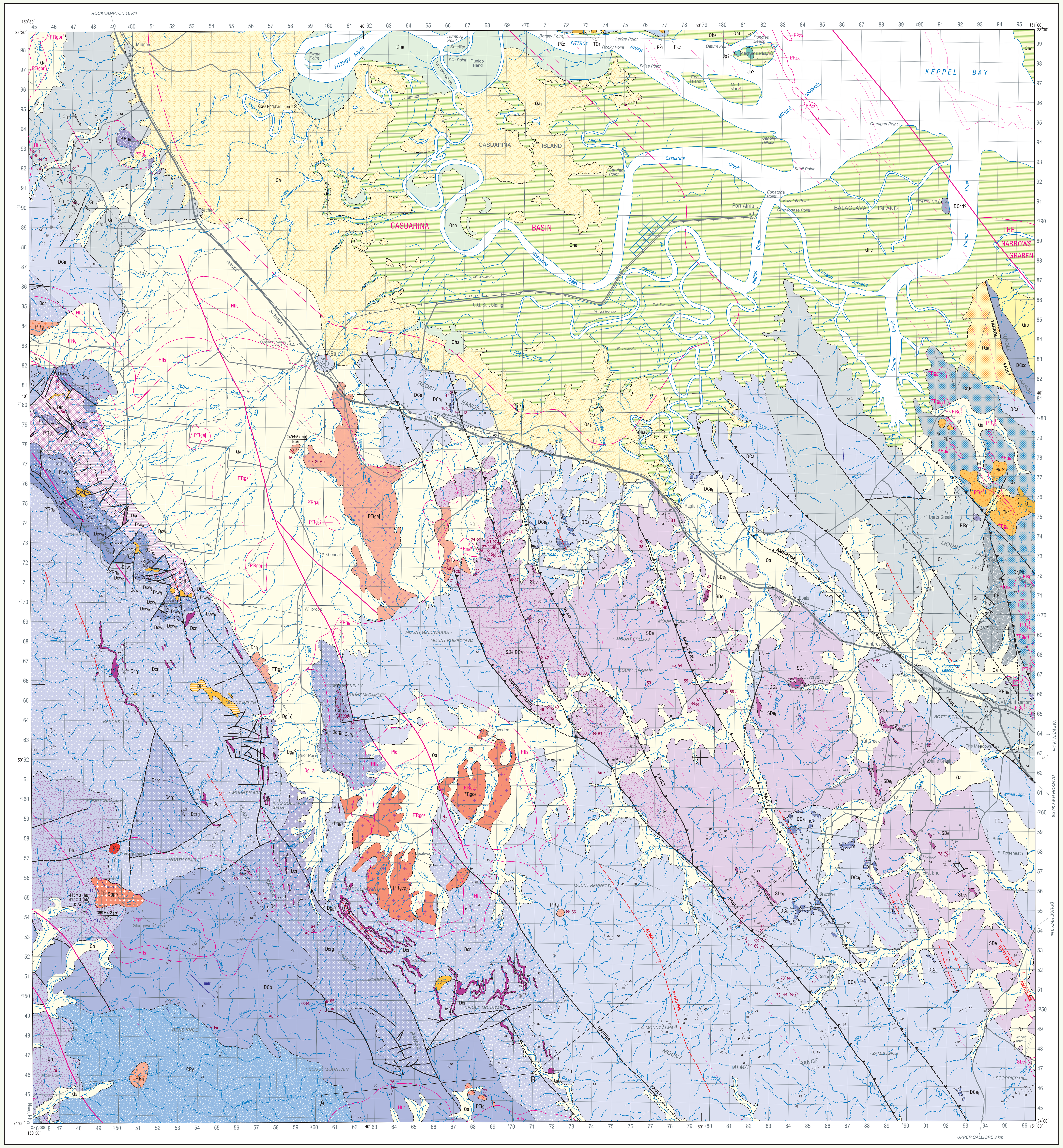
BAJOOL

QUEENSLAND

AUSTRALIA 1:100 000 GEOLOGICAL SERIES

SHEET 9050



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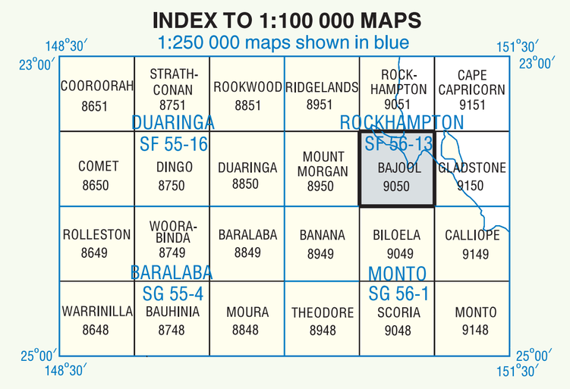
INDEX TO 1:100 000 MAPS

1:250 000 maps shown in blue



SCALE 1:100 000

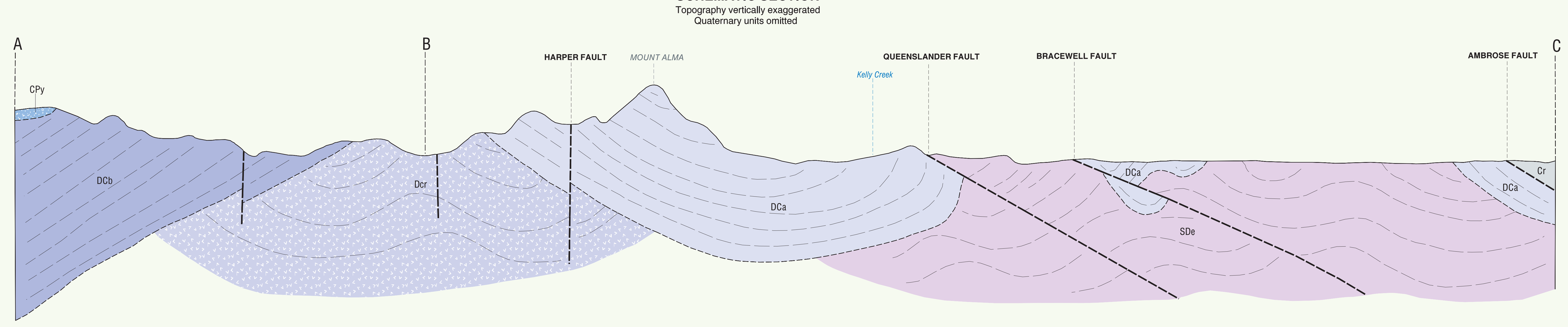
KILOMETRES

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

Geology: 1962 by B.W.Hawkins and I.G.Whitcher (Consolidated Zinc Pty Ltd)
: 1965-66 by A.G.Kirkegaard, C.G.Murray (GSQ) and R.D.Shaw (BMR)
: 1971-91 by Geopeko (A.Taube and others)
: 1977 by N.J.Krosch and J.R.Kay
: 1995-97 by P.R.Blake, S.B.S.Crouch, M.A.Hayward, G.A.Simpson, B.G.Fordham and J.Domagala
Mineral occurrence mapping: 1997 by D.A.Morwood and P.R.Blake
Compiled by P.R.Blake, S.B.S.Crouch, C.G.Murray and R.K.J.Blight
Cartography by C.W.Roberts, Graphic Services Unit, GSQ, Natural Resource Sciences, Department of Natural Resources, Mines and Water

SCHEMATIC SECTION

Topography vertically exaggerated
Quaternary units omitted



QUATERNARY

- Qha — Clay, silt, sand; active stream channel and low terraces
- Qhe — Mud, sandy mud, muddy sand and minor gravel; estuarine channels and banks, supratidal flats and coastal grasslands
- Qhf — Foredune sand
- Qa₁ — Clay, silt, sand, gravel; intermediate terraces of Fitzroy River flood plain alluvium
- Qa — Clay, silt, sand, gravel; flood plain alluvium
- Qrs — Sand, silt, mud, gravel; residual soil

