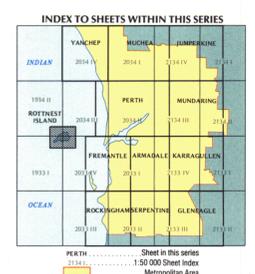
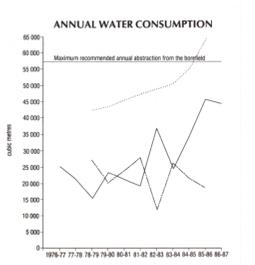


Map unit	Description	Equivalent unit on geological map	Relief/Slope	PHYSICAL PROPERTIES ¹										CURRENT PROCESSES	SUITABILITY FOR SPECIFIED LAND USES ²					NOTES	
				Industrial mineral resources	Shear strength	Compressibility	Permeability	Compaction	Swelling potential	Cohesion	Workability / USC ³ subgroup	Foundations	Roads		Base courses	Septic tanks	Salinity (mining)	Soil salinity			
S ₁	SAND — white, medium-grained, well-sorted, sub-angular quartz and shell debris, locally shelly and lithoclastic	Beach sand (Qh)	0m; F		M-H	L	H	L	N	N	N	H	SP	Waves, tides	✗	✗	✗	✗	✗	✗	Modern beach subject to inundation by storm surges, sediments are highly saline and compacted; very high hazard rating
	SAND — white, medium to coarse-grained, moderately well-sorted, quartz and shell debris, locally shelly and lithoclastic	Dune sand (Qh)	0-15m; G	Limesand	H	L	H	L	N	N	N	H	SP-SW	Waves, wind transport	✗	✗	✗	✗	✗	Active blowouts and sandhills, unvegetated, severe erosion hazard, subject to both wind and wave erosion, no soil development; very high hazard rating	
	SAND — as S ₁		5-35m; M	Limesand	H	L	H	L	N	N	N	H	SP-SW	Waves, wind transport	✗	✗	✗	✗	✗	High relief ridges, exposed to winds, with steep, poorly cemented slopes, limited vegetation cover and soil development, very susceptible to remobilization where the sparse vegetation is removed; high hazard rating	
S ₂	SAND — as S ₁		5-10m; G	Limesand	H	L	H	L	N	N	N	H	SP	Waves, wind transport	✗	✗	✗	✗	✗	Relic foredune and flats topography, high narrow ridges with steep slopes and exposed crests, moderate vegetation cover, poor soil development; high hazard rating	
	SAND — as S ₁		5m; F	Marl	L-M	M	L-M	L-H	L-M	N-H	M	ML		Restricted occurrence, susceptible to flooding, sediments are weakly compacted; very high hazard rating	✗	✗	✗	✗	✗	Restricted occurrence, susceptible to flooding, sediments are weakly compacted; very high hazard rating	
CO ₁	COQUINITE — weakly lithified, mainly bivalves and gastropods in medium to coarse-grained well-sorted calcarenite matrix	Herschell Limestone (Qh)	0m; F		L-M	M	L-M	L-H	L-M	N-H	M	ML		Flats fringing the lakes, within the zone of lake-level fluctuation, sediments are highly saline and unconsolidated, salt in the soil profile, very high hazard rating	✗	✗	✗	✗	✗	Flats fringing the lakes, within the zone of lake-level fluctuation, sediments are highly saline and unconsolidated, salt in the soil profile, very high hazard rating	
	LIMESTONE — very pale, yellowish brown, thin calcareous overlying shell beds of CO ₁		1m; F	Shell grit	H	L	H	L	N	N-L	H	GW		Surface wash, soil moisture changes	✗	✗	✗	✗	✗	Flats and terraces bordering the lakes, high water table, sediments weakly compacted; moderate hazard rating	
S ₃	SAND — pale yellowish brown, medium to coarse-grained, sub-angular to well-sorted quartz, trace of feldspar, moderately sorted	Sand derived from Tamala Limestone (Qs)	3-15m; G		H	L	H	L	N	N	H	SW		Wind transport	✗	✗	✗	✗	✗	Low relief and gentle slopes, limited soil development, variable vegetation cover, high wind exposure; moderate hazard rating	
	LIMESTONE — pale yellowish brown, fine to coarse-grained, sub-angular to well-sorted quartz, trace of feldspar, shell debris, variably lithified, surface karst	Tamala Limestone (Qs) and Rottneest Limestone (Qr)	0-45m; G-M		V	V	H	V	N/A	N/A	M-H	N/A		Surface wash, soil moisture changes	✗	✗	✗	✗	✗	High relief and steep slopes, limited soil development, concrete surfaces are common, high wind exposure; high hazard rating	

