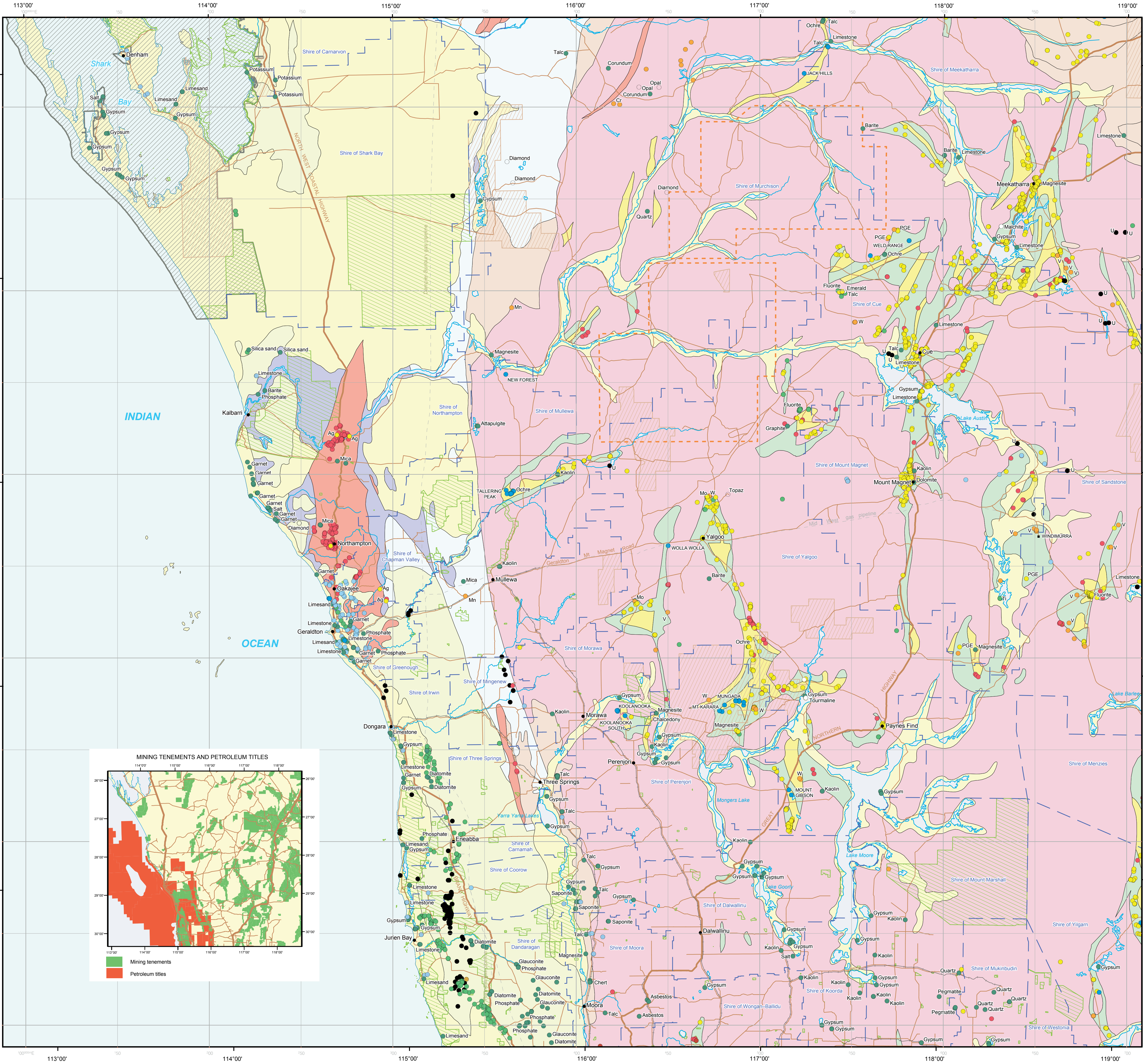


# RESOURCE POTENTIAL FOR LAND USE PLANNING

## MID WEST REGION



### Geology

- Coastal limestone and limesand, eolian sand, and alluvial deposits
- Marine limestone, sandstone, and shale
- Deltaic sandstone, shale, and coal
- Continental sandstone
- Sandstone, shale, and basalt
- Granite and gneiss (Gascoyne and Northampton Complexes)
- Metamorphosed sedimentary and felsic volcanic rocks, and banded iron-formation
- Metamorphosed mafic volcanic and intrusive rocks, and banded iron-formation
- Granite and gneiss (Yilgarn Craton)

