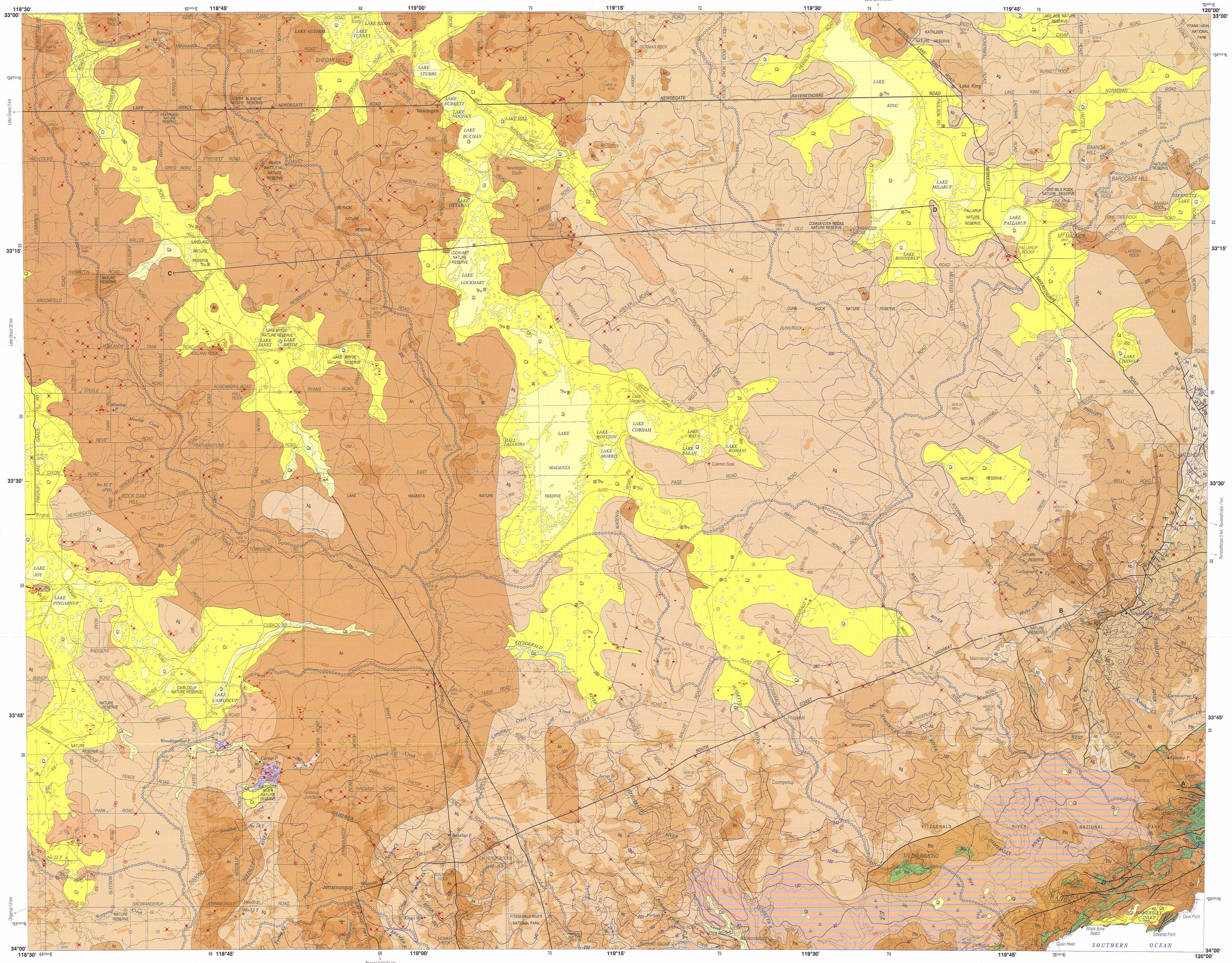
NEWDEGATE

WATER AND RIVERS COMMISSION

SHEET SI 50-8



REFERENCE

AQUIFER CHARACTERISTICS

- Surficial aquifer – local aquifer (not saturated everywhere), minor groundwater resources
- Surficial aquifer – local aquifer, possible sedimentary aquifer beneath, minor groundwater resources
- Sedimentary aquiclude – minor or no groundwater resources
- Sedimentary aquifer – sedimentary rocks with intergranular porosity in palaeochannels, significant groundwater resources
- Sedimentary aquifer, overlain by sedimentary aquiclude – probable extensive aquifer, minor groundwater resources
- Fissured aquifer, locally fractured and jointed – minor supplies from fracture zones
- Fractured and weathered rocks – local aquifer, minor groundwater resources
- Fractured and weathered rocks – local aquifer, minor or no groundwater resources
- Fractured and deeply weathered rocks – minor or no groundwater resources, local supplies from fracture zones

