FORBES
REGOLITH-LANDFORMS

AUSTRALIA 1:250 000 REGOLITH-LANDFORM SERIES

NEW SOUTH WALES SI 55-7

LATITUDE OF ORIGIN 0˚ LONGITUDE OF ORIGIN 147˚

SCALE 1:250 000

UNIVERSAL TRANSVERSE MERCATOR PROJECTION

Transported regolith

Alluvial sediments

Depositional alluvial plains

Aad1 — Inclined, flat, floored alluvial headwater valleys south of Ooorbil with deep leads mined to 60m depth.

Aad2 — Alluvial plains south of Humbug Creek with sediments derived from dominantly granitic higher terrain and palaeodrainage deposits to the south. Red loamy sand with calcrete nodules and pebble lag.

Aad3 — Inclined flat floored alluvial headwater valleys of Goobang Creek with locally derived sediment.

Aad4 — Steard inclined alluvial valleys and distal plains of the Lachlan valley. Probably no great alluvial thickness.

Depositional flood plains

Aaf1 — Younger alluvium associated with channels, adjacent floodplains, swamps, lagoons and sandy levees of Goobang Creek. Periodic flooding.

Aaf2 — Dark alluvial soils associated with Lachlan River floodplain. Frequent flooding.

Aaf3 — Active alluvial deposition associated with channels, levees and floodplains of tributary creeks to the Lachlan River system.

Aaf4 — Alluvial clay plains and upper floodplains associated with Bland Creek area.

Aaf5 — Brown subsoils associated with Bogandillon Creek. Salinity associated with groundwater discharge area.

Aaf6 — Red-brown events, moderately to imperfectly drained, of the high-level Lachlan floodplain. Periodic inundation.

Terraced land

Aat1 — Multiple terraces and alluvial fans of the Lachlan alluvial plain upstream of Goolagong.

Stagnant alluvial plains

Aas1 — Leached brown, grey and red clays on inactive widespread alluvial plains to south of present Lachlan River. Low gamma spectrodometric response.

Aas2 — Leached brown, grey and red clays on inactive alluvial plain northeast of Wyalong. Moderate gamma spectrodometric response.

Aas3 — Imperfectly to moderately well drained red and brown subolic soils on inactive alluvial plain east of Wyalong. Low gamma spectrodometric response.

Aas4 — Moderately well to imperfectly drained red-brown earths on very widespread distal stagnant alluvial plains to north and south of present Lachlan River.

Aas5 — Inactive puroxoic alluvial plain of local origin on northern margin of Humbug Creek.

Aas6 — Heavy textured red-brown earth soils on inactive alluvial plains proximal to the Lachlan River in the Jemalong-Shirldes Plains irrigation area.

Aas7 — Moderately well drained red earth soils on inactive alluvial plain to northwest of Condobolin. Sodic topsoils common.

Aas8 — Widespread gilgai soils on inactive alluvial plains, especially south of the present Lachlan River. Sodic upper subsoils

Aas9 — Poorly draining red-brown earth soils with calna oudoic soils of the Lachlan River and east of Condobolin. Widespread sodic topsoils.

Alluvial fans

Afa1 — Alluvial sediments locally derived from sedimentary bedrock, deposited by migrating streams

Aeolian sediments

Sand dunes and sheets

Bsd1 — Small locally derived sand dunes, mostly on the Lachlan alluvial plains.

Bss1 — Source bordering sand sheet and dunes associated with palaeodrainage deposits north of Wyalong

Bsc1 — Locally derived climbing dunes on western side of northerly trending siréa ridges.

Colluvial sediments

Colluvial rises

Csr1 — Poorly indurated, silty hardened colluvium rises derived from granite hills to west and south. At least 5m thick granite-derived alluvium in local creeks.

Sheetwash sediments and plains

Chs1 — Thin sheetwash colluvium over saprolite on pediments around higher relief landforms. Sedimentary and/or granite provenance.

