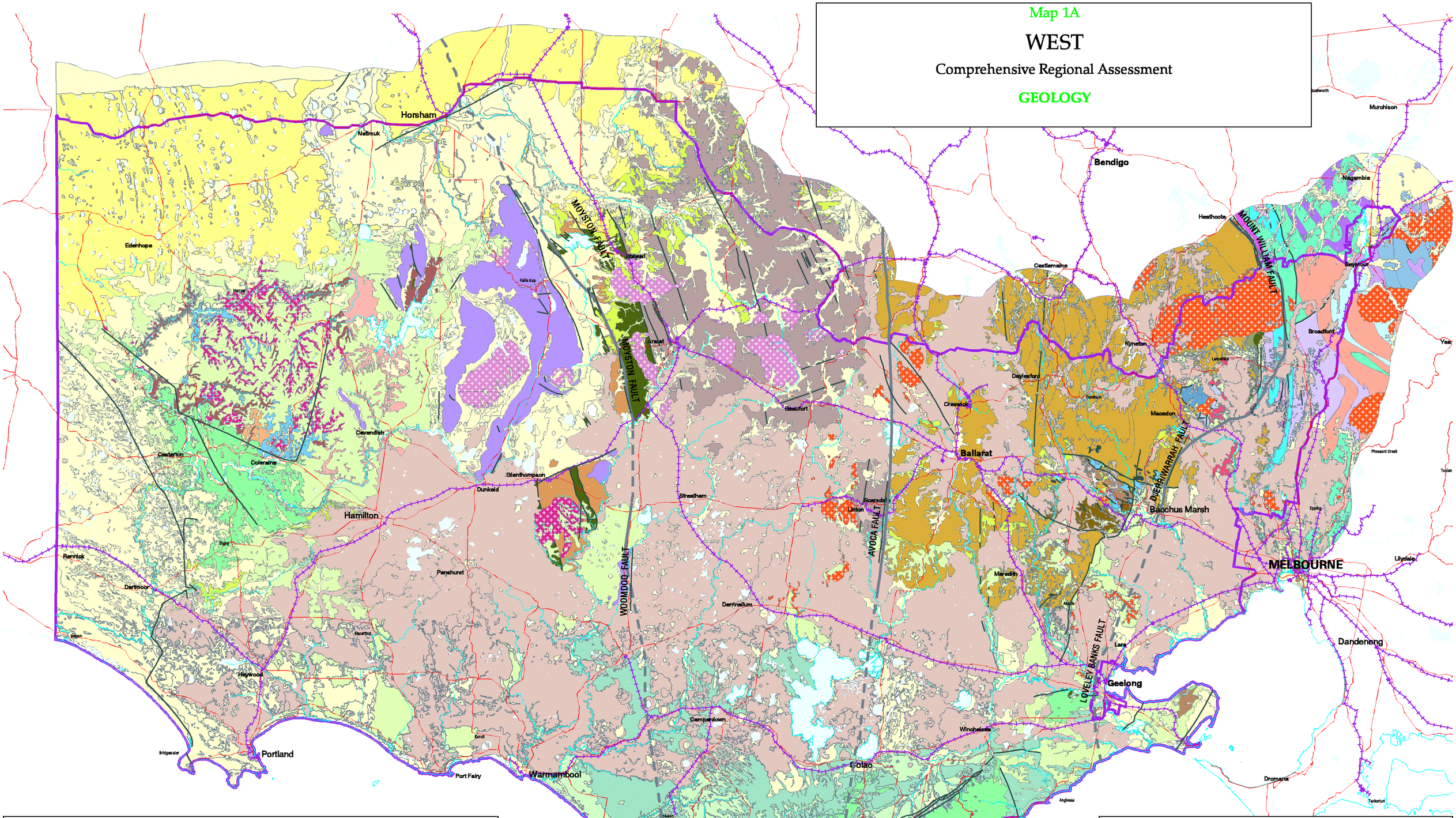
Map 1A

WEST

Comprehensive Regional Assessment

GEOLOGY



RFA boundary
Roads
Rivers
Railways
Faults
Boundaries of tectonic zones

Water Bodies

See Map 1B LEGEND FOR GEOLOGY

N

0 10 20 30 40

Kilometres

Projection: Australian Map Grid (AMG) Zone 54, Datum AGD66

State Government of Victoria

August 1999

Map 1B

WEST

Comprehensive Regional Assessment

LEGEND FOR GEOLOGY

GLENELG ZONE

- JURASSIC: Coleraine Trachyte
- PERMIAN: Tillite, fluvioglacials, glaciomarine
- Upper Silurian - Lower Devonian granitoids
- EARLY DEVONIAN: Rocklands Rhyolite
- SILURIAN: Grampians Group: shallow marine sandstone
- CAMBRIAN:
  - Glenelg River Metamorphics and Glenelg River Group marine sediments
  - Cambrian granitoids, gabbro
  - Saint Arnaud Group: marine sandstone, siltstone
- NEOPROTEROZOIC-CAMBRIAN: Greenstones: basic/ultrabasic volcanics, chert, shale

STAWELL ZONE

- Devonian - Carboniferous granitoids
- SILURIAN: Grampians Group: shallow marine sandstone
- Upper Silurian - Lower Devonian granitoids
- CAMBRIAN:
  - Saint Arnaud Group: marine sandstone, siltstone
  - Glenthompson Sandstone
- NEOPROTEROZOIC-CAMBRIAN: Greenstones: basic/ultrabasic volcanics, chert, shale

