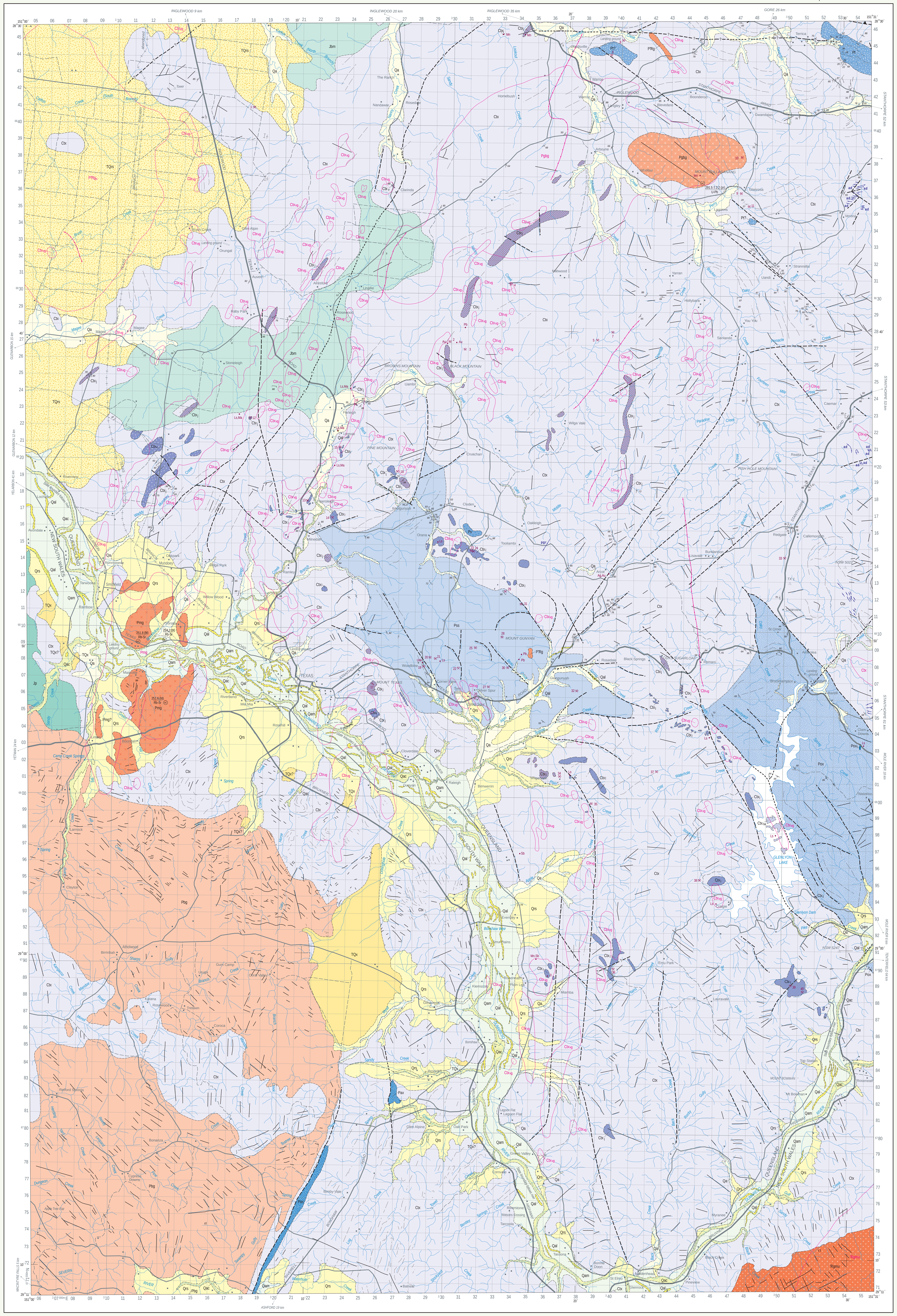
TEXAS SPECIAL

QUEENSLAND

AUSTRALIA 1:100 000 GEOLOGICAL SERIES

SHEET 9140 AND PART 9139, 9239 & 9240



QUATERNARY

- Qa — Clay, silt, sand, gravel; flood-plain alluvium
- Qal — Silt, clay; lake (swamp) deposits in alluvial plain
- Qam — Sand, silt, clay; scroll-plain, meander-belt deposits
- Qac — Sand, mud, silt, clay, gravel; mainly active stream-channel deposits
- Qrs — Sand, silt, clay, gravel, soil; residual and colluvial deposits

TERTIARY - QUATERNARY

- TQrs — Residual soil and colluvium, gravel and sand
- TQx — Sandstone, conglomerate, gravel, sand, silt and mud, lateritic ironstones, some interbedded basalt and undifferentiated residual soils, colluvium and elluvium

JURASSIC

- Pilliga Sandstone — Jp — Quartzose sandstone, conglomerate
- Marburg Subgroup — Jbm — Medium to coarse-grained quartzose and quartzofeldspathic sandstone and conglomerate

EARLY TRIASSIC

- Mole Granite — Rgmu — Coarse to very coarse-grained seriate leucocratic granite and minor micro-leucogranite; marginal porphyritic leucogranite and microgranite; greisen; moderate magnetic response

PERMIAN - TRIASSIC

- PRg — Moderately porphyritic leucogranite; minor endoskarn
- PRgn — Unexposed non-magnetic granitoid intrusion

LATE PERMIAN

- Boxwell Granodiorite — Pmg — Pale to dark grey or pinkish grey, medium to fine-grained biotite-hornblende and hornblende-biotite granodiorite; minor monzodiorite-quartz monzodiorite, monzogranite, syenogranite; high magnetic response

EARLY PERMIAN

- Bundarra Plutonic Suite — Pbg — Coarse to very coarse-grained, porphyritic and equigranular (biotite)-(muscovite)-(garnet)-(cordierite) granite and leucogranite; K-feldspar megacrysts abundant in places; some pale grey, fine-grained porphyritic (altered cordierite-) muscovite-biotite monzogranite