HYDROGEOLOGY

Era	Period / Group	Symbol	Description	Aquifer	Province
PHANEROZOIC – CAINOZOIC	QUATERNARY	Qa	Alluvium – gravel, sand, silt and clay	Minor local aquifer; brackish to saline	
		Ql	Lacustrine sediments – gypsiferous clay and silt	Minor shallow aquifer; hypersaline	
		Qs	Shallow marine, estuarine, and coastal eolian sediments – sand and limestone	Minor aquifer; fresh to brackish	
		Cz	Alluvium and colluvium – clay, silt, sand, and gravel; minor silcrete, calcrete, and laterite; conceals palaeochannels or overlies weathered basement	Minor aquifer; brackish to hypersaline	
	TERTIARY – Plantagenet Group	TPp	**PALLINUP SILTSTONE** – multicoloured siltstone, spongolite, and minor sandstone	Minor local aquifer; fresh to saline	BREMER BASIN
		TPw	**WERILLUP FORMATION** – sandstone, siltstone, shale, peat, and basal conglomerate within palaeochannels	Major aquifer; brackish to hypersaline	BREMER BASIN
PROTEROZOIC		Pd	Dolerite dyke	Very minor local aquifer; brackish to saline	
	Mount Barren Group	PBy	**KYBULUP SCHIST** – schist, phyllite, altered dolerite of Cowerdup Sill, minor banded iron-formation: outcrop (indicated by darker colour); subsurface weathered to clay (indicated by lighter colour)	Minor local aquifer; brackish to saline	ALBANY – FRASER OROGEN
		PBk	**KUNDIP QUARTZITE** – massive orthoquartzite and micaceous quartzite: outcrop (indicated by darker colour)	Local aquifer in fractured zones; brackish to saline	ALBANY – FRASER OROGEN
ARCHAEAN		Ag	Granitoid rock, porphyritic and even grained: outcrop, fresh rock (indicated by darker colour); subsurface weathered to clay (indicated by lighter colour)	Minor local aquifer; brackish to saline	YILGARN CRATON
		An	Granitoid gneiss, banded, weakly to strongly foliated, minor schist: outcrop, fresh rock (indicated by darker colour); subsurface weathered to clay (indicated by lighter colour)	Aquiclude and very minor local aquifer; saline	YILGARN CRATON
		As	Metamorphosed sedimentary rocks, schist, minor sandstone and shale: outcrop, fresh rock (indicated by darker colour); subsurface weathered to clay (indicated by lighter colour)	Aquiclude and very minor local aquifer; saline	YILGARN CRATON
		Ab	Mafic and ultramafic rocks, basalt, komatiite and minor metasediments: outcrop (indicated by darker colour); subsurface weathered to clay (indicated by lighter colour)	Local aquifer in fractured zones; saline	YILGARN CRATON

SYMBOLS

GEOLOGY

- hydrogeological boundary; concealed
- unconformity (section only)
- fault
- extent of weathering (section only)

SURFACE WATER FEATURES

- drainage; permanent, intermittent; pool
- lake; permanent, intermittent; swamp
- surface water divide
- tank, dam
- position doubtful

GROUNDWATER FEATURES

- spring
- watertable contour (m AHD)
- watertable; position uncertain (section only)
- isohaline (mg/L TDS)
- isohaline; local aquifer <1000 mg/L TDS

