Sandstone: sublithic arenite, medium to fine grained, thin bedded, glauconitic*

Glauconitic Sandstone member
- Etdg *Sandstone: white, sublithic arenite, quartz arenite, conglomerate, siltstone and shale; thin to thick bedded, medium to coarse grained, poorly sorted*

Sunglejack Downs Sandstone
- Ets *Sandstone: white to pale pink, sublithic arenite, quartz arenite, conglomerate, siltstone and shale, minor volcanogenic sandstone; fine to coarse grained, variably sorted*

Granites Suite
- Etgn *Undifferentiated intrusive: non magnetic*

Bore Field Road Suite
- Etgm *Undifferentiated intrusive: magnetic*

Frederick Suite
- Etgv *Undifferentiated intrusive: variably magnetic*

Coomarie Suite
- Etgg *Biotite granite: I-type, porphyritic, coarse grained*

Inningarra Suite
- Etgb *Diorite and gabbro: I-type, layered igneous intrusion*

Winnecke Suite
- Etgf *Biotite hornblende granodiorite: I-type, medium to coarse, grey, oval plutons; strong magnetic response*
- Etgc *Biotite hornblende granodiorite: I-type, weak magnetic response*
- Etgo *Biotite, hornblende granodiorite: I-type, foliated*
- Etgw2 *Biotite hornblende granodiorite: I-type, medium to coarse; strong magnetic response*
- Etgw1 *Biotite hornblende granite: I-type, porphyritic, medium to coarse; weak magnetic response*

Mount Winnecke Group

Nanny Goat Volcanics
- Et *Undifferentiated: Nanny Goat Volcanics non to weakly magnetic*
- Et5 *Sandstone: quartz arenite, minor volcanogenic sandstone*
- Et4 *Basalt: sill or dyke, weathered, purple to black, fine grained*
- Et3 *Rhyolite lava: cream, fine grained, silicified, moderately quartz phyric, locally developed flow foliation and autobrecciation*
- Et2 *Ignimbrite: rhyolitic feldspar-quartz ignimbrite, purple to brown, porphyritic with feldspar>quartz phenocryst ratio ~ 3/1, densely welded with well developed eutaxitic foliation*
- Et1 *Ignimbrite: rhyolitic quartz-feldspar ignimbrite, cream, buff, light green, porphyritic with feldspar>quartz phenocryst ratio ~ 5:1, densely welded with well developed eutaxitic foliation, occasional volcanic lithics*
- Etw *Sandstone: sublithic arenite, siltstone; white, cream, fine to coarse grained, poorly sorted*
- Etwa *Undifferentiated volcanics: dacite and rhyolite, high level porphyries and volcanics*

Mount Charles Formation
- Etc *Undifferentiated sandstone, siltstone and basalt: sandstone - lithic greywacke with volcanic and metamorphic detritus, poorly sorted, medium to coarse grained; siltstone - purple to dark grey, thin bedded includes minor carbonaceous siltstone*

Basalt member
- Etcb *Basalt lava: green to black olivine basalt, weathered, altered, pillow lava*

Pargee Sandstone
- Etg *Conglomerate, sandstone and siltstone: sublithic and lithic arenite, quartz arenite; cream, pink, purple; sandstone poorly sorted, medium to coarse grained; conglomerate contains jasper clasts*

Tanami Group
- Pl-b *Undifferentiated mafic volcanics and meta-sediment*
- Etdd *Dolerite: metadolerite sills, fine to medium grained*
- Et *Undifferentiated Tanami Group: interbedded turbiditic sandstone and siltstone*

Twigg Formation
- Ett *Siltstone, sandstone, chert*

Killi Killi Formation
- Etkj *Jaspertitic chert: thin bedded, rhythmically alternating pale chert and jasper, highly contorted*

Jaspertitic Chert member
- Etk *Sandstone: purple, brown, turbiditic, thick to thin bedded micaceous and silty to quartzose, interbedded with buff to dark grey siltstone packages; minor chert, carbonaceous and chert; volcanic lithics common in the west*

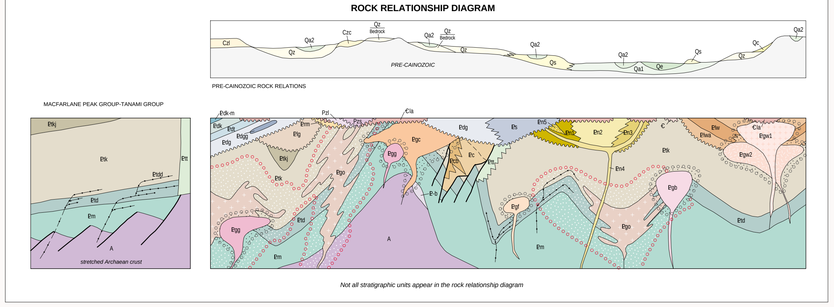
Dead Bullock Formation
- Etd *Siltstone: white, dark grey to black, thin bedded mudstone, siltstone and black carbonaceous shale, includes minor banded iron formation, thin pale calcareous beds and thin bedded chert, chert nodules common; contains numerous Etdd sills*

MacFarlane Peak Group
- Em *Undifferentiated MacFarlane Peak Group: interbedded mafic-intermediate volcanic and volcaniclastic sediment with siltstone, greywacke and chert; includes metamorphosed equivalents. Strong magnetic response*
- Em1 *Amphibolite*
- Em2 *Interbedded basalt and volcaniclastic sediment*
- Em3 *Metagreywacke (cordierite-garnet-magnetite schist)*
- Em4 *Siltstone and calc-silicate*

