

















RELICT REGIME

	St Silicate, soil-free weakly ferruginous, forming nodule and surface (May indicate chloranite-carrying on surface)
	St Iron-rich clastic-rich ferruginous nodule and surface
	St Siliceous aggregate on sandstone, usually horizontally bedded; forms veins
EROSIONAL REGIME	
	Es Outcrop of coarse bedrock, and subcrop with locally bedded sand and sandy clay. Contains (bedding) lag by post adjacent to proximal margin. Derived from proximal to distal
	Es As for "F"; derived mainly from terrigenous sedimentary rock
	Es As for "F"; derived mainly from quartzofeldspathic sedimentary rock
	Es As for "F"; derived mainly from quartzofeldspathic mafic igneous rock
	Es As for "F"; derived mainly from quartzofeldspathic plutonic rock
	Es As for "F"; derived mainly from carbonate-rich sedimentary rock
	Es As for "F"; derived mainly from coarse-grained terrigenous rock
	Es As for "F"; derived mainly from igneous-rich sedimentary rock

DEPOSITIONAL REGIME

DOMINANTLY CELLULOSIC	
	C Uncombed, bleached and semi-combated sand, silt, gravel, and rubble. (derived from various sources)
	Cs As for C; derived mainly from strongly ferruginous rock
	Cls As for C; derived from strongly ferruginous rock
	Cps As for C; derived mainly from quartzite/pelite and sedimentary rock
	Cpm As for C; derived mainly from quartzite/pelite and metamorphic rock
	Cp As for C; derived mainly from quartzite/pelite/pelitic rock extremely deeply indurated, may include traces of halloysite
	Cs As for C; derived mainly from carbonate-rich sedimentary rock
	Csp As for C; derived mainly from coarse-grained ferruginous rock
	Cop As for C; derived mainly from quartz-silt sedimentary rock
	Cw Combed/bleached to semi-combated sand, silt, gravel, and rubble
	Cls Combed/bleached to semi-combated sand, silt, gravel, and rubble; strongly deeply indurated; may include traces of halloysite

DOMINANTLY ALLUVIAL

	W	Sand and clay dominated calcareous or siliceous; merges into alluvial plains; may be scattered with small lakes
	O	Overbank deposits, sand- or clay-rich alluvium and calcareous floodplains, include calcareous fragments and non-calcareous clays
	Ok	Valley calcareous, alluvial in phase
	A	Gravelly sand and sandy clay in active alluvial channels with mixtures of ferruginous and vitrified alluvial fluvial fragments
	L	Siltier or highly gyttaceous plays-like sediments

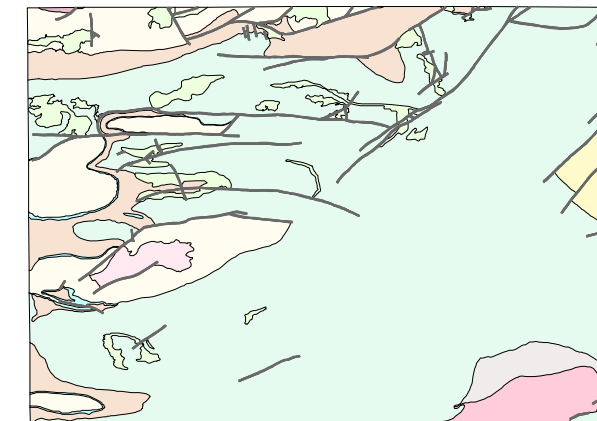
DOMINANTLY EOLIAN

S Eolian and residual sand











SYMBOLS

	Regolith boundary
	Minor road
	Track
	Breakaway
	Watercourse
	Lake
	Homestead
	Locality
ILGARARI	Mining locality
	Mine
	Prospect
	Mineral occurrence
Bt	Barite
Cu	Copper
Au	Gold
Fe	Iron
Pb	Lead
Mg	Magnesium
Mn	Manganese
Ag	Silver
Zn	Zinc

SIMPLIFIED GEOLOGICAL INTERPRETATION



Geological interpretation by J. Coker after Brakel et al. (1974)
and Cooper et al. (1998)

PROTEROZOIC		Dolerite, gabbro, and basalt; sills and dykes
		Savory Group
		Sandstone with conglomerate lenses; minor siltstone
		Bangsall Group
		Collier Subgroup
		Siltstone, mudstone, sandstone, conglomerate, dolomite, and subordinate chert
		Edmund Subgroup
		Sandstone, siltstone, mudstone, dolomite, and subordinate chert
		DISCOVERY CHERT massive or laminated chert, sandstone, and siltstone
		Mudstone, siltstone, chert, dolomite, sandstone (locally dolomitized), felsic volcanic rock, and subordinate conglomerate
ARCHAEO		Breenahan Group
		Conglomerate, pebbly sandstone, sandstone, siltstone, and mudstone
		Geacoyne Complex
		Biotite-muscovite monzogranite
		Myrmia Inlier
	Metamorphosed granites and minor sedimentary rock	
ARCHAEO		Metasedimentary rock
		Geological boundary
		Fault

SHEET INDEX

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REGOLITH MATERIALS

REGOLITH GEOCHEMISTRY SERIES

COLLIER

SG 50-4

FIRST EDITION 1999
Western Australia 1999

Edited by N. Tetlow and G. Loan
Cartography by G. Jose and D. Ladbrook
Topography from Australian Surveying and Land Information Group and Department of Land Administration Sheet 85 50-4 and modified from geological field survey (1998)
This map was compiled and produced using a Geographic Information System (Arc/INFO), and the data are available in digital form
Published by the Geological Survey of Western Australia. Copies of this map, or extracts or the data, are available from the Information, Department of Minerals and Energy, 100 Plain Street, East Perth, W.A., 6004. Phone (08) 9222 3450, Fax (08) 9222 3444



DEPARTMENT OF MINERALS AND ENERGY
L.C. RANFORD, DIRECTOR GENERAL

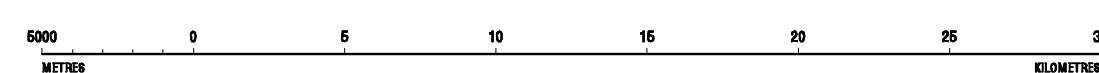


GOVERNMENT OF WESTERN AUSTRALIA
HON. NORMAN MOORE, M.L.C.
MINISTER FOR MINES



GEOLOGICAL SURVEY OF
WESTERN AUSTRALIA
DAVID BLIGHT, DIRECTOR

SCALE 1:250 000



TRANSVERSE MERCATOR PROJECTION
HORIZONTAL DATUM: AUSTRALIAN GEODETIC DATUM 1984
VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
 Grid lines indicate 20 000 metre interval of the Australian Map Grid Zone 50

Compiled by J. Coker, 1998

Field observations 1998 by J. Coker, R. Iasky, K. Pye, and S. Shevchenko (from GSWA), S. Baesjou, J. Bradley, A. Lee, S. McGuinness, and B. White

Compiled using Landsat TM images (1993 data), 1963 black and white aerial photography published Geological Survey of Western Australia Geological Series map, Collier 1974, and field observations 1997

The recommended reference for this map is:
COKER, J., 1998, Regolith materials, Collier, WA Sheet SG 50-4 in Geochemical mapping of the Collier 1:250 000 sheet by J. COKER and J. A. FAULKNER: Western Australia Geological Survey, 1:250 000 Regolith Geochemistry Series Explanatory Notes, Plate 2

WARNING: Inks are water soluble and will fade with prolonged exposure to light