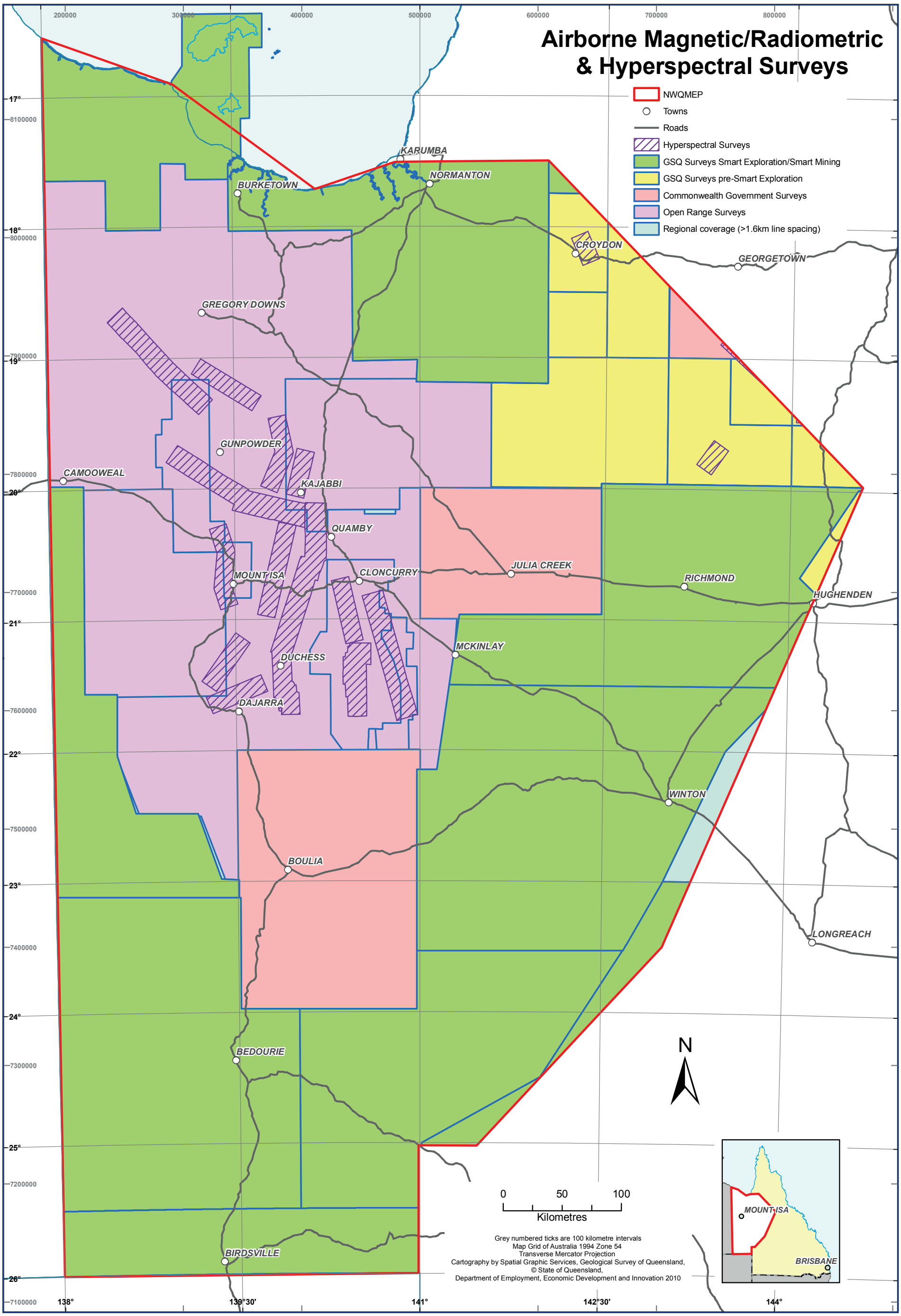
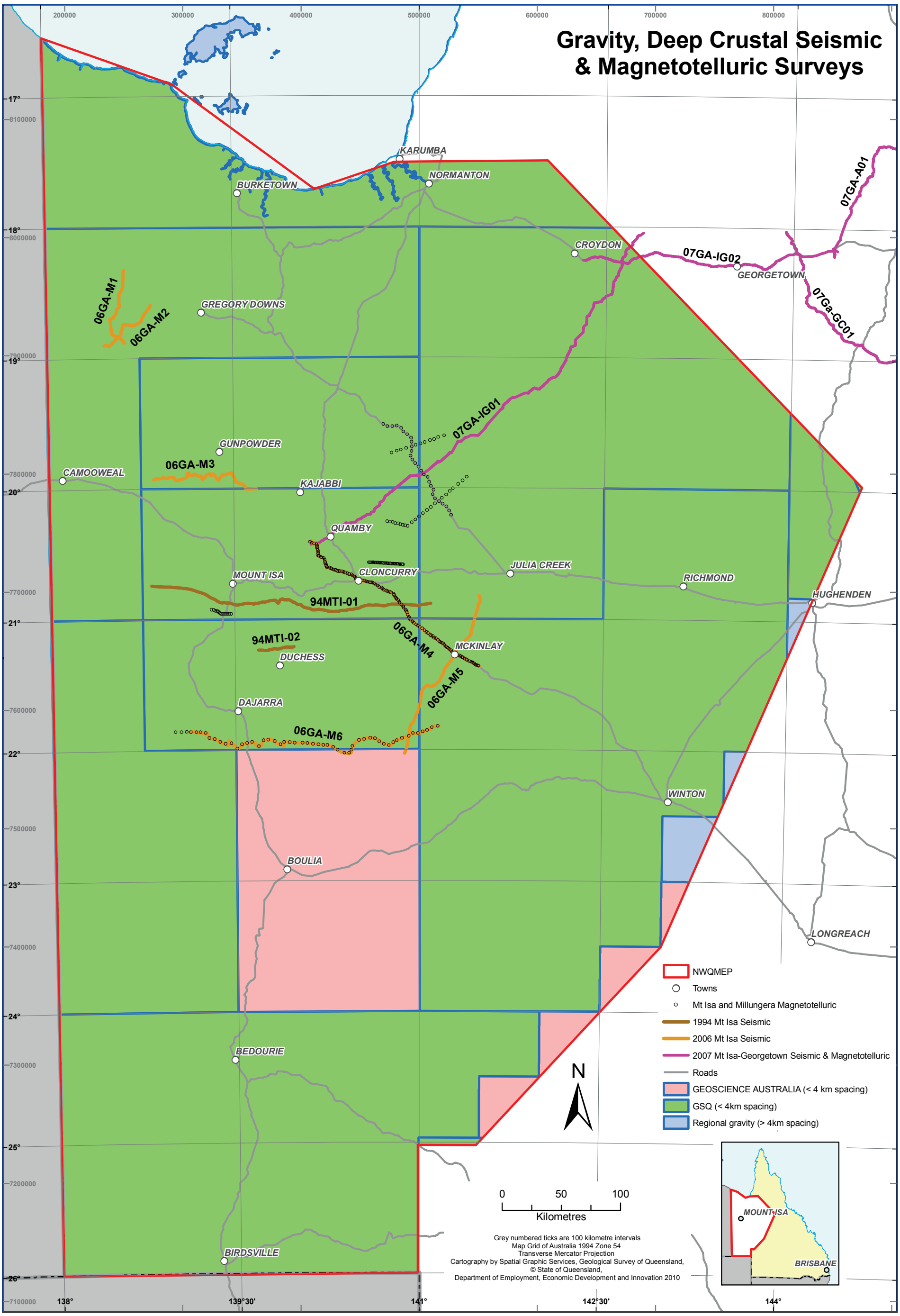