- Mount Bullaganang Granite — Pgbg — Pale pink to pale brownish pink, medium-grained, uneven-grained, leucocratic biotite syenogranite; moderate to high magnetic response
- Silver Spur beds — Pss — Medium to thick-bedded volcaniclastic arenite, mudstone, conglomerate and minor limestone
- Terrica beds — Pt — Lithic arenite, mudstone, siltstone; rare vitric tuff and conglomerate; locally fossiliferous
- Bondonga beds — Pox — Lithic, locally pebbly arenite, clast to matrix supported sandy to muddy conglomerate, locally pebbly mudstone; minor siltstone; rare limestone and basalt
  - Poxl — Limestone
- Ashford Coal Measures — Pax — Fluvial sandstone, argillite, cobble conglomerate and interbedded coal horizons
- Pv — Coherent flow-banded rhyolite, rare autoclastic domains

CARBONIFEROUS

Texas beds:

- Ctx — Thin to thick-bedded, volcaniclastic arenite, siltstone, mudstone and slate; local phyllite; sporadic lenses of jasper, chert, limestone and mafic volcanics; rare conglomerate; low to moderate magnetic response
- Ctxvg — Strongly magnetic or magnetically altered chert (plus minor jasper), mafic volcanics/volcaniclastics and slate sequences and/or associated magnetically altered strata
- Ctxj — Thin-bedded to locally massive, pink to brown jasper; subordinate interlayered mudstone; locally grades into grey chert
- Ctxl — Variably recrystallised, sparsely fossiliferous limestone; local limestone/basalt breccia
- Ctxlw — Limestone inundated by Glenlyon Lake
- Ctxv — Mafic lava and associated pyroclastic deposits; some subvolcanic intrusives; minor chert, jasper and volcaniclastic sediments
- Chert lens