BENDIGO-BALLARAT ZONE

- DEVONIAN: Willimigongong Ignimbrite
- SILURIAN-DEVONIAN: Kerrie Conglomerate
- Devonian - Carboniferous granitoids
- LATE ORDOVICIAN: Riddell Sandstone
- ORDOVICIAN: Marine sandstone, shale, mudstone

MELBOURNE ZONE

- PERMIAN: Tillite, fluvioglacials, glaciomarine
- Devonian - Carboniferous granitoids
- DEVONIAN:
  - Montys Hut Formation, Norton Gully Sandstone
  - Waranga Formation
  - Devonian marine sandstone, mudstone
- EARLY DEVONIAN:
  - Puckapunyal Formation
  - Humevale Siltstone
- LATE SILURIAN:
  - McIvor Sandstone
  - Kilmore Siltstone
- SILURIAN:
  - Springfield Sandstone, Wapentake Sandstone, Chintin Formation
  - Anderson Creek Formation, Broadford Fromation, Dargile Formation
  - Wilson Creek Shale
  - Costerfield Siltstone, Deep Creek Siltstone
- ORDOVICIAN: Bolinda Shale, Darraweit Guim Siltstone
- CAMBRIAN:
  - Knowsley East Shale
  - Goldie Chert
  - Greenstones: basic/ultrabasic volcanics, chert, shale

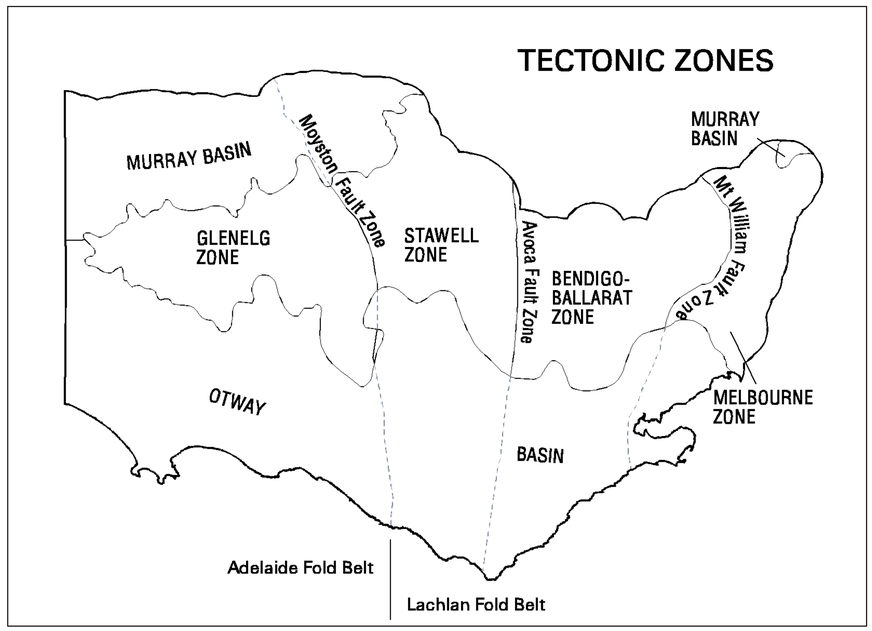
- QUATERNARY & TERTIARY:
  - Newer Volcanics: tholeiitic & alkaline basalts
  - Older Volcanics: tholeiitic & alkaline basalts, plugs, sills
  - Tertiary laterite, gravel, sand, silt