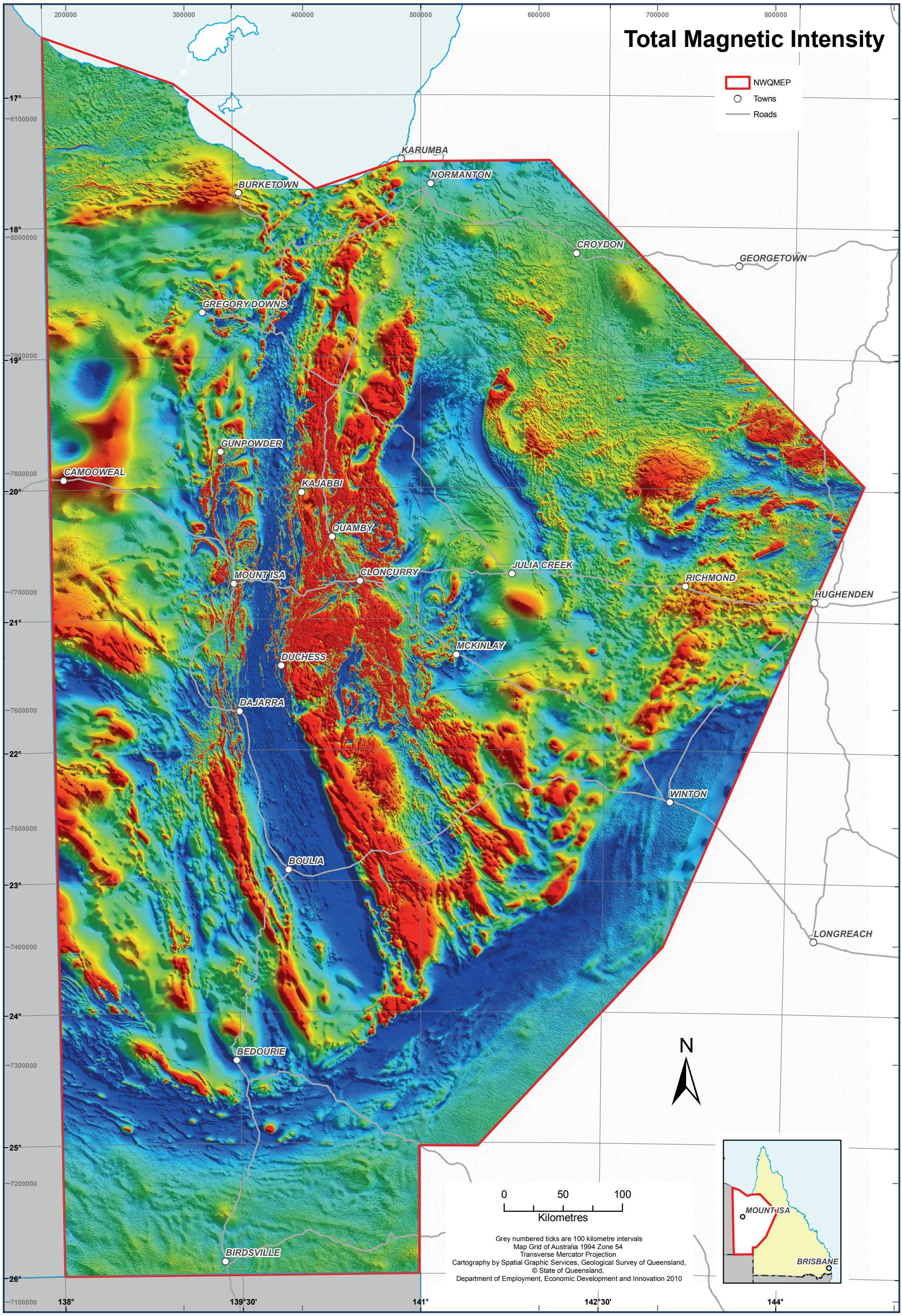
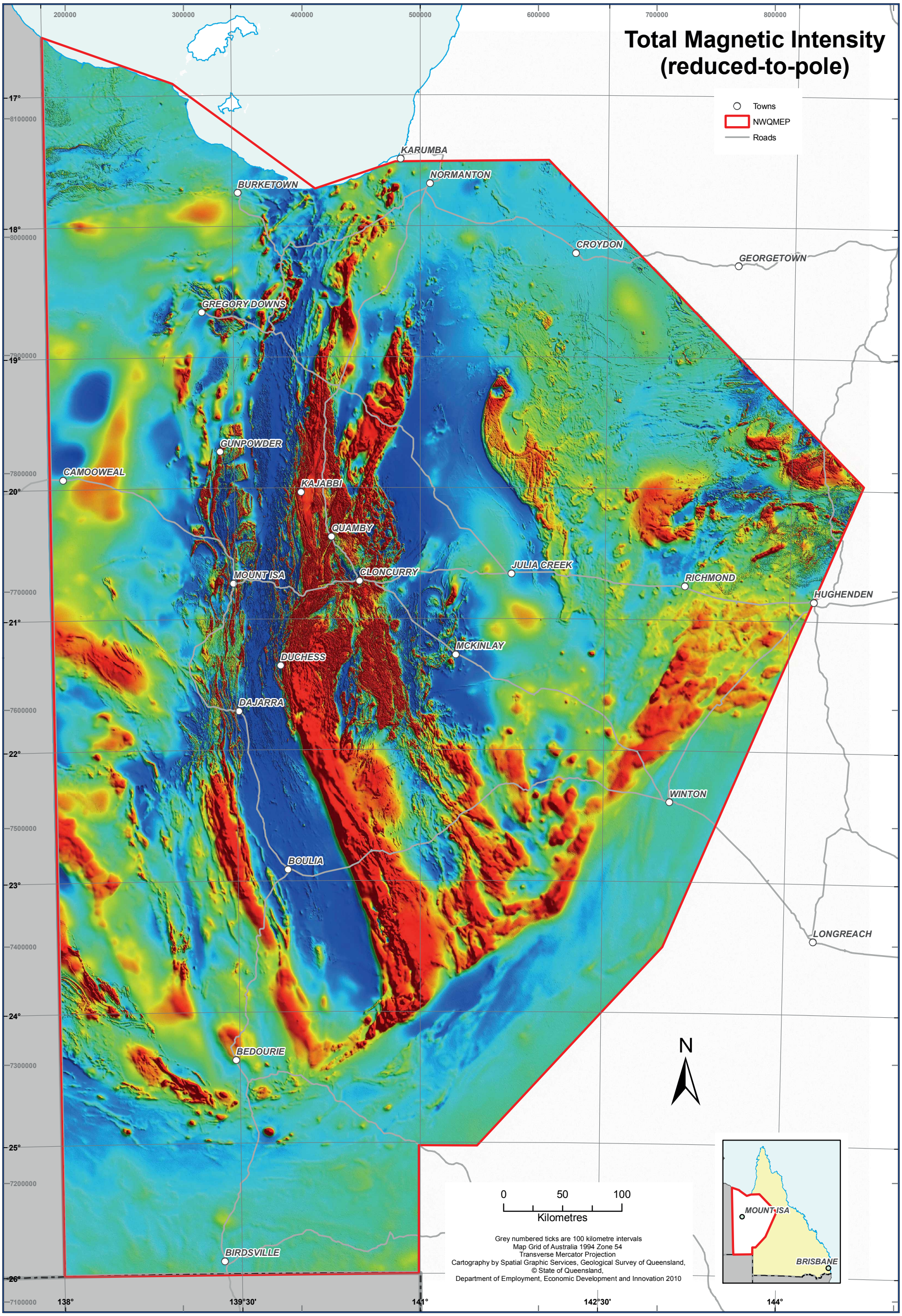