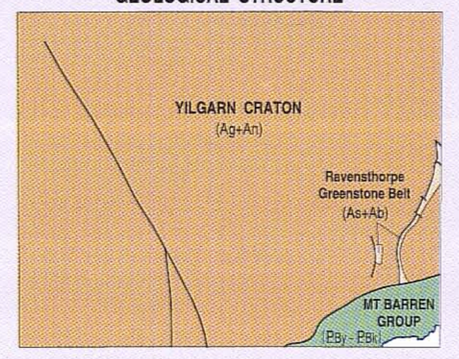
ARTIFICIAL FEATURES

- water bore: yield < 50m³/day; > 50m³/day; monitoring
- water bore abandoned: yield < 50m³/day; > 50m³/day; dry
- water bore uncased and abandoned: yield < 50 m³/day
- well; abandoned
- excavated soak for stock watering
- mineral exploration drillhole; intersecting Werillup Formation
- water bore intersecting Werillup Formation

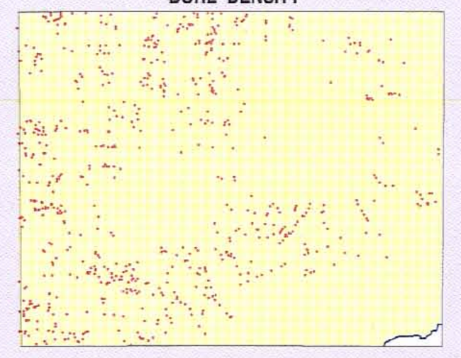
TOPOCADASTRAL INFORMATION

- highway with national route marker
- formed road
- track
- railway with siding (Burngup)
- landing ground
- townsite, population 100 – 1000 (Jerramungup)
- townsite, population < 100 (Lake King)
- locality (Lake Magenta)
- submerged rock
- topographic contour, 50 metre interval (AHD)
- horizontal control; major, minor (AHD)
- national park and nature reserve boundary