OTWAY BASIN

- QUATERNARY: Quaternary sediments: alluvium, aeolian, dune sand, gravel, sand, silt
- TERTIARY:
  - Heytesbury Group limestone
  - Werribee Formation (coal)
  - Tertiary marine sand, silt, clay, gravel
- CRETACEOUS: Eumeralla Formation

MURRAY BASIN

- QUATERNARY: Quaternary sediments: alluvium, aeolian, dune sand, gravel, sand, silt
- TERTIARY:
  - Undifferentiated sediments
  - Parilla Sand



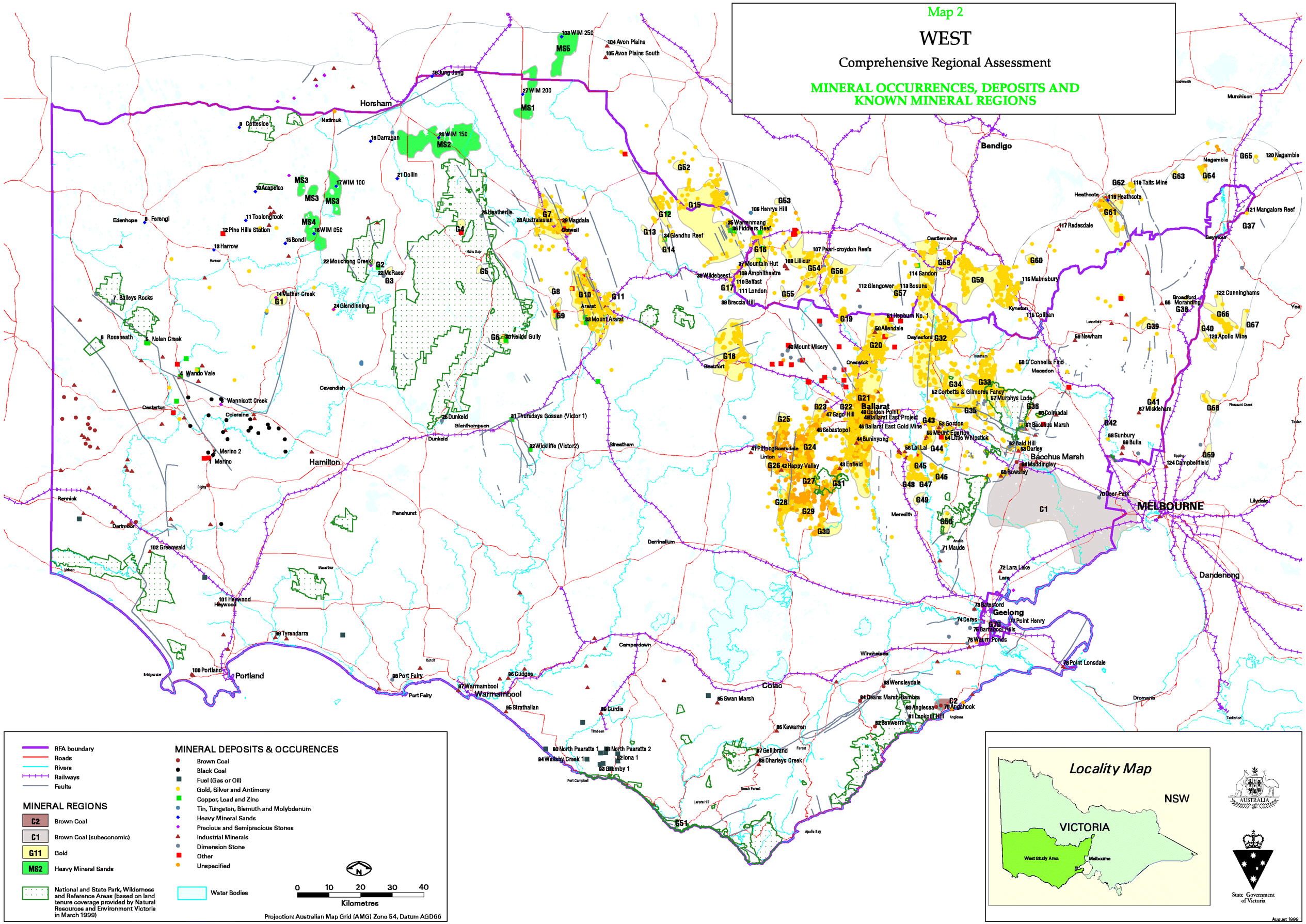
July 1999

Map 2

WEST

Comprehensive Regional Assessment

MINERAL OCCURRENCES, DEPOSITS AND KNOWN MINERAL REGIONS

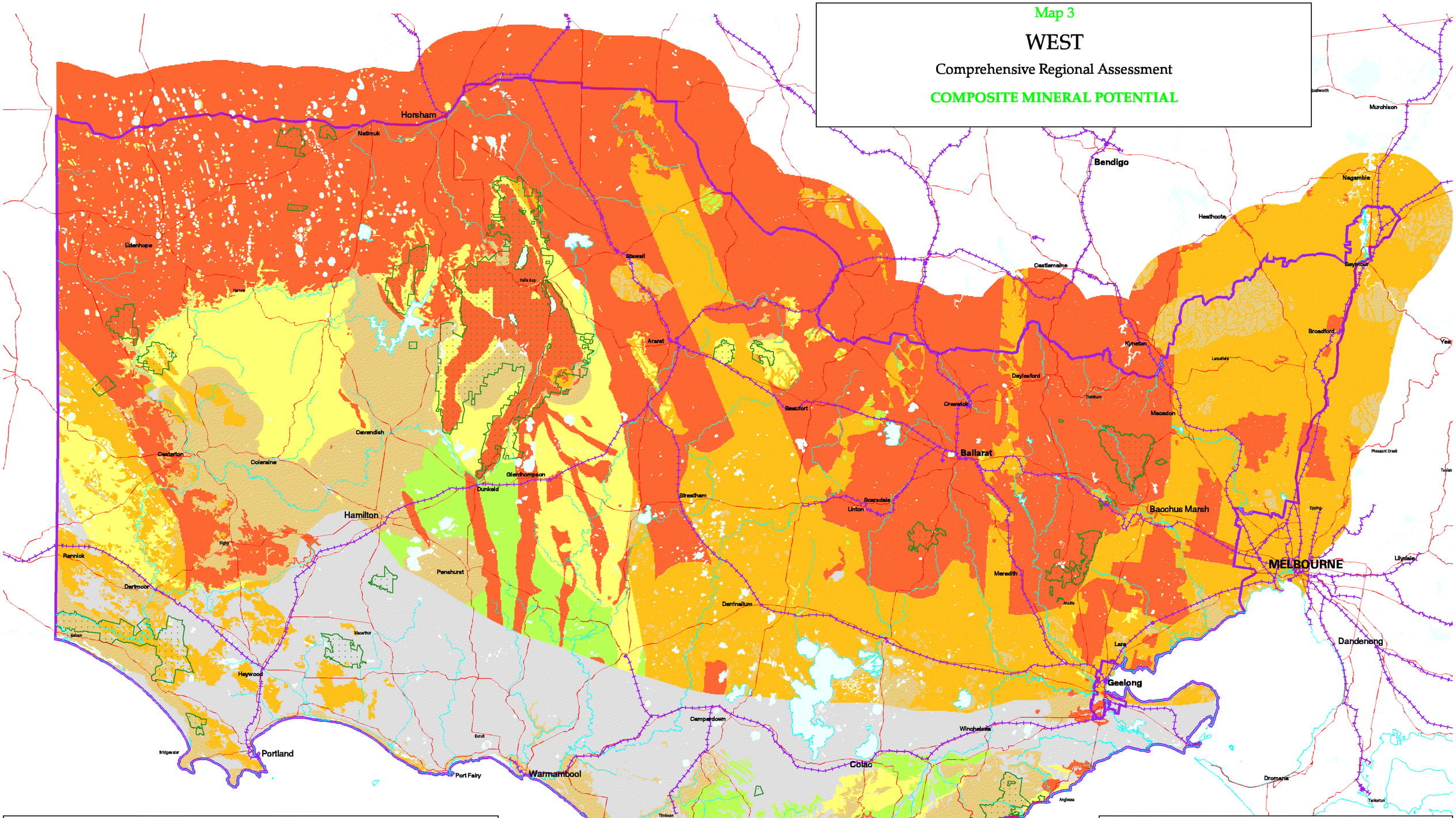

RFA boundary
Roads
Rivers
Railways
Faults
MINERAL REGIONS
C2 Brown Coal
C1 Brown Coal (subeconomic)
G11 Gold
MS2 Heavy Mineral Sands