MINING SYMBOLS

- Mine
- Mine, abandoned
- Prospect, abandoned
- • Ag — Mineral occurrence

Ag - silver, Au - gold, Cu - copper, Fe - iron, Ls - limestone, Ma - marble, Mn - manganese, Pb - lead, Qr - quarry rock, Sb - antimony, Zn - zinc

INDEX TO MINES AND PROSPECTS

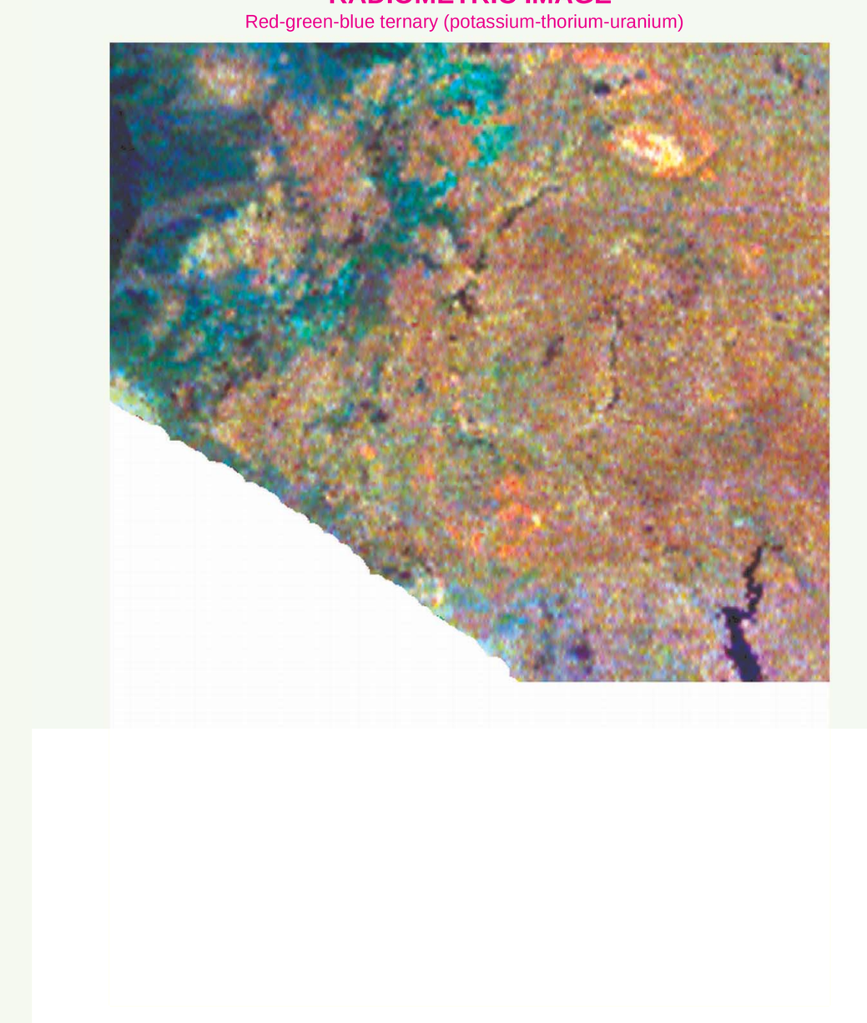
No.	Name	Commodity	Grid reference
1	Catfish Copper-Gold Prospect	Au,Cu,Zn	181409
2	---	Pb	299271
3	Macdonald Provisional Gold Field	Au	308266
4	---	Au	335305
5	Wantee	Au,Ag	387273
6	Angus Valley Copper Mine	Cu,Ag	393442
7	Wantee East	Au,Ag	396277
8	Ashton Copper Mine	Cu,Ag	400451
9	Commodore Copper Mine	Cu,Au,Ag	471361
10	Glenrosa Prospect	Au	472382
11	Warroo Gold Mine	Au,Cu	476353
12	Magee Creek Marble Deposit	Ma,Ls	180224
13	Pipersleigh Marble Deposit	Ma,Ls	215175
14	Limevale Quarry	Ls	230165
15	Marble Queen	Ma,Ls	234207
16	Marble Princess	Ma,Ls	243233
17	Texas Mountain Prospect	Cu	255066
18	Lime Products Marble Quarry	Ma,Ls	268193
19	Texas Copper Mine	Cu,Ag	285077
20	Egglestons Prospect	Zn,Cu,Pb	289083
21	---	Cu,Pb	292082
22	Twin Hills	Ag,Au,Pb,Zn	306076
23	Limestone Hills	Ls	313146
24	Devlins Prospect	Zn,Pb,Cu,Ag	313146
25	Silver King Mine	Ag,Pb,Cu,Au	316089
26	Silver Spur Mine	Ag,Pb,Zn,Cu,Au	316058
27	Whites Hill Prospect	Pb,Zn,Ag	324065
28	Mount Gunyan	Ag,Au,Zn,Pb	332095
29	Tullamba	Cu,Ag,Zn,Pb	333122
30	Argentum	Cu,Ag	335077
31	---	Fe	343115
32	Silver Crown Mine	Ag,Cu,Zn,Pb	376063
33	Glenlyon Copper Prospect	Cu,Ag	499144
34	---	Ls	367012
35	Silver Spur Ltd	Ls	386996
36	Pinnacle Limestone Deposit	Ls	400898
37	Schneiders Workings	Au	424016
38	Emu Park	Au	451951
39	Dml Riverton	Qr	505889
40	Riverton Quarry	Ls	513885