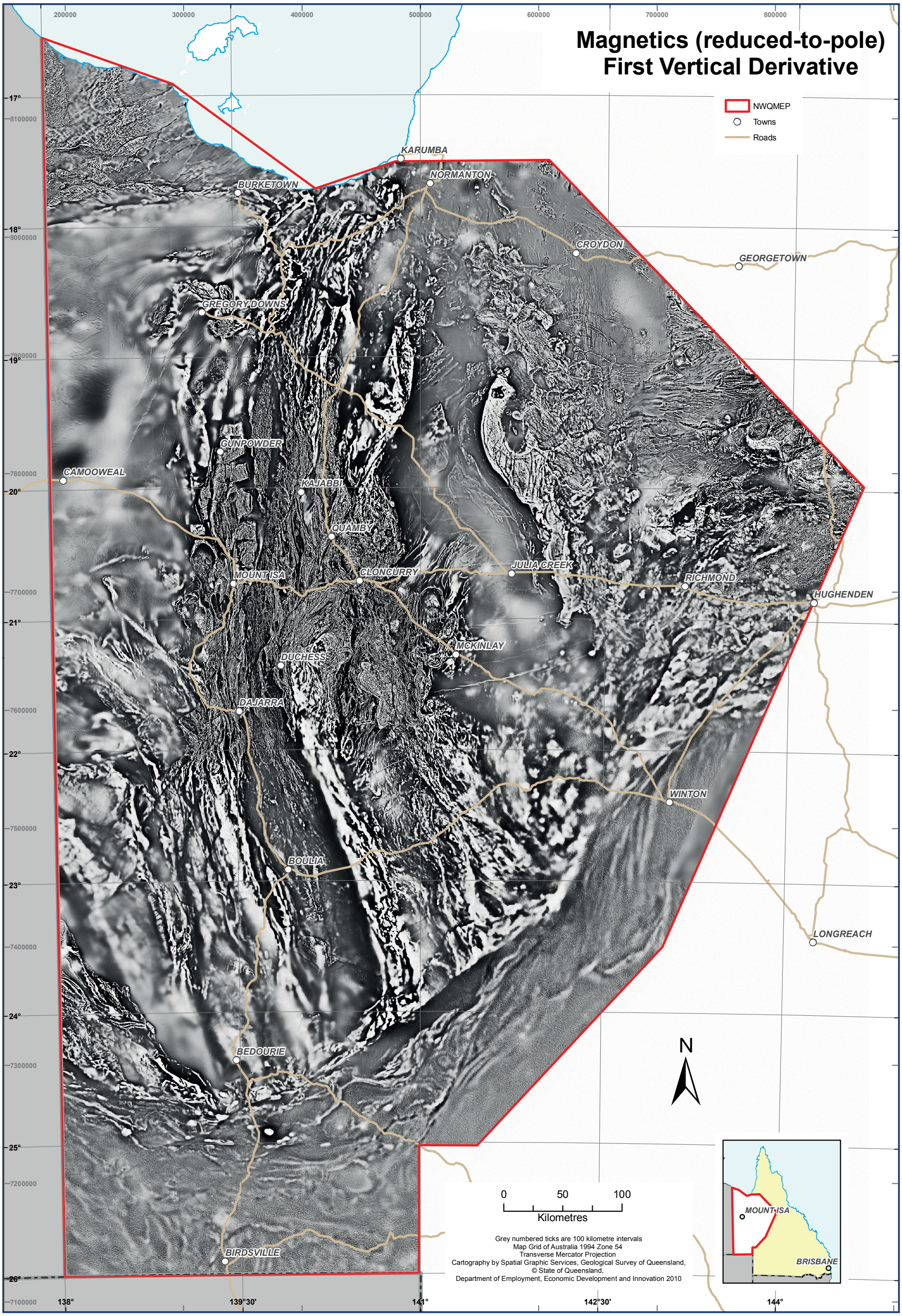
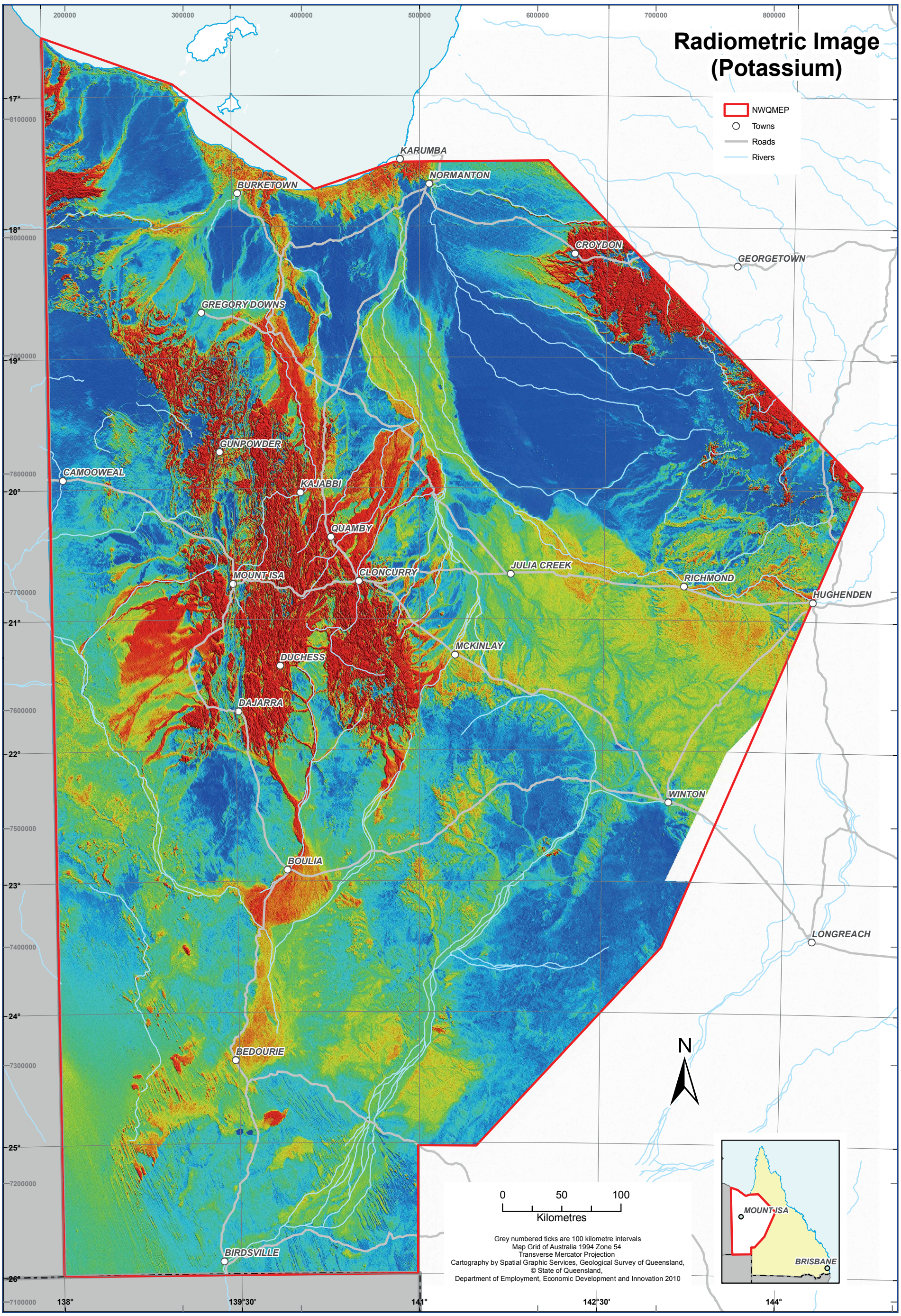