National and State Park, Wilderness and Reference Areas (based on land tenure coverage provided by Natural Resources and Environment Victoria in March 1999)
MINERAL DEPOSITS & OCCURENCES
Brown Coal
Black Coal
Fuel (Gas or Oil)
Gold, Silver and Antimony
Copper, Lead and Zinc
Tin, Tungsten, Bismuth and Molybdenum
Heavy Mineral Sands
Precious and Semiprecious Stones
Industrial Minerals
Dimension Stone
Other
Unspecified
Water Bodies
N
0 10 20 30 40
Kilometres
Projection: Australian Map Grid (AMG) Zone 54, Datum AGD66
Locality Map
NSW
VICTORIA
West Study Area
Melbourne
AUSTRALIA
State Government of Victoria
August 1999
Horsham
Bendigo
Ballarat
Bacchus Marsh
MELBOURNE
Dandenong
Geelong
Colac
Warrnambool
Portland
Hamilton
Port Fairy
Coleraine
Casterton
Edenhope
Murchison
Nagambie
Castlemaine
Kyneton
Daylesford
Creswick
Beaufort
Ararat
Stawell
Maryborough
Dunkeld
Penshurst
Derrinallum
Camperdown
Winchelsea
Anglesea
Lara
Macedon
Heathcote
Lilydale
Dromana
Rennick
Dartmoor
Heywood
Bridgewater
Port Campbell
Timboon
Koroit
Macarthur
Cavendish
Streatham
Meredith
Linton
Lancefield
Trentham
Epping
Pheasant Creek
Yea
Toolangi
Tarnagulla
Tallarook
Yarrawonga
Tankerton
Apollo Bay
Larcombe
Beech Forest
Forest
Anglesea
Lara
Arnolds
Nelson
Digby
Harrow
Halls Gap
Natimuk
Beaufort
Seymour
Broadford
Lilydale
Yea
Murchison
Nagambie
Heathcote
Castlemaine
Kyneton
Daylesford
Creswick
Ballarat
Bacchus Marsh
Geelong
Colac
Warrnambool
Portland
Port Fairy
Hamilton
Coleraine
Casterton
Edenhope
Horsham
Dandenong
Dromana
Lilydale
Tankerton
Apollo Bay
Port Campbell
Timboon
Koroit
Macarthur
Cavendish
Streatham
Meredith
Linton
Lancefield
Trentham
Epping
Pheasant Creek
Yea
Toolangi
Tarnagulla
Tallarook
Yarrawonga