Browns Range Metamorphics
- Ab *Undifferentiated schist, gneiss, migmatite*
- A *Undifferentiated Archaean: felsic and mafic gneiss, granite and migmatite: variably magnetic, high Bouguer gravity.*

• *not on map*

ROCK RELATIONSHIP DIAGRAM



GEOLOGICAL SYMBOLS

- *Geological boundary*
- *Fault*
- *Unconformity*
- *Joint*
- *Trend of bedding*
- *Strike and dip of inclined bedding, dot indicates proved younging direction.*
- *Strike and dip of overturned bedding*
- *Strike and dip of inclined bedding, younging unknown*
- *Strike and dip of vertical bedding, younging unknown*
- *Horizontal bedding*
- *Strike and dip of inclined cleavage, S1*
- *Strike and dip of vertical cleavage, S1*
- *Strike and dip of inclined cleavage, S2*
- *Strike and dip of inclined cleavage, S3*
- *Strike and dip of foliation*
- *Minor fold showing plunge*
- *Radiometric age determination in millions of years, U/Pb SHRIMP*
- *Drill hole indicating rock type intersected and depth*
- *Gold occurrence*
- *Unit A overlies unit B*

ROCK RELATIONSHIP SYMBOLS

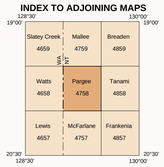
- *Zone of hornfels*
- *Limit of contact metamorphism*
- *Zone of regional metamorphism (amphibolite facies and higher)*
- *Limit of regional metamorphism (amphibolite facies and higher)*
- *Unconformity*

TOPOGRAPHICAL SYMBOLS

- *Major road*
- *Minor road*
- *Vehicle track*
- *Fence*
- *Yard*
- *Lake*
- *River, creek*
- *Bore site*
- *Dam*
- *Water pipe*
- *Sandridges*
- *Territory and state border*

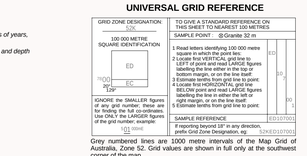
MAP LOCALITY

INDEX TO ADJOINING MAPS



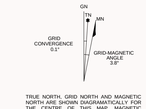
PART OF 1:250 000 MAP
SE 52-15 TANAMI

UNIVERSAL GRID REFERENCE



Grey numbered lines are 1000 metre intervals of the Map Grid of Australia, Zone 52. Grid values are shown in full only at the southwest corner of the map.

To convert from AGD66 to this map's co-ordinate system, GDA94:
INCREASE Eastings by 114 metres
INCREASE Northings by 71 metres
INCREASE Longitudes by 4.47 seconds
DECREASE Latitudes by 5.10 seconds



TRUE NORTH, GRID NORTH AND MAGNETIC NORTH ARE SHOWN DIAGRAMMATICALLY FOR THE CENTRE OF THIS MAP. MAGNETIC NORTH IS CORRECT FOR 2000 AND MOVES EASTERLY, BY 0.1° IN LESS THAN FIVE YEARS. TO CONVERT A MAGNETIC BEARING TO A GRID BEARING ADD THE GRID-MAGNETIC ANGLE.

The Northern Territory Government does not warrant this map as definitive, nor free from error and does not accept liability for the loss caused or arising from reliance upon information provided herein.

The information presented on this map is current to 6 Dec 2001.
Future modifications may be made as new information becomes available.

Produced by, and plot on demand created by, the Northern Territory Geological Survey, Cartographic Unit, Department of Business, Industry and Resource Development, Darwin, Australia. Issued under the authority of the Minister for Resource Development, the Honourable Paul Henderson, MLA.
Base map compiled by NTGS from 1:250 000 scale topographic data supplied by the Australian Surveying and Land Information Group, Department of Administrative Services.
LANDSAT satellite image provided by the Australian Centre for Remote Sensing (ACRES), a business unit of AUSLIG, Australia's national mapping agency.
Drilling data from selected open file company and government reports.
This map incorporates previous published mapping of Blake et al., 1976 (THE GRANITES SF 52-3).

DIGITAL DATA: Map data is stored in Microstation format (DGN). Map information can be purchased from the NTGS as hardcopy plots and/or digital files. Information on formats, release conditions, and costs are available from **NTGS Sales Counter, 3rd floor Centrepoint Building, Darwin. Phone (08) 8999 6443.**

Airphoto interpretation: 1999 BA Pietsch, AJ Crispe, MA Hendrickx
Geology: 1999 AJ Crispe, LC Vandenberg, MA Hendrickx, AA Dean

Refer to this map as: **CRISPE AJ, VANDENBERG LC, HENDRICKX MA, DEAN AA, 2001. Pargee 4758 1:100 000 Surface geology map. Edition 1. Northern Territory Geological Survey.**

Associated maps: **Pargee 4758 1:100 000 integrated interpretation of geophysics and geology map. Edition 1. Northern Territory Geological Survey.**

Cartography: 2000 J Lambton-Young

Department of Mines & Energy Northern Territory

R. Dennis Gee, Director, Northern Territory Geological Survey

PARGEE

SHEET 4758

FIRST EDITION 2001

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WARNING: Colours will fade with prolonged exposure to light.