Airborne Magnetic/Radiometric
& Hyperspectral Surveys
NWQMEP
Towns
Roads
Hyperspectral Surveys
GSQ Surveys Smart Exploration/Smart Mining
GSQ Surveys pre-Smart Exploration
Commonwealth Government Surveys
Open Range Surveys
Regional coverage (>1.6km line spacing)
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
200000
300000
400000
500000
600000
700000
800000
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
138°
139°30'
141°
142°30'
144°

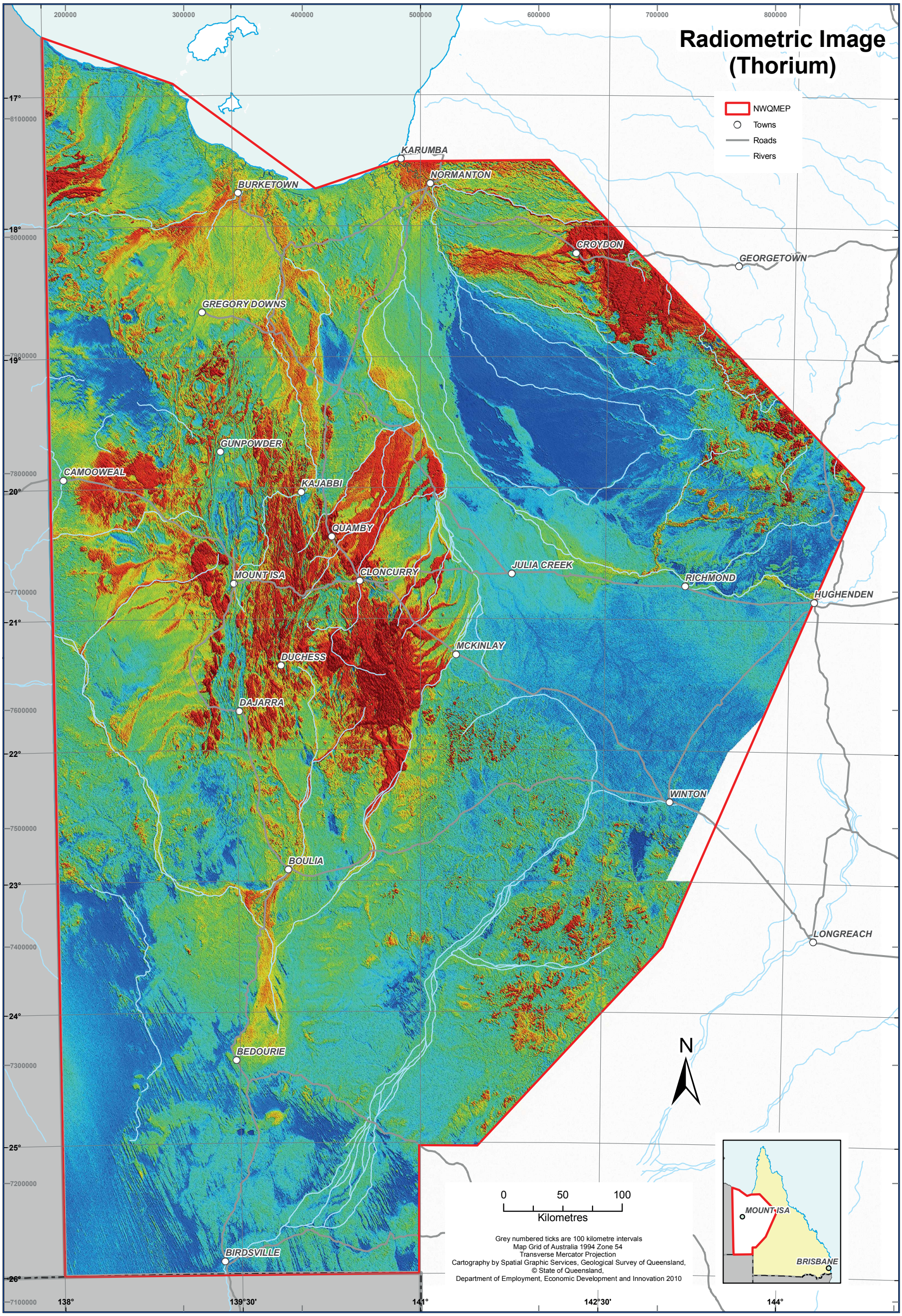

Gravity, Deep Crustal Seismic
& Magnetotelluric Surveys
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
07GA-IG02
07GA-A01
07Ga-GC01
06GA-M1
06GA-M2
GREGORY DOWNS
07GA-IG01
GUNPOWDER
06GA-M3
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
RICHMOND
HUGHENDEN
MOUNT ISA
CLONCURRY
94MTI-01
94MTI-02
06GA-M4
MCKINLAY
DUCHESS
06GA-M5
DAJARRA
06GA-M6
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
NWQMEP
Towns
Mt Isa and Millungera Magnetotelluric
1994 Mt Isa Seismic
2006 Mt Isa Seismic
2007 Mt Isa-Georgetown Seismic & Magnetotelluric
Roads
GEOSCIENCE AUSTRALIA (< 4 km spacing)
GSQ (< 4km spacing)
Regional gravity (> 4km spacing)
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
138°
139°30'
141°
142°30'
144°