Map 3

WEST

Comprehensive Regional Assessment

COMPOSITE MINERAL POTENTIAL

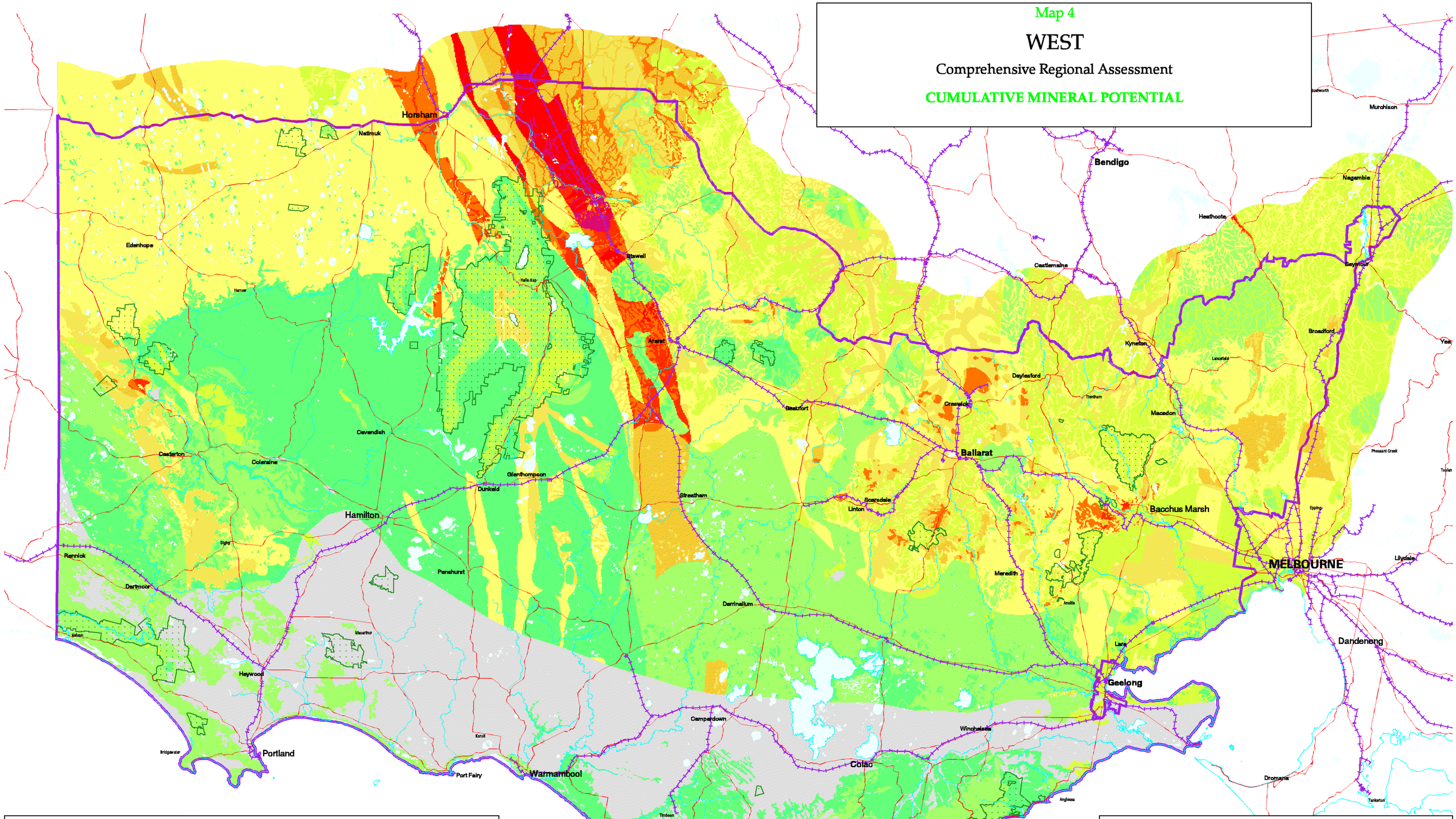

Horsham
Natimuk
Edenhope
Harrow
Halls Gap
Stawell
Ararat
Bendigo
Heathcote
Castlemaine
Nagambie
Seymour
Kyneton
Broadford
Lancefield
Yea
Daylesford
Trentham
Creswick
Beaufort
Macedon
Ballarat
Cavendish
Casterton
Coleraine
Glenthompson
Dunkeld
Streatham
Scarsdale
Linton
Bacchus Marsh
Pheasant Creek
Toolan
Hamilton
Digby
Penshurst
Meredith
Anakie
MELBOURNE
Lilydale
Epping
Rennick
Dartmoor
Derrinallum
Macarthur
Lara
Dandenong
Heywood
Geelong
Camperdown
Winchelsea
Kerrit
Bridgewater
Portland
Port Fairy
Warrnambool
Colac
Dromana
Anglesea
Tankerton
Timboon
Forest
Port Campbell
Beech Forest
Lavers Hill
Apollo Bay
Murchison
Tatura
Yalmy
Lake Bolac
Mortlake
Ferrers
Cobden
Camperdown
Terang
Warrnambool
Koroit
Port Fairy
Portland
Heywood
Macarthur
Dartmoor
Rennick
Digby
Casterton
Coleraine
Cavendish
Hamilton
Penshurst
Dunkeld
Glenthompson
Streatham
Stawell
Ararat
Beaufort
Navarre
Natimuk
Horsham
Edenhope
Harrow
Halls Gap
Ballarat
Creswick
Daylesford
Trentham
Kyneton
Lancefield
Macedon
Bacchus Marsh
Gisborne
Melton
Sunbury
Romsey
Kilmore
Seymour
Broadford
Yea
Nagambie
Heathcote
Castlemaine
Bendigo
Murchison
Tatura
Shepparton
Echuca
Kerang
Swan Hill
Robinvale
Ouyen
Mildura
Wentworth
Balranald
Hopetoun
Ouyen
Nhill
Dimboola
Horsham
Natimuk
Edenhope
Harrow
Halls Gap
Stawell
Ararat
Beaufort
Navarre

Map 4

WEST

Comprehensive Regional Assessment

CUMULATIVE MINERAL POTENTIAL



CUMULATIVE SCORE

- 1 - 10
- 11 - 20
- 21 - 30
- 31 - 40
- 41 - 50
- 51 - 60
- 61 - 70
- 71 - 80
- 81 - 90
- 91 - 100
- 101 - 110

STANDARD SCORE

1	Low
2	Low to Moderate