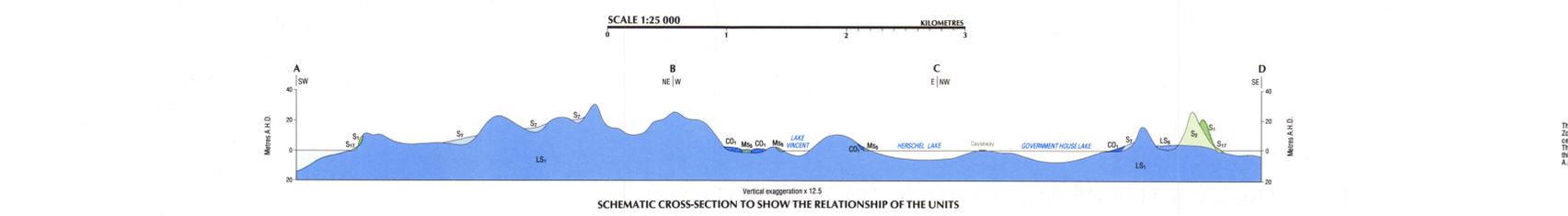
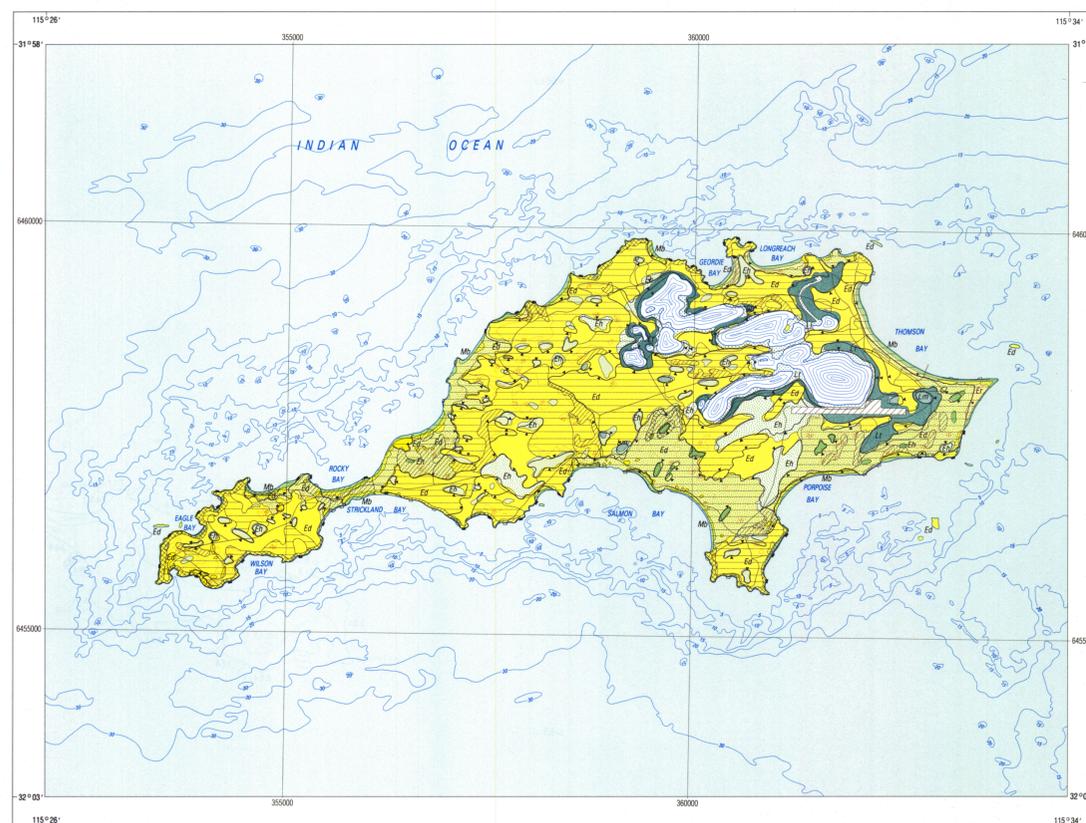
LITHOLOGICAL CLASSIFICATION