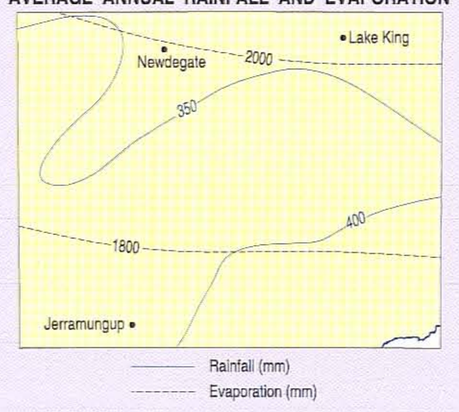
GEOLOGICAL STRUCTURE



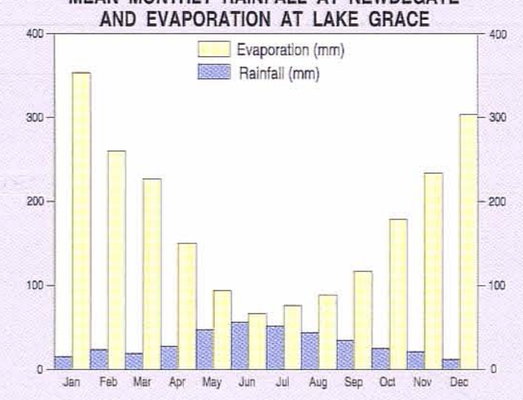
BORE DENSITY



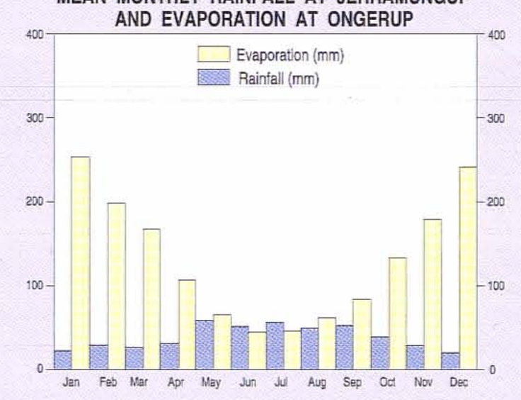
AVERAGE ANNUAL RAINFALL AND EVAPORATION



MEAN MONTHLY RAINFALL AT NEWDEGATE AND EVAPORATION AT LAKE GRACE

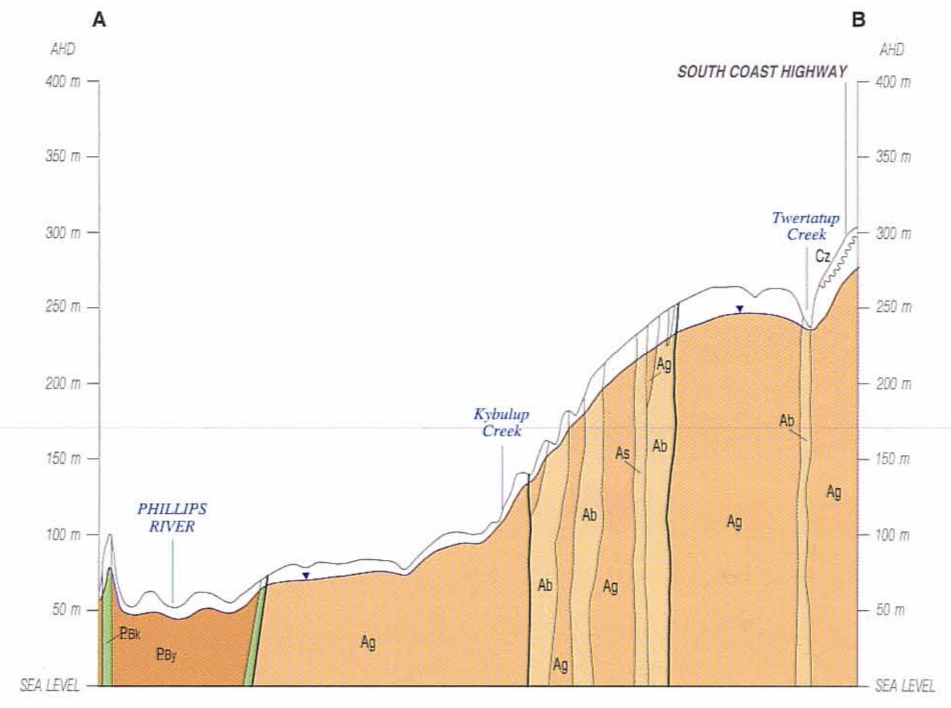


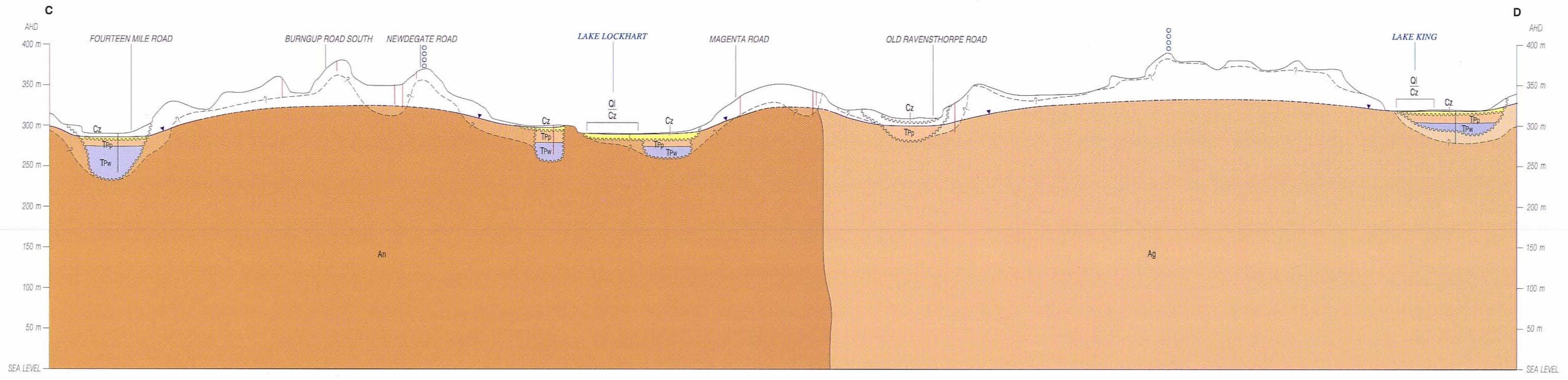
MEAN MONTHLY RAINFALL AT JERRAMUNGUP AND EVAPORATION AT ONGERUP



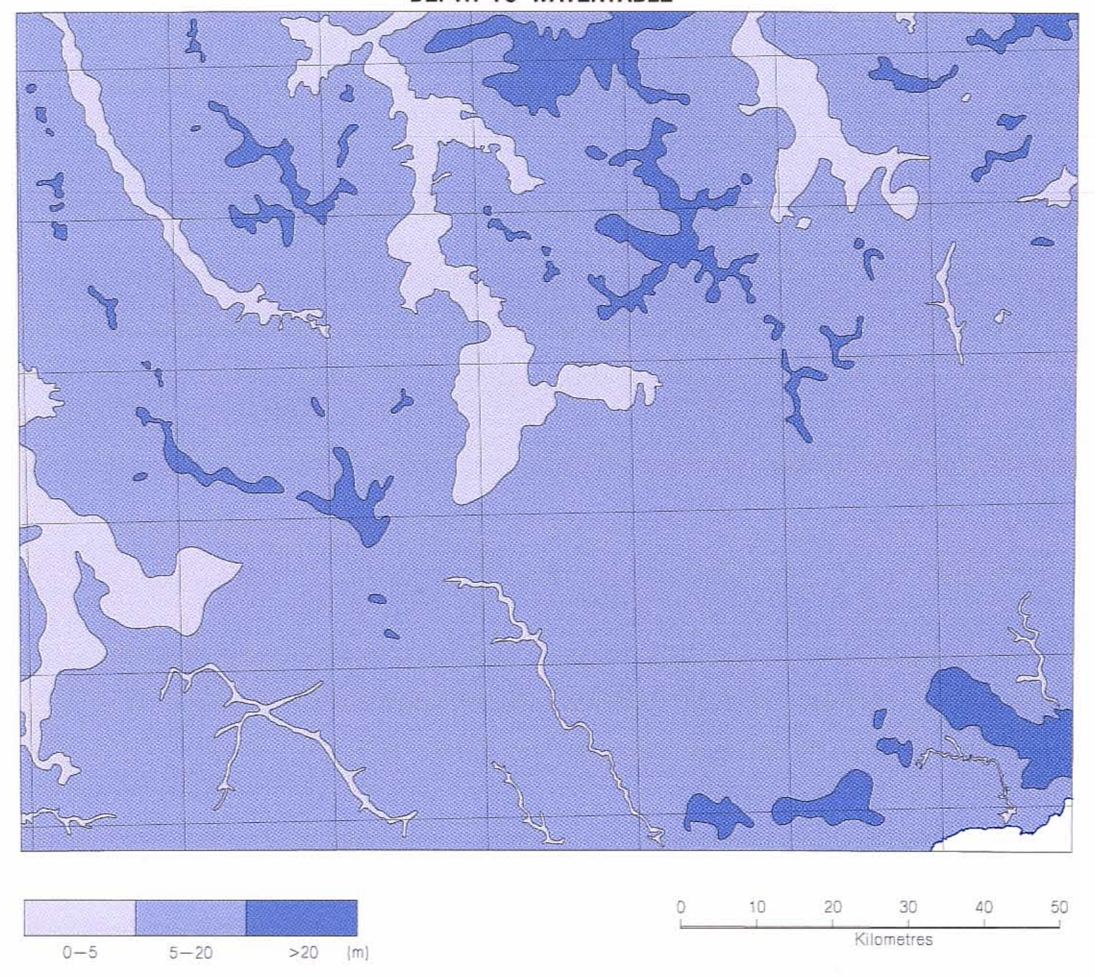
DIAGRAMMATIC SECTIONS

(Bores projected onto section line)
Vertical exaggeration x 50