The grid reference is a six figure abbreviated MGA 94 coordinate to the nearest 100 metres

FIELD OBSERVATION POINTS

RADIOMETRIC IMAGE

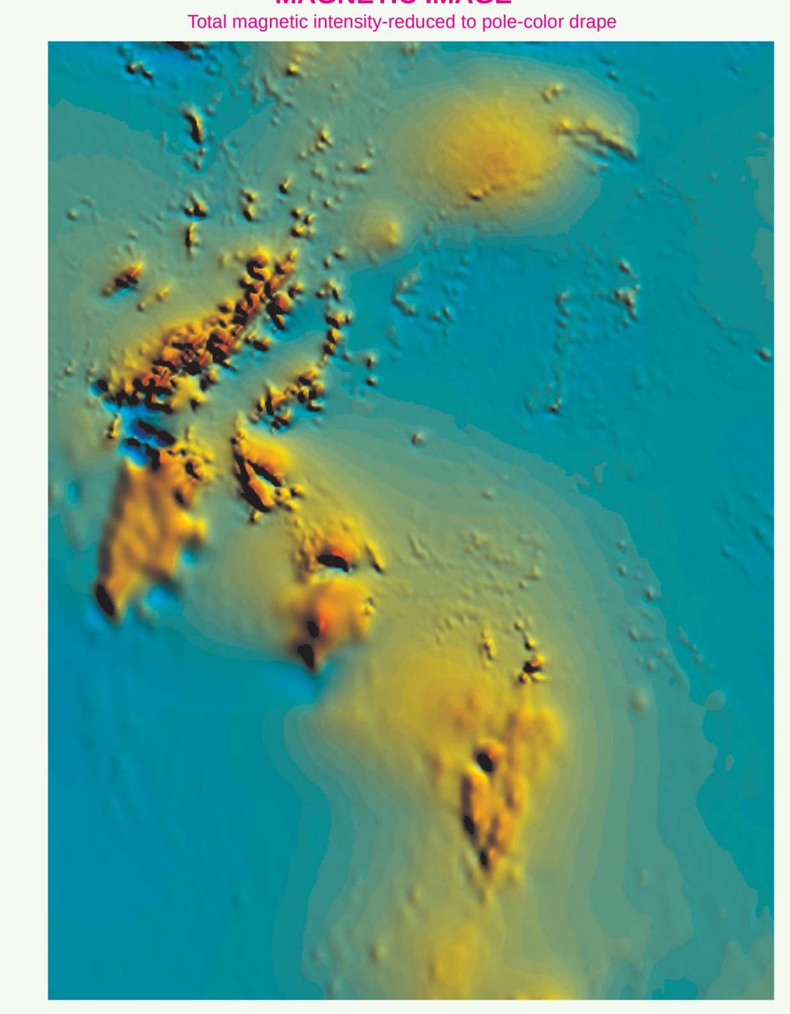
Red-green-blue ternary (potassium-thorium-uranium)