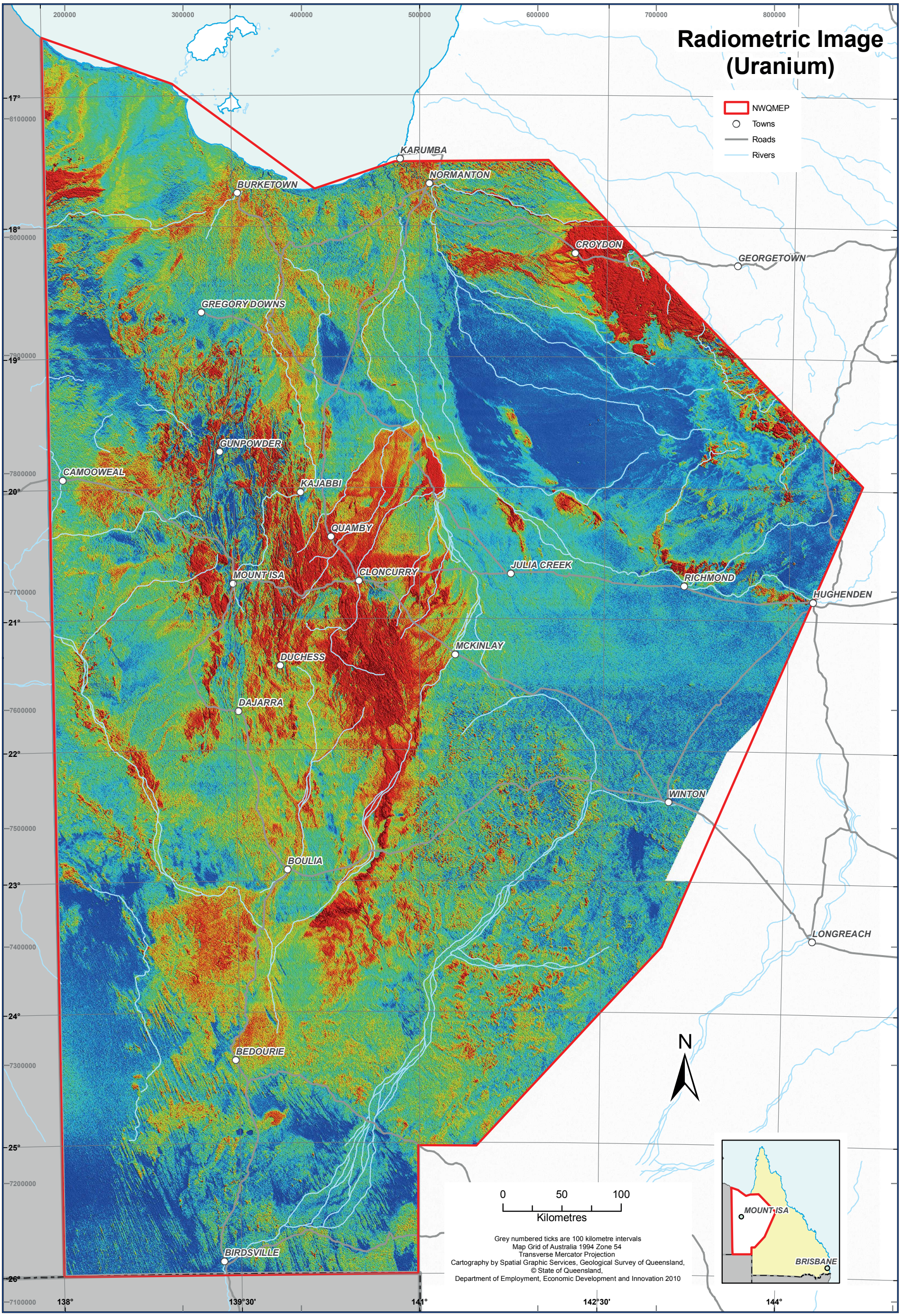

Total Magnetic Intensity
NWQMEP
Towns
Roads
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
138°
139°30'
141°
142°30'
144°
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
200000
300000
400000
500000
600000
700000
800000

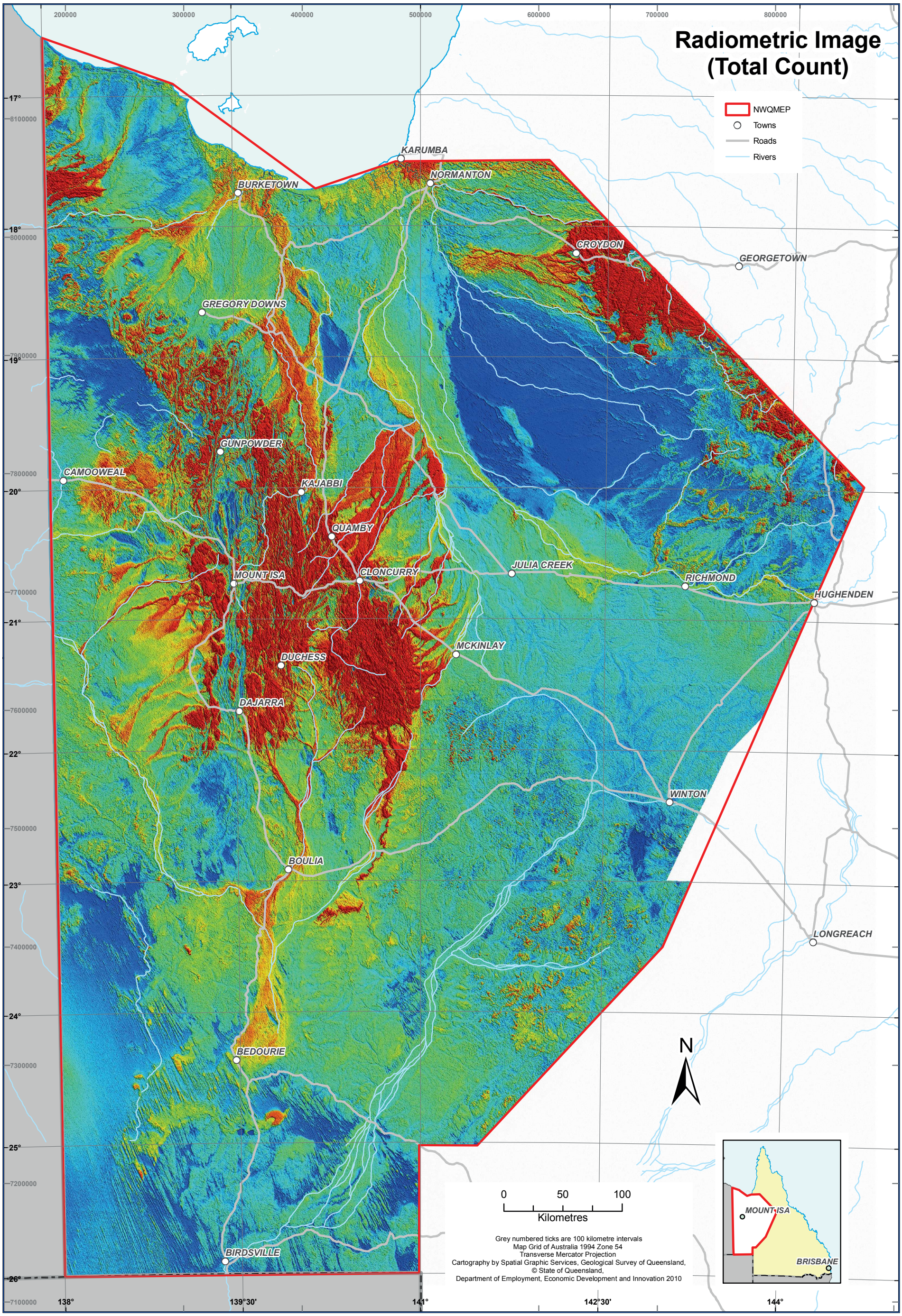

Total Magnetic Intensity
(reduced-to-pole)
Towns
NWQMEP
Roads
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
138°
139°30'
141°
142°30'
144°
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
200000
300000
400000
500000
600000
700000
800000