### Mineral occurrences, deposits, and mines

- Precious mineral — emerald, diamond, malachite, opal, topaz, and tourmaline
  - Precious metal — gold, silver (Ag), and platinum group elements (PGE); gold unless otherwise indicated
  - Steel industry metal — nickel, chromium (Cr), manganese (Mn), molybdenum (Mo), vanadium, and tungsten (W); nickel unless otherwise indicated
  - Speciality metal — beryllium, tantalum, titanium, and tin; titanium sites mainly on coastal plain unless otherwise indicated, other metals in Yilgarn Craton
  - Base metal — copper, lead, and zinc (Yilgarn Craton); lead (Northampton Complex)
  - Iron — Projects are named and resources reported in the table opposite
  - Aluminium — (bauxite)
  - Energy — coal and uranium (U); coal unless otherwise indicated
  - Industrial mineral — asbestos, attapulgite, barite, chert, corundum, diatomite, dolomite, fluorite, garnet, glauconite, graphite, gypsum, kaolin, limesand, limestone, magnesite, mica, ochre, pegmatite, potassium, phosphate, quartz, salt, saponite, silica sand, and talc
  - Construction material — Sand, gravel, clay, crushed rock, and dimension stone
- Geological boundary
- Highway
- Major road
- Railway
- Homestead
- Town/Locality
- Petroleum pipeline
- Shire boundary
- Watercourse
- Playa/salt lake
- Area proposed for the Square Kilometre Array radio telescope
- Conservation reserves and national parks
- Former pastoral lease now CALM managed
- Koolanooka Hills area proposed for conservation reserve
- Shark Bay World Heritage Area

### Mineral and petroleum potential

High for titanium, zircon, garnet, uranium, limesand, limestone, gypsum, salt, phosphate, diatomite, saponite, and construction materials; deposits known

Moderate for glauconite and phosphate; occurrences known

High for coal, oil, and gas; deposits known

Low for all minerals

High for gold and chert (Moora area); deposits known: moderate for copper and barite occurrences known

Moderate to high for lead and silver (Northampton Complex); deposits known

High for iron and gold: deposits known: moderate to high for copper-lead-zinc-silver, tantalum-tin-lithium-beryllium, and tungsten-molybdenum; deposits known

High for iron, gold, and vanadium; deposits known: moderate to high for tantalum-tin-lithium-beryllium, nickel-cobalt, and platinum-palladium; deposits known