The radiometric image shows the relative concentrations of the radioactive elements potassium, thorium and uranium in the topmost 20-30 cm of the Earth's surface, as measured by an airborne detector that records gamma radiation. The data are displayed as a composite coloured image, with potassium in red, thorium in green and uranium in blue. Rock units with different contents of these elements are outlined by their different colours. Those with relatively high contents of potassium appear pink on the image; those with low contents of all three elements are dark.

MAGNETIC IMAGE

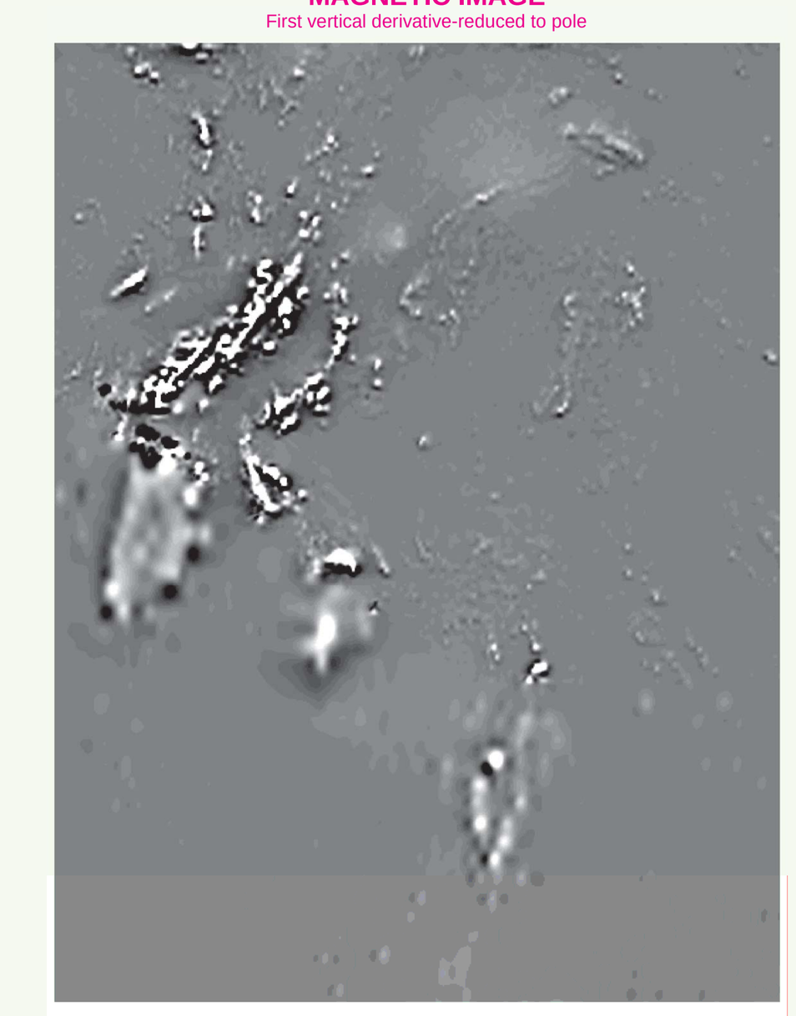
Total magnetic intensity-reduced to pole-color drape



The total magnetic intensity image shows variations in the Earth's magnetic field caused by differences in the magnetic properties of rock units in the upper crust. The magnetic response of rocks is directly related to the content of magnetic minerals, and is depicted by means of a rainbow colour scale from red (strongly magnetic), through yellow (moderately magnetic), to blue (weakly to non-magnetic). The structure has been enhanced by draping the coloured image over a grey-scale version of the same data to which a NE sun-angle has been applied.