TERTIARY - QUATERNARY

- TQa — Sand, mud and gravel; high-level alluvium and colluvium
- TQr — Clay, silt, sand, gravel and soil; colluvial and residual deposits

JURASSIC

- Precipice Sandstone — Jp — Thick-bedded, cross-bedded fine to coarse-grained, pebbly quartzose sandstone and minor lithic sublabile sandstone, siltstone and mudstone

PERMIAN - TRIASSIC

- PRg — Granite, granodiorite and diorite; low to moderate magnetic domain
- PRg₀ — Granite and granodiorite
- PRg_b — Gabbro
- PRg_b — Gabbro; PRg_b¹ - high magnetic domain; PRg_b² - very low magnetic domain (reversely magnetised)
- Bajool Quartz Diorite — PRgaj — Hornblende quartz diorite; PRgaj¹ - high magnetic domain; PRgaj² - moderate magnetic domain
- Gracemere Gabbro — PRgbr — Grey, medium to coarse-grained foliated quartz-hornblende-biotite-hypersthene-augite gabbro; PRgbr¹ - moderate to high magnetic domain; PRgbr² - very low magnetic domain (reversely magnetised)
- Cecilwood Quartz Diorite — PRgce — Hornblende quartz diorite; low to moderate magnetic domain

PERMIAN

Berserker Group:
- Ellrott Rhyolite — Pkr — Intrusive porphyritic rhyolite and dacite; possibly locally extrusive lava and breccia
- Pk — Siltstone, fine to coarse lithofeldspathic sandstone, intermediate to felsic intrusive and extrusive domes and volcanic breccia with lesser conglomerate (undivided where not differentiated from Rockhampton Group)
- Chalmers Formation — Pkc — Siltstone, lithic sandstone, rhyolite to andesitic volcaniclastic breccia, rhyolitic and dacitic tuff and subordinate andesitic tuff

EARLY CARBONIFEROUS - EARLY PERMIAN

- Undivided Rockhampton Group, Berserker Group — Cr, Pk — Mudstone, siltstone, felsic volcaniclastic sandstone, ooid-bearing sandstone and conglomerate with mudstone rip-up clasts, minor limestone and rhyolitic ignimbrite; siltstone, sandstone, intrusive and extrusive rhyolite and dacite domes, volcanic breccia

LATE CARBONIFEROUS - EARLY PERMIAN

- Youlambie Conglomerate — CPy — Granule to boulder, polymictic conglomerate; blue-grey to grey-brown, quartz-lithic, volcaniclastic and feldspathic sandstone; tuffaceous to carbonaceous mudstone and siltstone; minor coal; dacitic to rhyolitic ignimbrite, breccia and lava
- Lorray Formation — CPl — Bryozoan-rich mudstone, fossiliferous siltstone, sandstone, granite-rich quartz-bearing polymictic conglomerate and subordinate crinoid-rich limestone

EARLY CARBONIFEROUS

Rockhampton Group:
- Cr — Dark grey mudstone and siltstone; felsic volcaniclastic sandstone; ooid-bearing sandstone; ooid-bearing conglomerate with dark grey mudstone rip-up clasts; rounded polymictic conglomerate, oolitic limestone
- Cr_l — Oolitic limestone and calcareous sandstone

LATE DEVONIAN - EARLY CARBONIFEROUS

- Doonside Formation — DCcd — Chert, jasper, mudstone, lithic labile greywacke, tuff, limestone, altered basalt
- Balaclava Formation — DCb — Rhyolitic volcaniclastic sandstone and conglomerate, minor ignimbrite, rare rhyolitic lava, siltstone and oolitic limestone
- SDe, DCa — Ulam Fault Zone - complex fault zone comprised of numerous blocks of Erebus beds and Mount Alma Formation
- Mount Alma Formation — DCa — Thinly interbedded, fine-grained sandstone and siltstone, thick beds of volcaniclastic (andesitic to dacitic) conglomerate with rip-up clasts
- DCa_l — Allochthonous limestone blocks, fossiliferous or recrystallised to marble