High for dimension stone, crushed rock, and pegmatite; deposits known

### Regional planning recommendations

Changes should not restrict exploration or mining

No planning implications

Changes should not restrict exploration or mining

No planning implications

Changes should not restrict exploration or mining

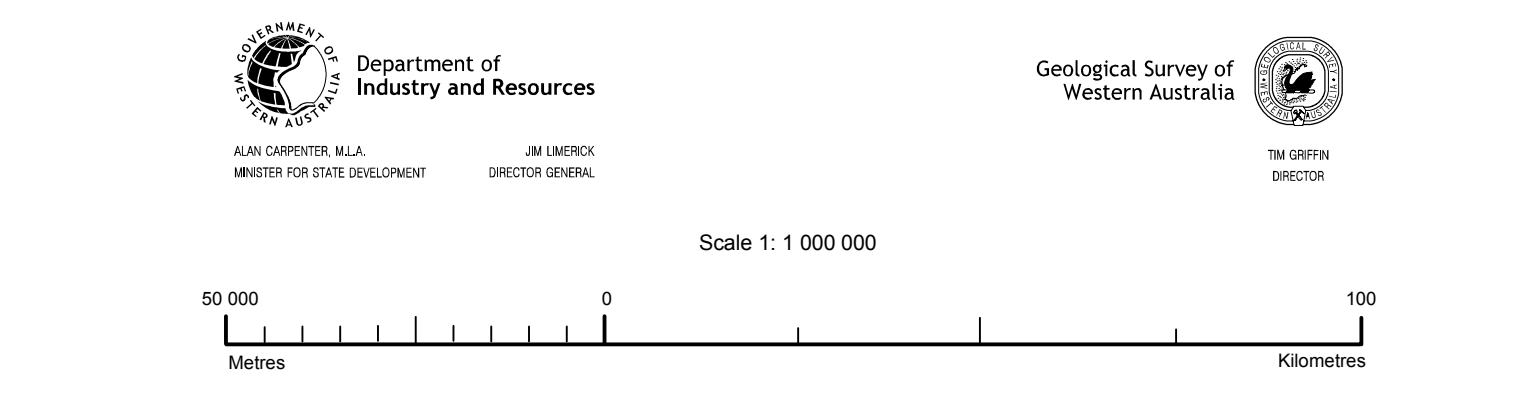
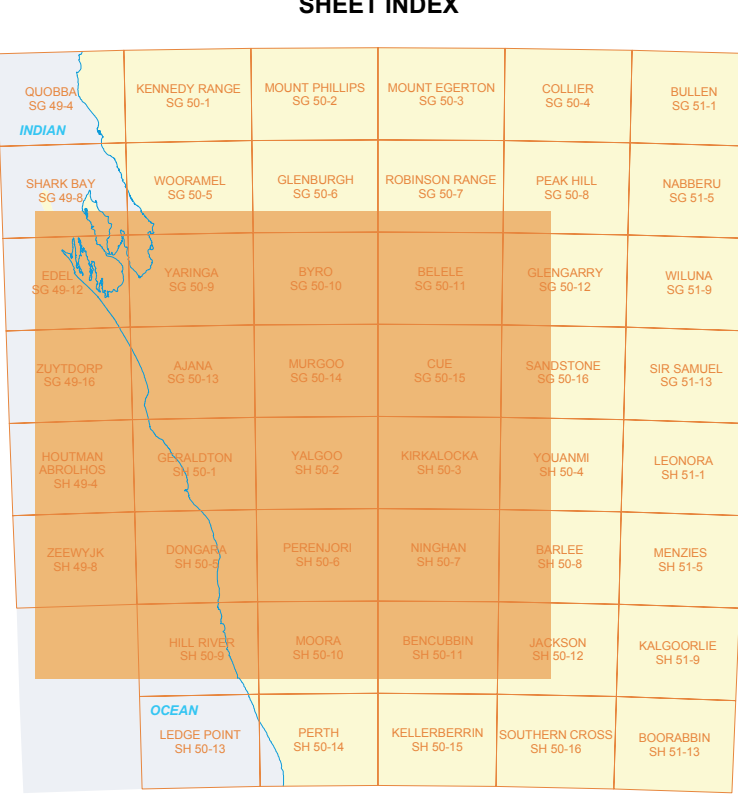
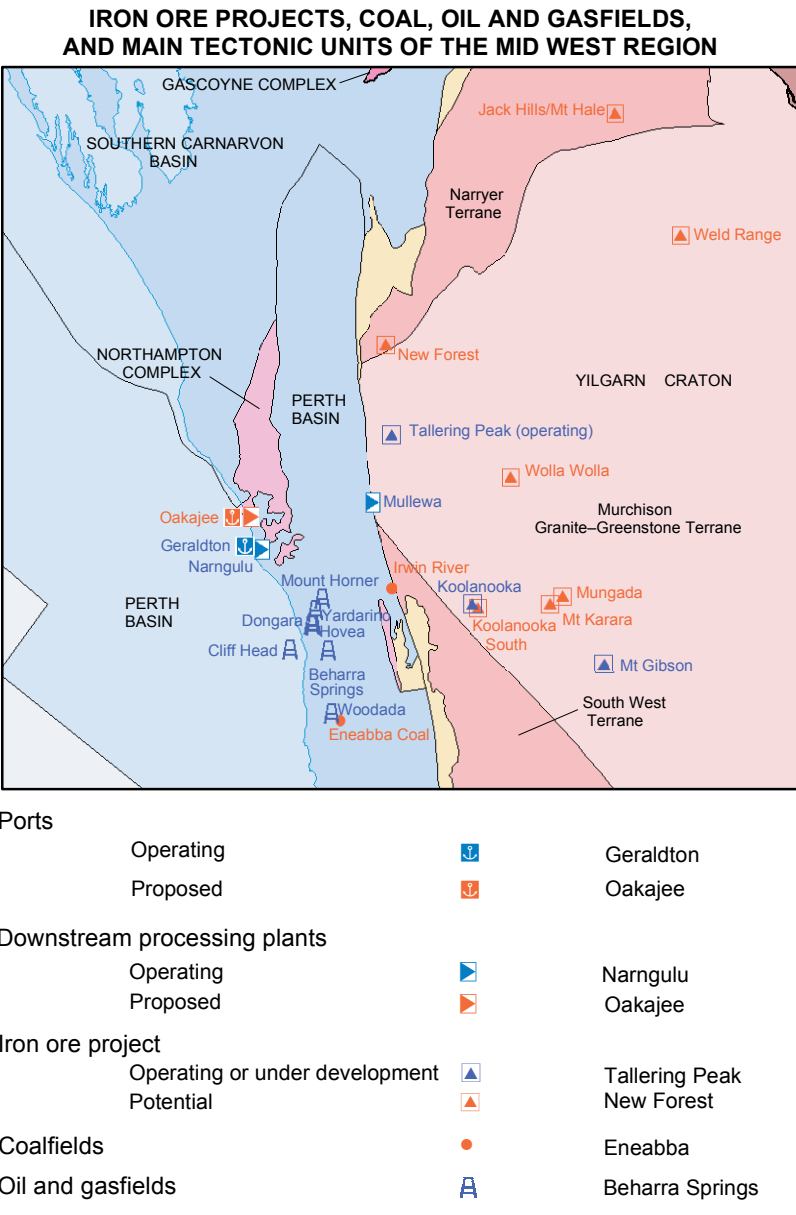
Changes should not restrict exploration or mining