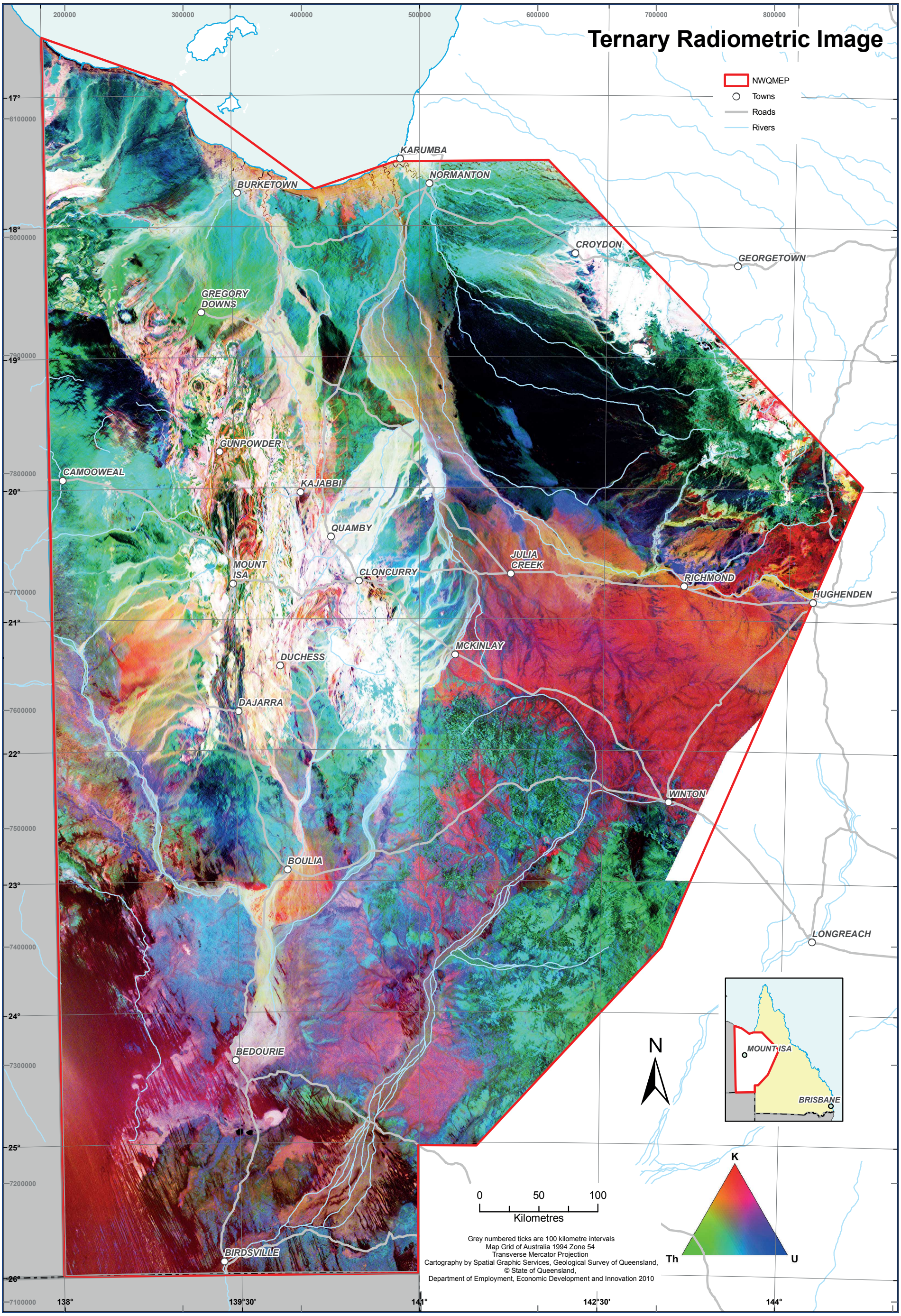

Magnetics (reduced-to-pole)
First Vertical Derivative
NWQMEP
Towns
Roads
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
200000
300000
400000
500000
600000
700000
800000
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
138°
139°30'
141°
142°30'
144°

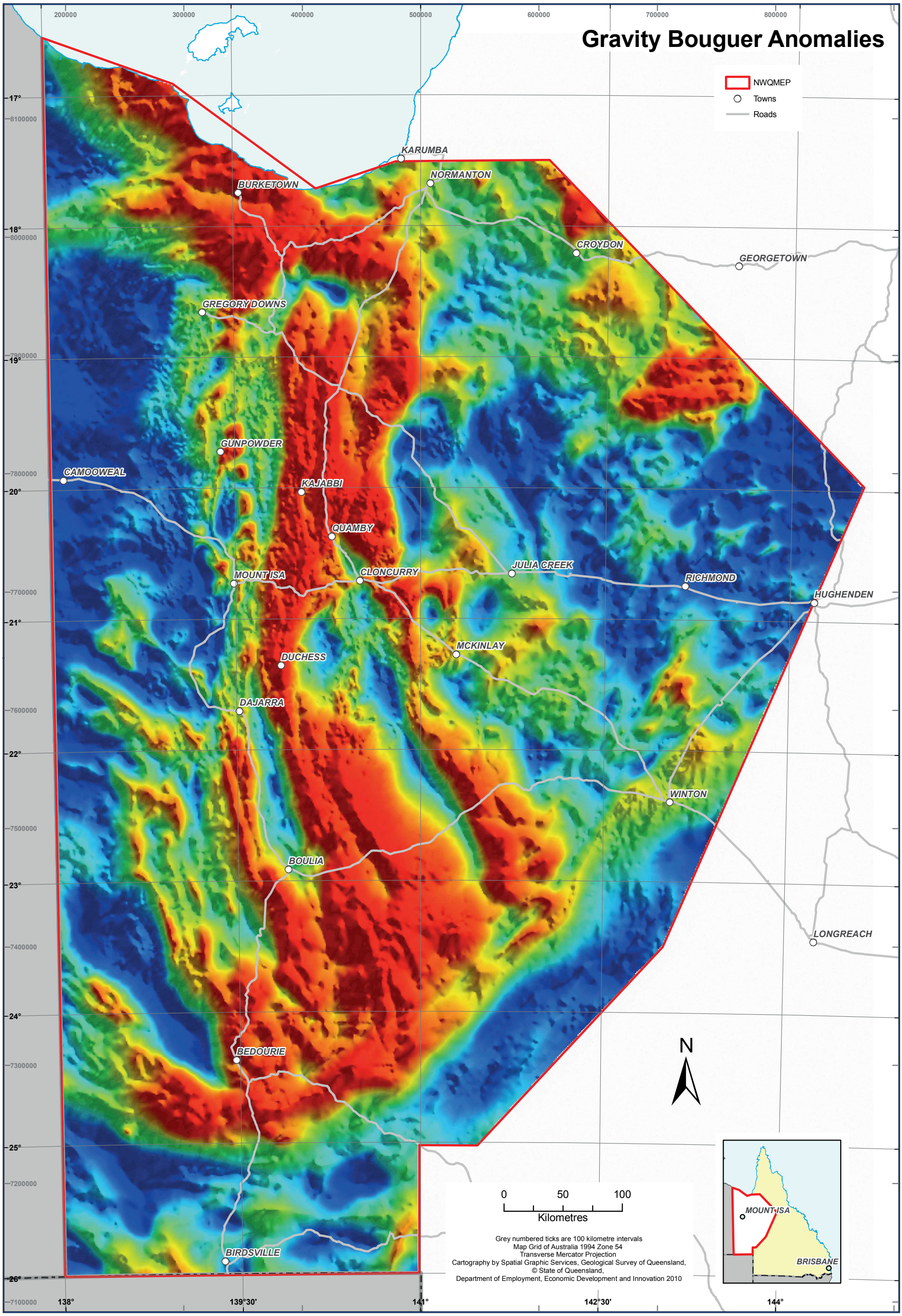

Radiometric Image
(Potassium)
NWQMEP
Towns
Roads
Rivers
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
MOUNT ISA
CLONCURRY
JULIA CREEK
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
200000
300000
400000
500000
600000
700000
800000
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
138°
139°30'
141°
142°30'
144°