DEVONIAN

- Pomegranate Tonalite — Dgpo — Hornblende-biotite tonalite; moderate magnetic domain
- Mount Hoopbound Formation — Dh — Green grey to purple, granule to boulder andesitic/dacitic breccia/conglomerate; green grey to purple grey, fine to very coarse lithic to feldspatholithic sandstone; dark grey, moderately porphyritic andesite; red brown to dark grey mudstone; minor tuff and hyaloclastite
- Dg₀ — Granodiorite, tonalite
- Dg_b — Gabbro; high magnetic domain
- Dir — Intrusive porphyritic rhyolite and dacite

Capella Creek Group

Raspberry Creek Formation:
- Ginger Creek Member — Dcrg — Dacitic to rhyolitic volcaniclastic sandstone and conglomerate, rare fossiliferous limestone and peperite
- Dcrg_l — Fossiliferous limestone and marble
- Dcr — Predominantly basaltic to andesitic, (rarely dacitic and rhyolitic) volcaniclastic sandstone and conglomerate, minor silicified siltstone and fossiliferous limestone, rare andesitic lava
- Dcr_l — Fossiliferous limestone

Mount Warner Volcanics:
- Dcw — Predominantly rhyolitic volcaniclastic sandstone and conglomerate, limestone, rhyolitic lava and jasper
- Dcw_l — Limestone
- Dcw_j — Jasper
- Hanging Wall sequence — Dcw_h — Rhyolitic volcaniclastic sandstone and conglomerate
- Banded mineralised sequence — Dcw_b — Bedded jasper and rhyolitic volcaniclastic sandstone
- Crenulated cherty lavas — Dcw_r — Silicified flow-banded rhyolite
- Footwall sequence — Dcw_f — Andesitic volcaniclastic sandstone, conglomerate and breccia

Mount Dick beds:
- Dcd — Siltstone with subordinate rhyolitic volcaniclastic sandstone
- Dcd_j — Jasper
- Dcd_a — Andesitic to dacitic lava

LATE SILURIAN - EARLY DEVONIAN

- Erebus beds — SDe — Dacitic to rhyolitic volcaniclastic sandstone and conglomerate, minor siltstone, fossiliferous limestone and marble; moderate magnetic domain
- SDe_l — Fossiliferous limestone and marble

NEOPROTEROZOIC OR PALAEOZOIC

- ꞒPzx — Serpentinite, serpentinised harzburgite, altered gabbro, minor pyroxenite (tectonically emplaced in Permian - Triassic); high magnetic domain

GEOLOGICAL SYMBOLS

- Geological boundary
- Fault
- Thrust fault, triangles pointing in direction of fault dip
- Dyke or vein; ad - andesite, mdr - microdiorite, msy - microsyenite
- Anticline
- Syncline

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

- Small scale folds
- Strike and dip of strata
- Trend line — Airphoto interpretation
- Strike and dip of cleavage
- Isotopic age in millions of years — 249 ± 5 (mu) K-Ar; K-Ar - potassium-argon method; U-Pb - uranium-lead method; hb - hornblende, mu - muscovite, zr - zircon
- Macrofossil locality
- Conodont locality
- Plant fossil locality
- GSQ Rockhampton 1 St — Stratigraphic hole with reference number

TOPOGRAPHICAL AND CULTURAL FEATURES

- Highway
- Minor road
- Vehicle track
- Railway
- Transmission line
- Roseneath — Homestead
- Building
- Trigonometrical station
- Tank or small dam
- Waterhole

MINING SYMBOLS

- Mine
- Mine, abandoned
- Major quarry
- Quarry
- Quarry, abandoned
- Prospect
- Prospect, abandoned
- Bx — Mineral occurrence

Ag - silver, Au - gold, Bx - bauxite, Cu - copper, Fe - iron, Ls - limestone, Ma - marble, Mo - molybdenum, Pb - lead, Qt - quartzite, Si - silica, Wl - wollastonite