Chs2 — Thin sheetwash colluvium over saprolite on pediments around higher relief landforms. Mafic granitic provenance.

Chsp1 — Colluvial and residual veneer over-and-fernerized sedimentary and volcanic saprolite on onsosal plains. Colluvium interfingers with alluvium along creeks. Locally includes thick alluvium along palaeodrainage lines.

Chsp2 — Colluvial and residual veneer over mainly granitic saprolite on erosional plains. Colluvium interfingers with alluvium along creeks.

Lacustrine sediments

Semi-permanent lakes

Lpl1 — Fine grained sediments and heavy grey clay soils of Lake Cowal, Kerang Cowal and Banar Lake.

Lpl2 — Shoreline lake deposits on eastern edge of Lake Cowal

Paludal sediments

Swamps

Lss1 — Clayey swamp deposits.

In situ regolith

Weathered bedrock

Saprolite rises

Sm1 — Undifferentiated weathered sedimentary and volcanic bedrock dominantly on rises, but also low hills, with colluvial aprons on pediments, and local colluvial and distal depositional plains.

Sm2 — Undifferentiated weathered granite dominantly on rises, but also low hills, with colluvial aprons on pediments and local colluvial and alluvial depositional plains.

Sm3 — Rounded quartz and felsic pebble and cobble lag on rises of variably weathered Mesozoic conglomerate, sandstone and mudstone.

Sm4 — Undifferentiated weathered sedimentary and volcanic bedrock with widespread colluvial and alluvial veneer dominantly on rises, but also plains and pediments.

Sm5 — Undifferentiated saprolite on diorite bedrock with widespread colluvial and alluvial veneer dominantly on rises, but also plains and pediments.

Saprolite low hills

Sml1 — Undifferentiated weathered sedimentary and volcanic bedrock dominantly on low hills, but also hills, with colluvial aprons on pediments, and local colluvial and distal depositional plains. Includes patoee deeply incised and more alluviated valleys around Gbenfell.

Sml2 — Undifferentiated weathered granitic bedrock dominantly on low hills, but also hills, with colluvial aprons on pediments and local colluvial and alluvial depositional plains. Local fresh corestones and tors.

Sml3 — Undifferentiated weathered felsic volcanic within the Dulladerry Volcanics on low hills on local plateaux.

Volcanic landforms

Vlv1 — Undifferentiated weathered to fresh Cainozoic basaltic southwest of Condobolin and basalt northeast of Eugowra.

Highly weathered bedrock

Saprolite plains

SHwp1 — Highly weathered granite to greater than 60m with scattered ferruginous lag derived from mottled granite saprolite, and colluvial sediments on plains and rises.

Saprolite rises

SHwr1 — Highly weathered felsic volcanics of the Dulladerry Volcanics on rises within high-level basalt-valleys. Sandy residual soils.

Slightly weathered bedrock

Saprock rises

SSwr1 — Stony soils dominantly on low rises, but also plains, of slightly weathered sedimentary and metasedimentary bedrocks of the Wagga and Girilambone Groups, with colluvial aprons on pediments, and local colluvial and alluvial depositional plains.

SSwr2 — Stony soils dominantly on rises, but also low hills, of slightly weathered sedimentary and metasedimentary bedrocks of the Wagga and Girilambone Groups, with colluvial aprons on pediments, and local colluvial and alluvial depositional plains.

Saprock low hills

SSwl1 — Stony soils on slightly weathered to fresh granite on Tchabung Hill

Saprock hills

SSwh1 — Slightly weathered sedimentary bedrock of the Hervey Group dominantly on hills, but also mountains.

SSwh2 — Slightly weathered to moderately weathered to places, felsic volcanics of the Dulladerry Volcanics dominantly on hills, but also mountains.

SSwh3 — Slightly weathered granitic bedrock with rare and corestones dominantly on hills, but also on mountains.

SSwh4 — Slightly weathered dacite mafic volcanics and chert of the Bramagar Volcanics dominantly on hills, but also on mountains.