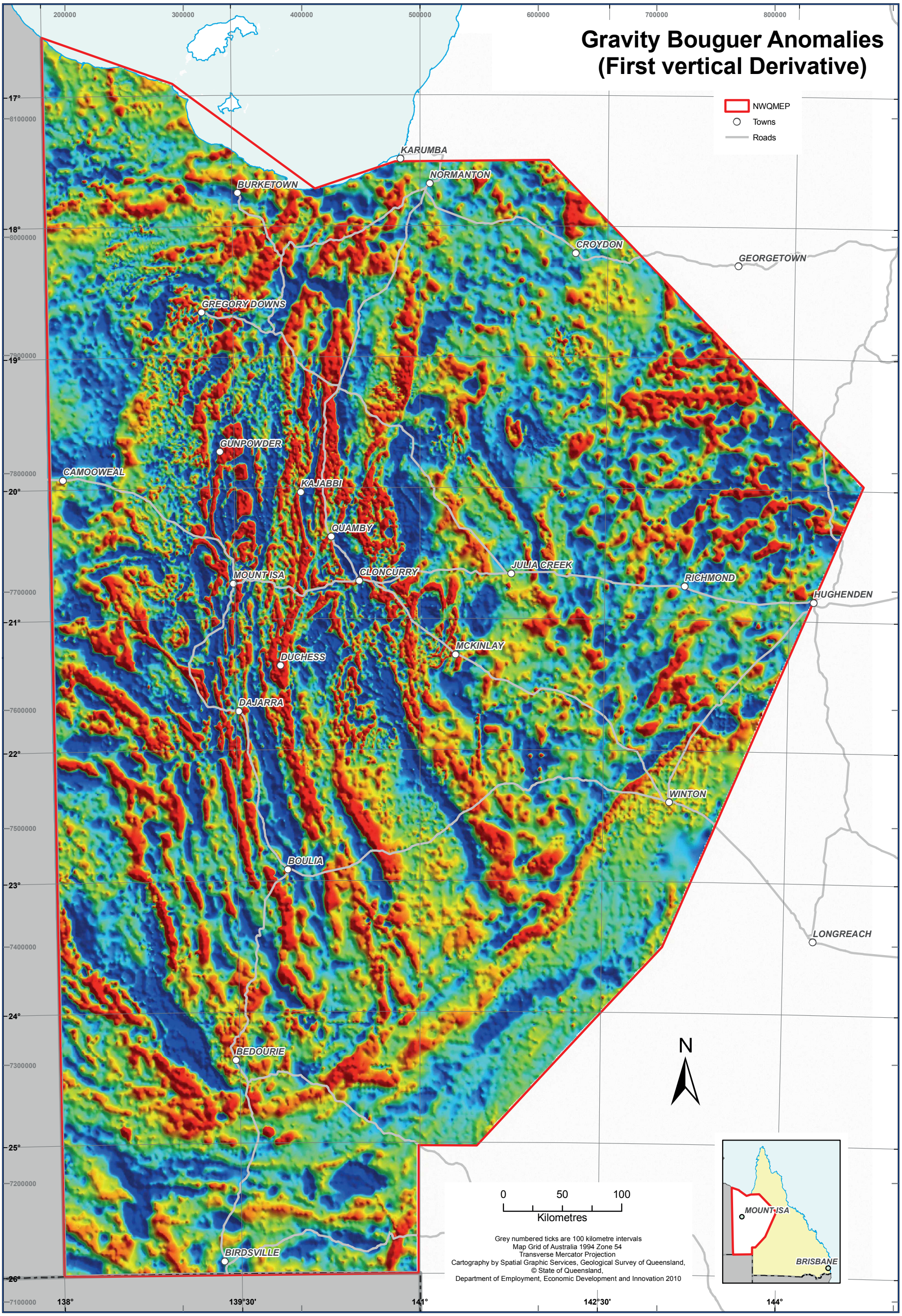

Radiometric Image
(Thorium)
NWQMEP
Towns
Roads
Rivers
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
200000
300000
400000
500000
600000
700000
800000
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
138°
139°30'
141°
142°30'
144°

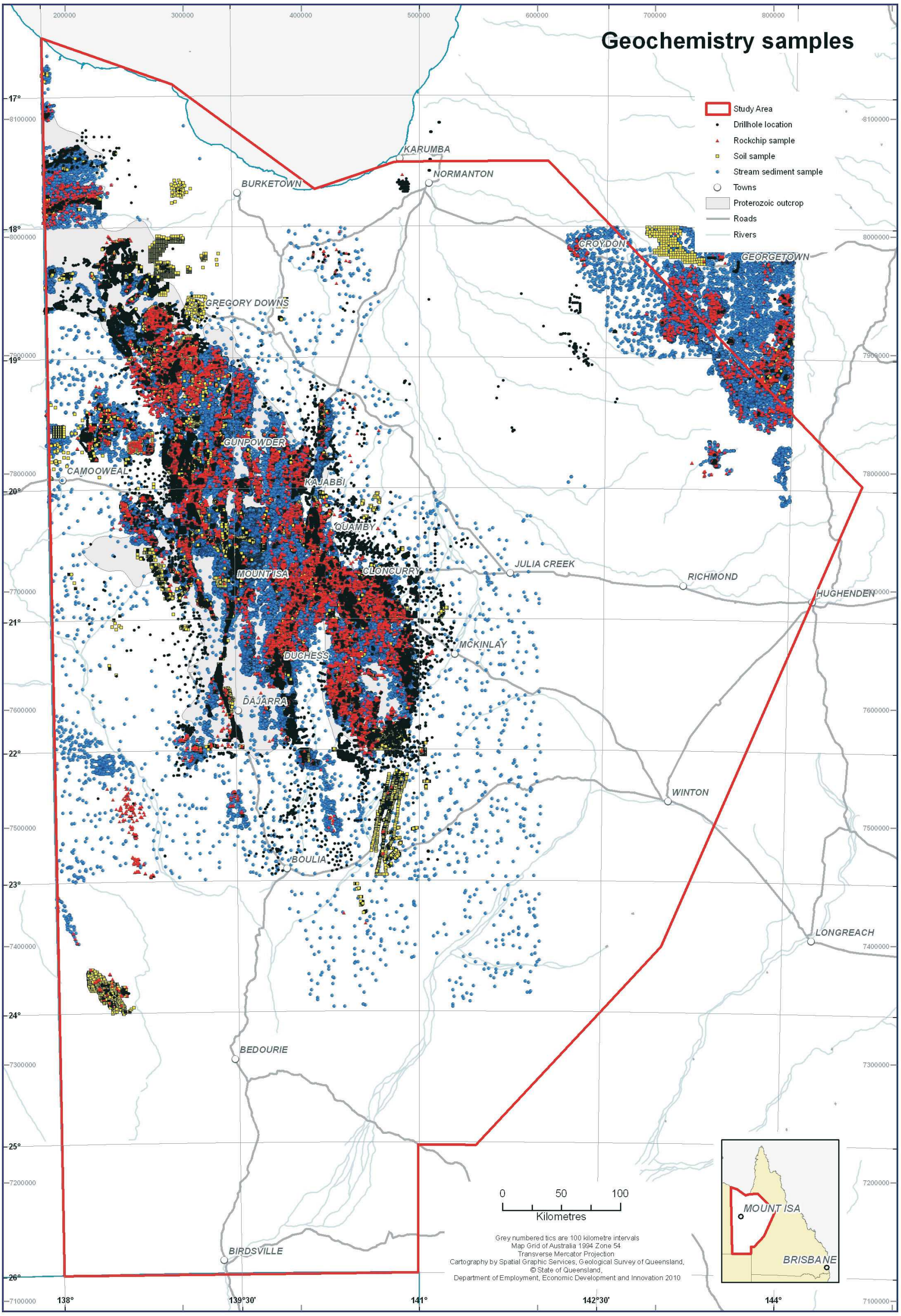

Radiometric Image
(Uranium)
NWQMEP
Towns
Roads
Rivers
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
200000
300000
400000
500000
600000
700000
800000
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
138°
139°30'
141°
142°30'
144°