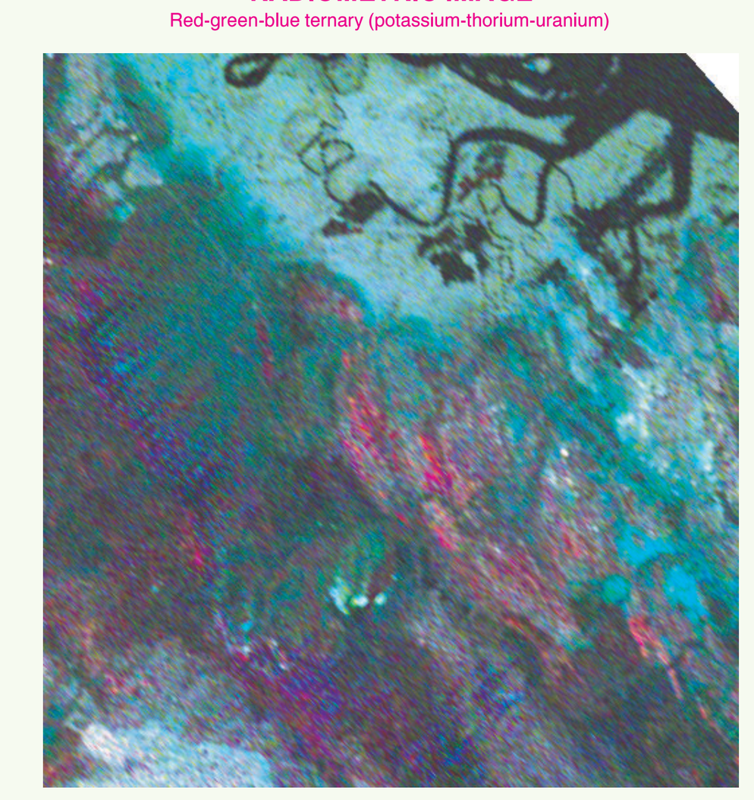
MAGNETIC INTERPRETATION

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 aerial magnetic data. Areas labelled 'Hfls' indicate high magnetic domains interpreted as zones of hornfels adjacent to intrusions

Boundary of The Narrows Graben and main depocentre of Casuarina Basin

RADIOMETRIC IMAGE

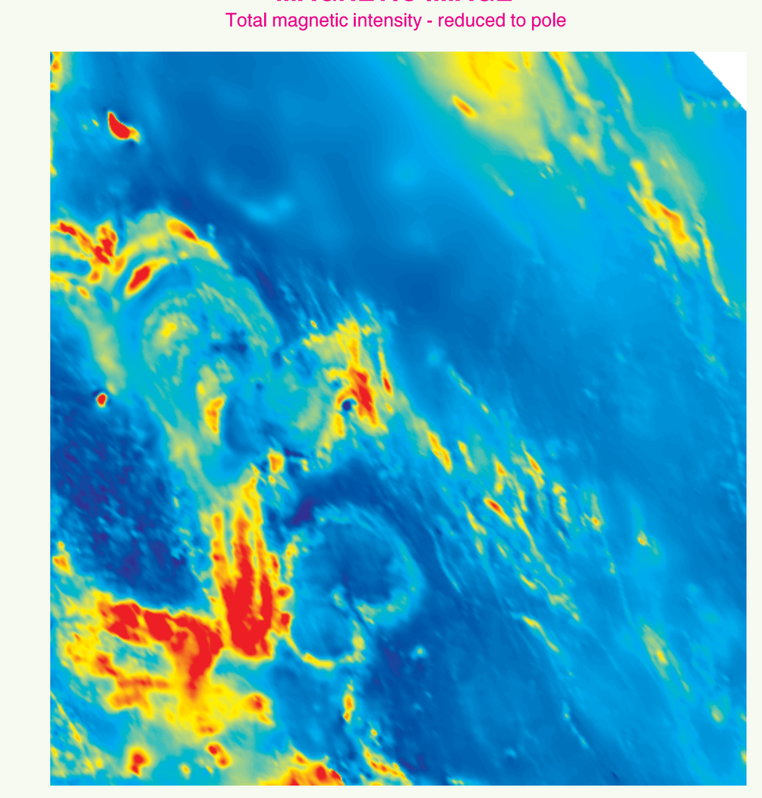
Red-green-blue ternary (potassium-thorium-uranium)



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 clearly outlined by their different colours. Those with relatively high contents of all three elements appear white in the image; those with low contents (and water bodies) are dark.