MAGNETIC IMAGE

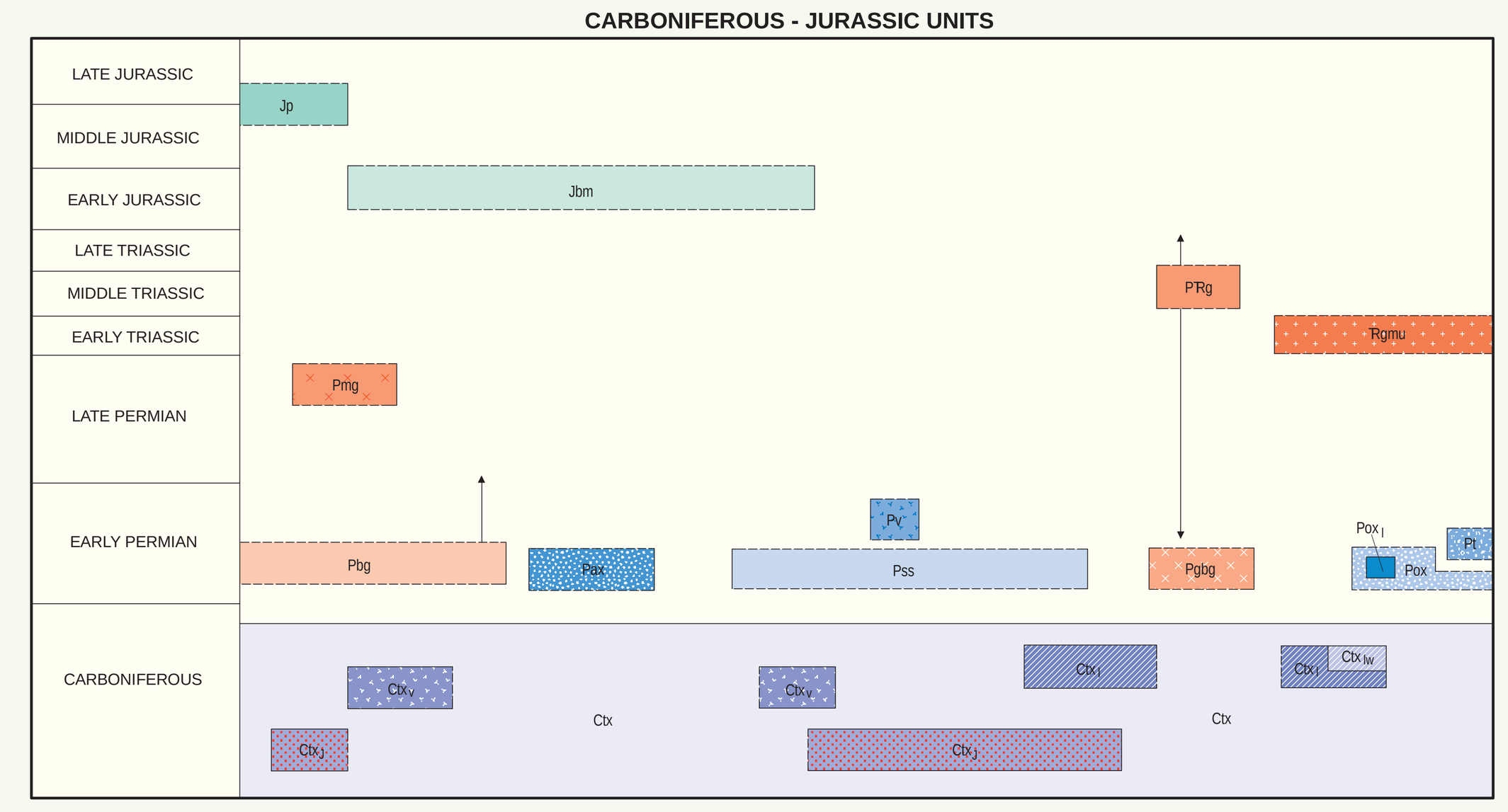
First vertical derivative-reduced to pole