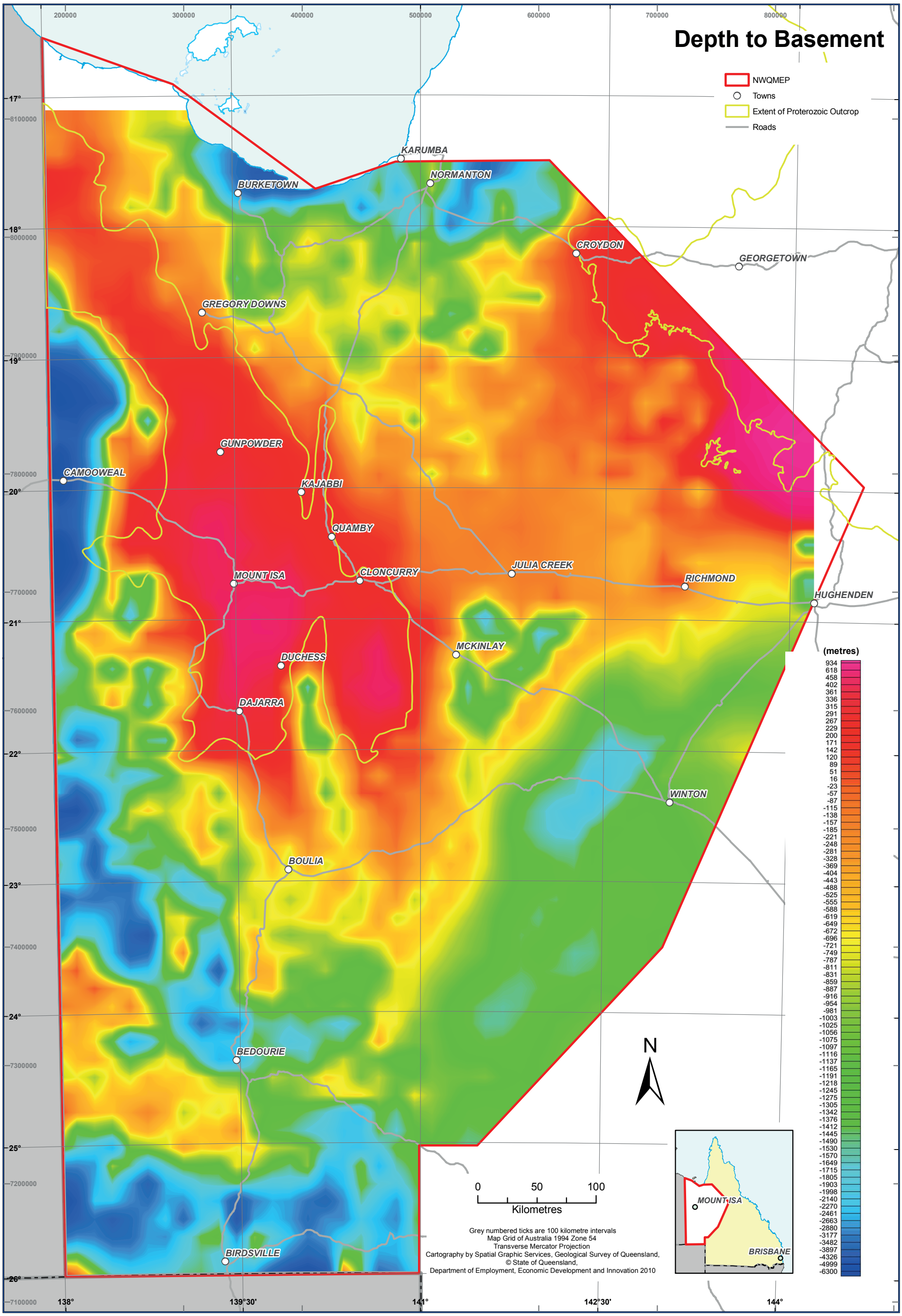

Radiometric Image
(Total Count)
NWQMEP
Towns
Roads
Rivers
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
200000
300000
400000
500000
600000
700000
800000
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
138°
139°30'
141°
142°30'
144°


Ternary Radiometric Image
NWQMEP
Towns
Roads
Rivers
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
MOUNT ISA
BRISBANE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
K
Th
U
200000
300000
400000
500000
600000
700000
800000
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
138°
139°30'
141°
142°30'
144°


Gravity Bouguer Anomalies
NWQMEP
Towns
Roads
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
200000
300000
400000
500000
600000
700000
800000
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
138°
139°30'
141°
142°30'
144°


Gravity Bouguer Anomalies
(First vertical Derivative)
NWQMEP
Towns
Roads
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
JULIA CREEK
MOUNT ISA
CLONCURRY
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
N
0 50 100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
200000
300000
400000
500000
600000
700000
800000
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000
138°
139°30'
141°
142°30'
144°


Geochemistry samples
Study Area
Drillhole location
Rockchip sample
Soil sample
Stream sediment sample
Towns
Proterozoic outcrop
Roads
Rivers
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
MOUNT ISA
CLONCURRY
JULIA CREEK
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
LONGREACH
BEDOURIE
BIRDSVILLE
0 50 100
Kilometres
Grey numbered tics are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
138°
139°30'
141°
142°30'
144°


Depth to Basement
NWQMEP
Towns
Extent of Proterozoic Outcrop
Roads
KARUMBA
NORMANTON
BURKETOWN
CROYDON
GEORGETOWN
GREGORY DOWNS
GUNPOWDER
CAMOOWEAL
KAJABBI
QUAMBY
MOUNT ISA
CLONCURRY
JULIA CREEK
RICHMOND
HUGHENDEN
MCKINLAY
DUCHESS
DAJARRA
WINTON
BOULIA
BEDOURIE
BIRDSVILLE
(metres)
934
618
458
402
361
336
315
291
267
229
200
171
142
120
89
51
16
-23
-57
-87
-115
-138
-157
-185
-221
-248
-281
-328
-369
-404
-443
-488
-525
-555
-588
-619
-649
-672
-696
-721
-749
-787
-811
-831
-859
-887
-916
-954
-981
-1003
-1025
-1056
-1075
-1097
-1116
-1137
-1165
-1191
-1218
-1245
-1275
-1305
-1342
-1376
-1412
-1445
-1490
-1530
-1570
-1649
-1715
-1805
-1903
-1998
-2140
-2270
-2461
-2663
-2880
-3177
-3482
-3897
-4326
-4999
-6300
N
0
50
100
Kilometres
Grey numbered ticks are 100 kilometre intervals
Map Grid of Australia 1994 Zone 54
Transverse Mercator Projection
Cartography by Spatial Graphic Services, Geological Survey of Queensland,
© State of Queensland,
Department of Employment, Economic Development and Innovation 2010
MOUNT ISA
BRISBANE
138°
139°30'
141°
142°30'
144°
17°
18°
19°
20°
21°
22°
23°
24°
25°
26°
8100000
8000000
7900000
7800000
7700000
7600000
7500000
7400000
7300000
7200000
7100000