MAGNETIC IMAGE

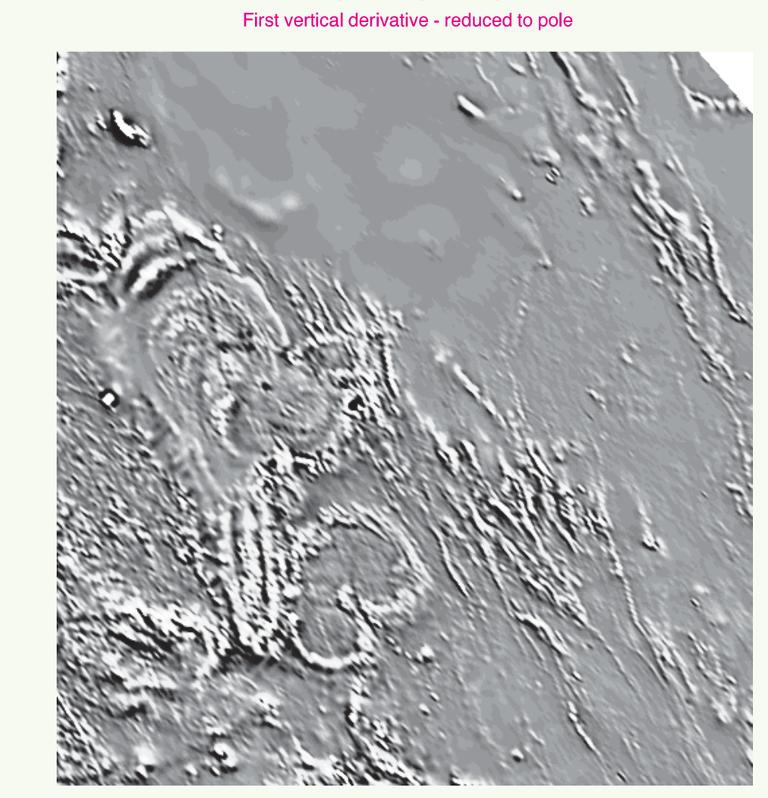
Total magnetic intensity - reduced to pole



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). Dark blue to black areas represent rocks that have an ancient component of remnant magnetisation produced when the polarity of the Earth's magnetic field was opposite to that at present. The small, strongly magnetic feature at Mount Hopeful is a TV transmission tower.

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. Variations in magnetic response are indicated by shades of grey, with the strongest magnetic units shown in white. Black areas are either reversely magnetised rock units, or a 'shadow' effect adjacent to highly magnetic features.

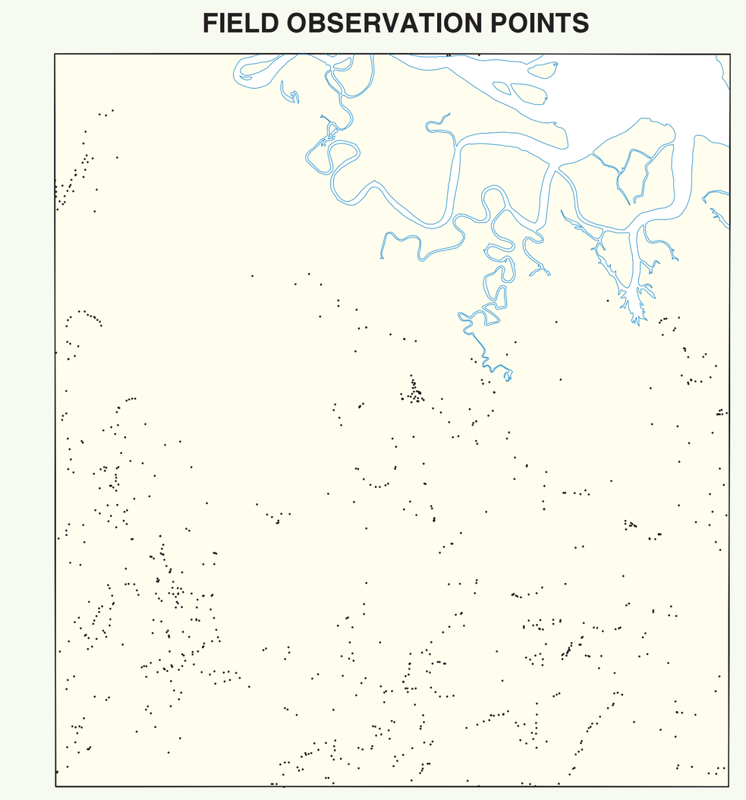
Images generated from airborne geophysical data available from the Department of Natural Resources, Mines and Water, Brisbane