The first vertical derivative of the total magnetic intensity data enhances short-wavelength magnetic features relative to those with long wavelengths. This image emphasises the high gradients around the edges of magnetic bodies, and in particular highlights narrow linear magnetic features such as dykes.

Images generated from airborne geophysical data available from the Department of Mines and Energy, Brisbane

CARBONIFEROUS - JURASSIC UNITS



EXPLANATION

Top of stratigraphic column
Unit appears elsewhere on diagram
Base of stratigraphic column

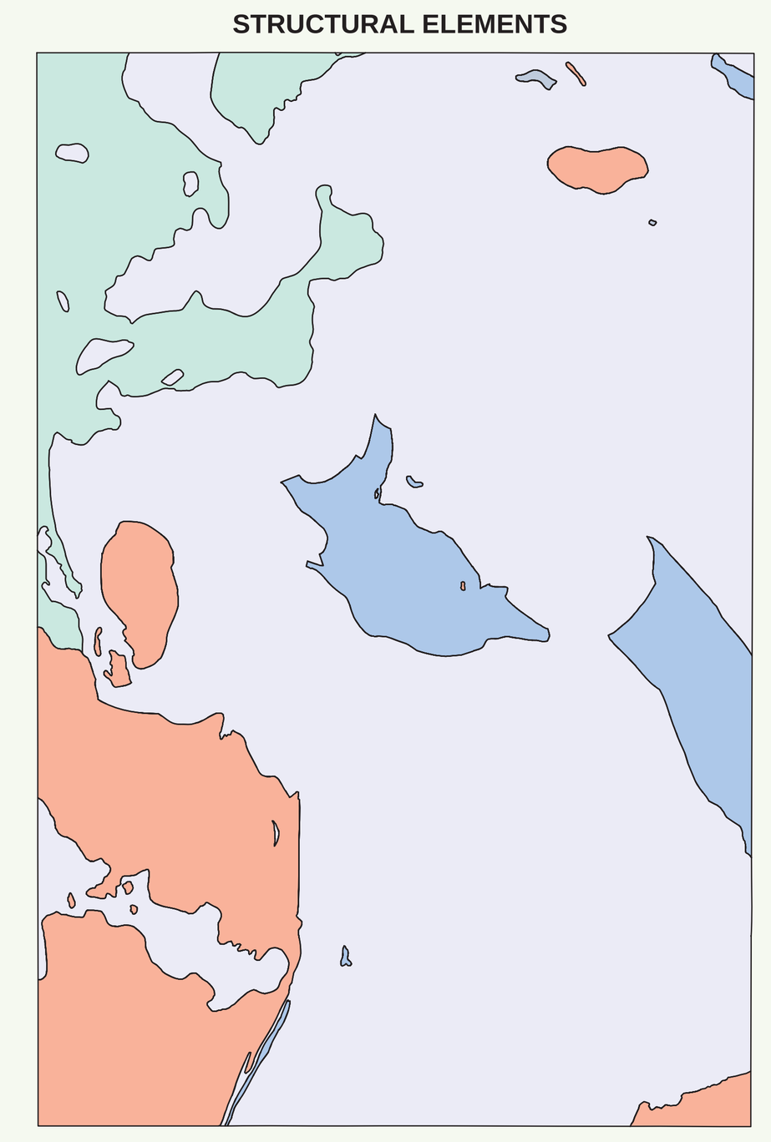
Possible age range younger or older

In the schematic reference, rock units are shown in their stratigraphic and approximate geographic relationships to one another

The width of the unit boxes and the style of their upper and lower boundaries indicate diagrammatically the geological relationships between units.