UNCONSOLIDATED MATERIAL
A single capital letter denotes the main lithology of the unit followed, if required, by lower case letters denoting qualifying lithologies in decreasing order of importance — left to right.
M silt S sand

ROCK
Double capital letters denote lithological symbols of rocks.
CO coquina LS limestone
Different mappable units of similar lithologies are shown by the lithological symbol followed by an Arabic number.



The data contained on this sheet are for preliminary studies and are not intended as a substitute for detailed on-site investigation. This map should not be used for navigation purposes.



SYMBOLS

GEOLOGY	HYDROGRAPHY	MINERAL RESOURCES	VEGETATION
..... geological boundary	100 water table contour (m A.H.D.)	✗ quarry or pit, active	..... dense vegetation — planted
..... made ground	5 isopachs of fresh water, metres (< 1000 mg/L T.D.S.)	✗ quarry or pit, inactive	..... dense vegetation — natural
	..... isohaline (mg/L T.D.S.)	..... mineral occurrence	..... Dept of Conservation and Land Management five year plan area — to be planted
BOREHOLES, WELLS AND OTHER WORKS	..... lake	Sd sand	
..... observation bore	..... lake bathymetric contour, metres	Ls limestone	OFFSHORE GEOMORPHOLOGY (down to 10m bathymetric contour)
..... production bore, abandoned	..... tidal-water step	Sh shell beds	..... seagrass
..... artesian bore, abandoned	..... point source of pollution	Ma marl	..... mixed seagrass and reef
..... large second-class water supply	..... lake and swamp salinity (mg/L T.D.S.), March 1988		..... shoreline platform
..... well	..... bathymetric contour in metres		..... offshore platform
..... sewer/water mains	..... wave crests		..... silt or stack
..... sewage treatment works	..... direction of longshore drift		..... shoreline or offshore platform affected by blasting
..... water pipeline	..... high sea level (+ 2.6 m) shoreline, about 5000 years ago		
..... water storage tank	..... wreck		
..... burred catchment			
..... waste-deposit site, active			

GEOMORPHOLOGICAL CLASSIFICATION
(Adapted from Department of Agriculture Bulletin 4086 with modifications based on field survey)

ORIGIN	LANDFORM	SWAMPLAND (Holocene)	SLOPES	FEATURES
E eolian	a beach	Lm marsh and swamp	0-3°	..... sharp concave break of slope
L lacustrine	b dune	Lf lake marginal flats	3°-10°	..... low (< 6 m) cliff
M marine	c hollow	Et lake terrace	10°-20°	..... high (> 6 m) cliff
	e.g. Ed eolian dune	Ed active blowouts and sandhills	20°-30°	
		Ed parabolic dunes		
		Eh interdunal swales		
		Eh hind dune flats		
		..... made ground		

The geomorphological classification comprises a single capital letter which denotes the origin of the material and a lower case letter which represents the morphology.

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1:25 000 ENVIRONMENTAL GEOLOGY MAP
ROTTNEEST ISLAND
PART SHEETS 1933 I, 1934 II, 2033 IV AND 2034 III
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ENVIRONMENTAL GEOLOGY SERIES

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