INDEX TO MINES AND PROSPECTS

No.	Name	Commodity	Grid ref.	No.	Name	Commodity	Grid ref.
1	Stockholm	Au	450928	39	Two Mile Diggings	Au	770702
2	---	Au	451926	40	Five Mile Creek	Au	770701
3	Long Gully	Au	454924	41	Duke of Brittany	Au	776747
4	Midgee Creek	Au	456920	42	Millers Quarry	Ls	796709
5	Deadmans Gully	Au	460910	43	Ulam Quarry	Ma	613643
6	Saint Gothard	Au	469912	44	Austerity	Cu,Pb	616641
7	---	Au	471919	45	---	Au	664591
8	Miners Dream	Au	471902	46	Hirons Hill	Au	709679
9	Diggers Creek	Au	464811	47	Mount Hiron	Au	710674
10	Funches Ridge	Au	469819	48	---	Au	715649
11	Welcome Spin	Au	484803	49	---	Au	717649
12	Hill 60	Au	664808	50	Gully Lease	Au	731667
13	Olsens	Au,Pb,Cu	667798	51	---	Au	739636
14	Drive Prospect	Au	488768	52	Duke of York	Au	739651
15	Ajax	Cu,Ag	523714	53	---	Au	765660
16	Limonite Hill	Cu,Mo	584777	54	---	Au	779671
17	San Jose	Si	629766	55	Pandamonian Flats	Au	788663
18	Wells Quarry	Ls	663801	56	Mount Holly	Au,Qt	789652
	ULAM GOLDFIELD GROUP			57	Eleanora	Cu,Au,Ag	791652
19	---	Au	663721	58	Belgian Flats	Au	806658
20	Martins Prospect	Wl	667719	59	Ambrose Quarry	Ls	880675
21	---	Au	667712	60	King Solomon	Au	560562
22	---	Cu,Au	668711	61	Queen of Sheba	Au	569549
23	---	Au	677716	62	---	Au	570553
24	True Blue	Au	678734	63	Toby Gully	Au	595497
25	Queenslander	Au	683728	64	Diggers Dive	Au	598534
26	Recovery (Zupps)	Au	684726	65	Baree Gully	Au,Cu	605498
27	The Perseverance	Au	684730	66	Mount Bennett	Au	726546
28	Suprise	Au	686727	67	---	Au	814541
29	The Starlight	Au	686730	68	Mount Raglan	Au	822532
30	Last Chance	Au	686731	69	Murphys Pride	Au	823532
31	Last Hope	Au	687733	70	The MacDonald	Au	825537
32	Capricornian	Au	687726	71	---	Au	825532
33	Queen of Ulam	Au	687735	72	---	Au	837505
34	The Victory	Au	689736	73	Triangle	Au	839513
35	Democrat	Au	691736	74	---	Au	840505
36	Normanby	Au	692738	75	---	Au	853514
37	---	Au	695714	76	Jims Claim	Au	639456
38	Port Alma	Au	761734	77	Riverhead (Briggs)	Cu,Mo	686451
				78	East End	Ls	919579

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

FIELD OBSERVATION POINTS



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Copies of this map may be obtained from the Department of Natural Resources, Mines and Water, Brisbane