Undefined origin

Clay

UCep1 — Clayey soils associated with gilgai on erosional plains. — **Erosional plains**

Modifiers

Scattered ferruginous lag and mottled saprolite (Unit SHwp1)

Gilgai (Units UCep1 and Aas8)

Zone of frequent flooding along the Lachlan River

MINERAL OCCURRENCES

- Au (Cu / Ag)
- Ag (Pb)
- Fe, Mn
- Sn (W/ Bi)
- Pb, Zn (Au)
- Cu (Au / Ba)
- PGE
- Industrial
- Gems
- Unknown

INDEX TO ADJOINING MAPS

MAGNETIC DECLINATION

MAP LOCALITY

UNIVERSAL GRID REFERENCE

RELIABILITY DIAGRAM

Poorly cemented and sorted coarse feldspathic sandstone with minor conglomerate incorporating granitic clasts forming erosional rises adjacent to granite hills. Interpreted as indurated granite-derived colluvium (SSH 619322E 6260855N)

Moderately well cemented polymict conglomerate exposed in gravel pit at SSH 585917E 6348979N, interpreted as Jurassic fluvial sediment. The modern landscape is rises near the Combidios Drainage Divide.

Rim of well-bedded alluvium (gravel, sand and mud), cross-bedded in places, exposed in post-settlement erosion gully near the boundary between erosional rises and inclined alluvial plain (SSH 619093E 6264555N)

View to west of northern end of Weebar Hill showing abrupt pediment angle between Miocene bauxitic volcanics and thick alluvium which has drowned the Miocene landscape (SSH 593834E 6330472N)

Bedded sands and maghemite-bearing gravels overlying strongly mottled clay in a 7m deep trench at West Wyalong rubbish tip. The gravels are highly magnetic and were deposited in a tributary of the Wyalong Palaeovalley. The modern landscape is an erosional plain (SSH 578273E 6428156N)

Slightly weathered Devonian Dulladerry Volcanics overlain by thin gritty soils on crest of hill (SSH 637000E 6326700N)

WARNING: Colours may deteriorate with prolonged exposure to light and moisture

GAMMA-RAY SPECTROMETRICS

RGB image of gamma-ray spectrometry data (red-potassium, green-thorium, blue-uranium) from airborne data acquired in 1993

DIGITAL ELEVATION MODEL

Pseudocolor image of a digital elevation model with sunangle shading from the west from airborne data acquired in 1993

DEPTH TO SLIGHTLY WEATHERED BEDROCK MODEL

The contours on this map show the depth to slightly weathered bedrock. Unlabelled white lines are outcrop boundaries and thus the zero contour. In many areas, for instance in the deep palaeovalleys of the Lachlan River and Bland and Goobang Creeks, this is most probably broadly equivalent to the depth of transported sediment cover. However, from the drill-hole logs available, it is generally not possible to distinguish between transported material and highly weathered saprolite. It is therefore difficult in some areas to estimate the thickness of transported versus in situ regolith material.

LANDFORMS

LANDFORMS

DEPOSITIONAL LANDFORMS
- Alluvial plain
- Flood plain
- Stagnant alluvial plain
- Terraced land
- Alluvial fan
- Dune
- Source bordering sand
- Climbing dune
- Lacustrine plain

EROSIONAL LANDFORMS
- Erosional plain
- Rise
- Low hills
- Hill

VOLCANIC LANDFORMS
- Volcanic landform

Regolith landform unit boundary
Palaeodrainage (magimitic-defined)
Deep lead
Buried basalt flow
Drainage divide
Watercourse
Main road
Minor road
Railway
Scarp
Trigonometrical station

MINERAL RESOURCES NEW SOUTH WALES
Geological Survey of New South Wales

Cooperative Research Centre for Landscape Evolution & Mineral Exploration

FORBES
REGOLITH-LANDFORMS
SHEET SI 55-7
FIRST EDITION 1999
SUBJECT TO REVISION