The height of a box suggests its age range which is based on isotopic age in the case of some units.

STRUCTURAL ELEMENTS



- JURASSIC — Clarence-Moreton Basin
- EARLY PERMIAN - EARLY TRIASSIC — New England Batholith
- PERMIAN — Silver Spur Subprovince
- CARBONIFEROUS — Texas Subprovince

(Silver Spur Subprovince and Texas Subprovince: Woolomin Province)

GEOLOGICAL SYMBOLS

- Geological boundary
- Fault
- Thrust fault. Triangle on older rocks
- Dyke or vein; ad - andesite, pgr - porphyritic granite

Where location of boundaries, faults and folds is approximate, line is broken; where inferred, queried; where concealed, boundaries and folds are dotted, faults are shown by short dashes

- Strike and dip of strata
- Vertical strata
- Strike and dip of strata, younging unknown
- Trend line — Airphoto interpretation
- Lineament — Airphoto interpretation
- Strike and dip of cleavage
- Vertical cleavage
- Strike and dip of platy alignment
- Isotopic age in million of years (291.5 ± 2.2 (zr) U-Pb)

U-Pb - uranium-lead (SHRIMP) method
Rb-Sr - rubidium-strontium method
bt - biotite, zr - zircon

Structural symbols shown in unconsolidated to partly consolidated Quaternary and Tertiary sediments on the face of the map, refer to the underlying bedrock which forms scattered outcrops too small to be shown.

MAGNETIC INTERPRETATION

Magnetic interpretation is shown in magenta using standard geological linestyles. Areas labelled in magenta indicate the extent of mapped units, or anomalies associated with concealed magnetic units, interpreted from airborne magnetic data.

TOPOGRAPHICAL AND CULTURAL SYMBOLS

- Highway
- Secondary road
- Minor road
- Vehicle track
- Railway; station
- Homestead (Oakleigh)
- Building, small settlement
- Trigonometrical station

Published by the Department Mines and Energy, Queensland

INDEX TO 1:100 000 MAPS

1:250 000 maps shown in blue

GOODAR 8941	WYAGA 9041 (GOONDIWINDI SH 56-1)	INGLEWOOD 9141	ALLORA 9241	WARWICK 9341 (WARWICK SH 56-2)	MOUNT LINDESAY 9441
GOONDIWINDI 8940	YETMAN 9040	TEXAS 9140	STANTHORPE 9240	DRAKE 9340	
	YALLAROI 9039 (INVERELL SH 56-5)	ASHFORD 9139	CLIVE 9239	TENTERFIELD 9339 (GRAFTON SH 56-6)	
	NEW	SOUTH	WALES		

Queensland Government
Department of Mines and Energy

SCALE 1:100 000

KILOMETRES

GREY NUMBERED LINES ARE 1 000 METRE INTERVALS OF THE MAP GRID OF AUSTRALIA 1994, ZONE 56
UNIVERSAL TRANSVERSE MERCATOR PROJECTION
HORIZONTAL DATUM: GEOCENTRIC DATUM OF AUSTRALIA 1994 (GDA94)

Geology: 1989 by W.J. Stroud (Geological Survey of New South Wales)
: 2002-2003 by R.J. Bultitude (GSQ, granitic rocks)
: 2004 by D. Purdy, P.J.T. Donchak and J. Tang (GSQ)
Mineral occurrence mapping: 2000-2001 by T.J. Denaro and P.E. Burrows (GSQ)
Compiled by D. Purdy, P.J.T. Donchak and G.S. Pascoe
Cartography by R.J. Rapkins, Graphic Services Unit, GSQ, Department of Mines and Energy

GDA

TEXAS SPECIAL

SHEET 9140 AND PART 9139, 9239 & 9240

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Copies of this map may be obtained from the Department of Mines and Energy, Brisbane