6	Moderate
12	Moderate to High
18	High

Unknown *

- RFA boundary
- Roads
- Rivers
- Railways
- Water Bodies
- National and State Park, Wilderness and Reference Areas (based on land tenure coverage provided by Natural Resources and Environment Victoria in March 1999)

N

0 10 20 30 40

Kilometres

Projection: Australian Map Grid (AMG) Zone 54, Datum AGD66

On this map, mineral potential tracts (compiled from Figures 3 - 17 in Minerals Technical Report) are superimposed by allocating scores to levels of mineral potential as follows - high potential (18), moderate/high (12), moderate (6), low/moderate (2), low (1), unknown (no score). Scores of overlapping tracts have been added to derive 'Cumulative Mineral Potential'. Areas with high cumulative scores indicate potential for more than one type of deposit eg. moderate potential for tungsten-molybdenum deposits (6) + moderate/high potential for disseminated gold (12) + high potential for slate-belt gold (18) = 36. Areas with overlapping tracts emphasise diversity of mineral potential but are not necessarily more 'prospective' than areas having a single tract of high potential for one type of deposit (eg. slate-belt gold).

Mineral potential assessed from data provided by the Geological Survey of Victoria. Assessments will require periodic revision as new data and knowledge become available.

* Unknown potential for coal. In this area Palaeozoic rocks are interpreted to be at depths greater than 500m and the mineral potential is unknown for slate belt gold, disseminated gold, epithermal gold, copper/gold porphyry, VMS base metals and gold associated with VMS.

State Government of Victoria

August 1999