Changes should not restrict exploration or mining

No planning implications

IRON ORE RESOURCES							
Project name	Company	Deposit name	Deposit type	Tonnage(a) Mt	Grade Fe %	Year	
Koolanooka	Mid West Corporation	Koolanooka	Magnetite	430 000	34.96	2003	
		Scree	Supergene	1 062	56.00	2004	
		Stockpiles	Supergene	1 325	58.91	2004	
Mungada	Mid West Corporation	Blue Hills	Magnetite	120 000	37.00	1996	
			Supergene	1 165	60.25	2004	
			Supergene	3 130	59.63	2004	
Weld Range	Mid West Corporation	Weld Range	Supergene	132 10	50.91	2004	
Mid West Corporation subtotals				690 000	35.40		
			Magnetite	137 740	51.27		
			Supergene	1 062	56.00		
			Stockpiles	1 970	57.10		
MT Gibson	Asia Iron	Extension Hill (Central BIF)	Magnetite	230 000	31.62	2004	
		Extension Hill (Flanking)	Magnetite	24 800	17.62	2004	
		Extension Hill	Supergene	10 800	60.90	2004	
Tallering Peak	Asia Iron	Iron Hill	Supergene	2 000	83.82	2004	
		T1	Magnetite	32 940	34.10	2002	
		T2	Supergene	1 562	51.16	2002	
		T3	Supergene	5 700	64.60	2004	
		T4	Supergene	3 700	64.00	2004	
		T5	Magnetite	15 010	29.98	2004	
		T6	Supergene	1 200	62.20	2004	
			Supergene	8 900	65.00	2004	
Asia Iron subtotals				392 750	36.61		
			Magnetite	33 862	62.71		
Jack Hills	Murchison Metals	MT Hale	Supergene	67 00	62.00	2004	
MT Kierara	Gindalbie Metals	Blue Hills	Magnetite	180 00	35.00	1974	
Totals for all projects				1032 750	33.93		
			Magnetite	238 602	55.91		
			Magnetite	1 062	56.00		
			Magnetite	1 970	57.10		

NOTE (a): Tonnage = total for all resource types (inferred, indicated and measured)



DATA DICTIONARY			
Theme	Data Source	Data Currency	Agency
Geology	GSWA	2005	Department of Industry and Resources, WA
Mineral occurrences, deposits, and mines (not confidential)	Simplified geology polygons		
Mining Act tenements	1:2 500 000 Atlas of Mineral Deposits		
Petroleum titles	WAMIN MINEDEX*	MAY 2005	Department of Industry and Resources, WA
	TENGGRAPH	JUN 2005	Department of Industry and Resources, WA
	Western Australian Petroleum Map (WAMAP)	MAY 2005	Department of Industry and Resources, WA
Conservation reserves and national parks	CALM	JUN 2004	Department of Conservation and Land Management, WA
Former pastoral lease now CALM managed	CALM	JUN 2004	Department of Conservation and Land Management, WA
Shark Bay World Heritage Area	CALM	OCT 2002	Department of Conservation and Land Management, WA
Koolanooka Hills proposal	TENGGRAPH	OCT 2004	Department of Industry and Resources, WA
Square Kilometre Array radio telescope	TENGGRAPH	OCT 2004	Department of Industry and Resources, WA
Topography	DLI 1:1 000 000 upgraded to 1:500 000	2001	Department of Land Information, WA

\* GSWA and DoIR databases can be viewed online [www.doir.wa.gov.au/geoview\\_launch.asp](http://www.doir.wa.gov.au/geoview_launch.asp) or can be downloaded from the GSWA Data and Software Centre [www.doir.wa.gov.au/downloadcentre](http://www.doir.wa.gov.au/downloadcentre)

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Cartography by S. Mulligan, 2005  
Published by the Geological Survey of Western Australia. Available in digital format (PDF) online at [www.doir.wa.gov.au/geoview](http://www.doir.wa.gov.au/geoview). Copies can be ordered from the Information Centre for the cost of printing. Phone (08) 922 3459, Fax (08) 922 3444.  
Email [geological\\_survey@doir.wa.gov.au](mailto:geological_survey@doir.wa.gov.au)  
The recommended reference for this map is:  
KOJAN, C. J., 2005, Mid-West Region, Resource potential for land use planning (scale 1:1 000 000); Western Australia Geological Survey.

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