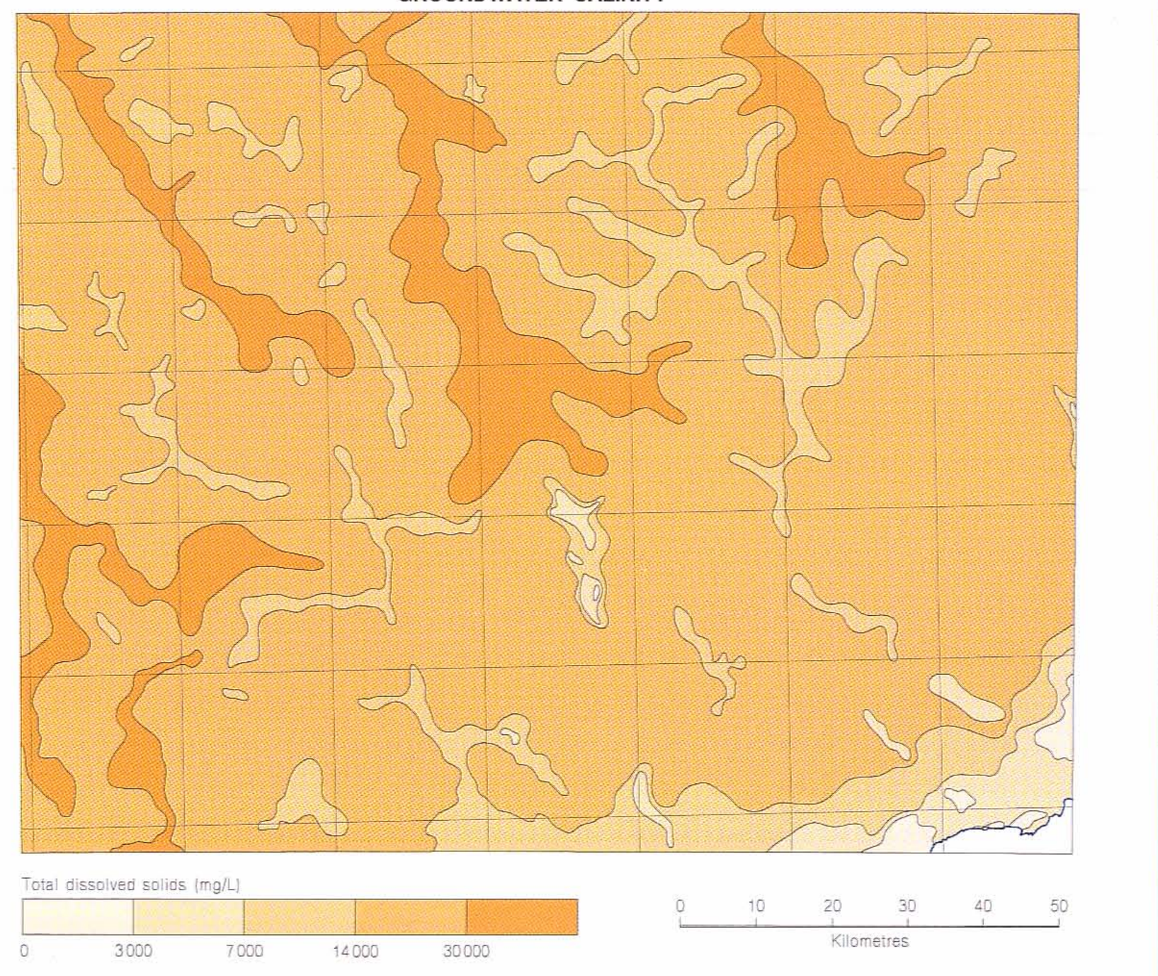




DEPTH TO WATERTABLE



GROUNDWATER SALINITY



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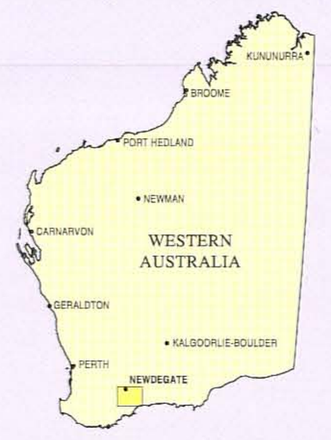

Hydrogeology by W. Dodson and S. Brereton, 1998
Geology by R. Thom, R.J. Chin and A. H. Hickman, 1984
J.S. Myers, 1989. W. K. Witt, 1994

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The Hyatt Centre, 3 Plain Street, East Perth, WA, 6004,
Phone (08) 9278 0300, Fax (08) 9278 0301

This map is also available in digital form

The WRC recommended reference for this map is: DODSON, W., 1998, Newdegate, W.A. Sheet SI 50-8: Western Australia, Water and Rivers Commission, 1:250 000 Hydrogeological Series

GOVERNMENT OF WESTERN AUSTRALIA
Dr KIM HAMES
MINISTER FOR WATER RESOURCES

WATER AND RIVERS COMMISSION
R. PAYNE
CHIEF EXECUTIVE OFFICER

SCALE 1: 250 000

5000 Metres 0 5 10 15 20 25 30 Kilometres

TRANSVERSE MERCATOR PROJECTION
Grid lines indicate 20 000 metre interval of the Australian Map Grid Zone 50

1:250 000 HYDROGEOLOGICAL SERIES

NEWDEGATE

SHEET SI 50-8

HYDROGEOLOGY NEWDEGATE 1:250,000