HOB Hogback Land System

Area: 28.4 km^2

Landscape: Isolated steep to undulating hard rocky hills and rises which stand above the surrounding plains. Scree slopes and small pediments with rubbly, calcareous soils encircle the rises which have numerous rocky outcrops on upper slopes.

Annual rainfall: 210 – 235 mm average

Geology: Pre-Cambrian rocks form the resistant rocky hills including Fortress Hill Formation, Grampus Quartzite, Ketchowla Siltstone and Waukaringa Siltstone. Pleistocene and Holocene alluvial/colluvial sediments occur on pediments around the rises.

Main soils:
L1 (28%) Shallow soil on rock (Rocky Rudosol-Tenosol)
A4 (15%) Deep (rubbly) calcareous loam (Hypercalcic-Lithocalcic Calcarosol)
A2 (14%) Calcareous loam on rock (Paralithic Calcarosol)
A3 (12%) Deep moderately calcareous loam (Calcic Calcarosol)
D4 (10%) Loam over pedaric red clay (Pedaric Red Sodosol-Dermosol)

Minor soils:
RR (7%) Bare rock
A6 (4%) Gradational calcareous clay loam (Pedal Hypercalcic-Lithocalcic Calcarosol on clayey subsoil)
C1 (4%) Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol)
M4 (3%) Deep hard gradational sandy loam (Hard Brown-Dark Kandosol- Dermosol)
C2 (3%) Gradational loam on rock (Shallow Red Dermosol-Kandosol-Calcarosol)

Summary: The Hogback land system consists of isolated steep to undulating hard rocky hills and rises which stand above the surrounding plains. Scree slopes and small pediments with rubbly, calcareous soils encircle the rises.

Soil Landscape Unit summary: Hogback Land System (HOB)

SLU	% of area	Component	Main soils	Prop#	Notes
A-t	2.9	Steep ridge	L1	D	Steep low hilly ridges on tillites with mostly bare rock outcrop. Relief is 30-90m, slopes are 30-50%. Main soils: Shallow stony soils on rock **- L1**.
AKH	12.6	Ridge	L1	D	Ridges of rolling rises with very shallow rocky calcareous soils formed on coarse-grained rocks. Over 20% have secondary carbonate horizons and are often calcareous throughout. Watercourses are eroded. Relief is 9-30m, slopes are 10-30%. Main soils: Shallow stony soils on rock **- L1**.
AYA	18.5	Rise	L1	D	Hills and rises on fine-grained rocks, especially siltstones of the Tapley Hill Formation. **AYA** Undulating rises with shallow calcareous loam on calcareous siltstone or other fine grained rocks, or bare rock. Relief is less than 30m, slopes are 3-10%. **AYB** Rolling rises. Relief is less than 30m, slopes are 10-30%. **AYD** Very steep low hills. **AYH** Rolling rises with eroded watercourses, with 10-20%
AYB	2.5	Ridge	L1	D	
AYD	1.8	Steep ridge	L1	D	
AYH	1.7	Rise	A2	D	

					gullied and around 5% scalded. Relief is 30-90m, slopes are 10-30%. Main soils: Shallow stony soils on rock **- L1** and Calcareous loam on rock – **A2**.
EBmm	2.8	Rise	L1A2	V	Undulating rises with shallow, mostly calcareous, soils formed on quartzites and siltstones. Fans with deeper soils are associated. Relief is less than 30m, slopes are 3-10%. Severely scalded (over 50% of land affected) and gullied (more than 20% of land affected). Main soils: ***Rises:*** Shallow stony soils on rock - **L1** and Calcareous loam on rock – **A2**. ***Fans:*** Gradational sandy loam - **C1** and Deep moderately calcareous sandy loam - **A3**
		Fan	C1A3	C	
EHW	11.7	Rise	A2C2	E	Rises and fans on calcareous siltstones and limestones such as those of the Tapley Hill Formation, Wonoka Formation and the ABC Range Quartzite of the Wilpena Group. Relief is less than 30m, slopes are 3-10%. 5-50% of land is scalded. Main soils: ***Rises:*** Calcareous loam on rock – **A2** and Gradational loam on rock - **C2**. ***Fans:*** Deep moderately calcareous sandy loam - **A3** and Gradational sandy loam - **C1**. ***Depressions:*** Deep (rubbly) calcareous sandy loam **-A4**.
		Fan	A3C1	C	
		Depression	A4	L	
EOV	4.2	Rise	A2	V	Gently undulating rises with pulverulent calcareous soils. 5-10% of land is scalded, gullying affects around 5% of land. Slopes are 1-3%, relief is less than 30m. Main soils: ***Rises:*** Calcareous loam on rock – **A2** and Gradational loam on rock - **C2**. ***Fans:*** Deep moderately calcareous sandy loam - **A3** and Gradational sandy loam - **C1**.
		Fan	A3C1	E	
JPo	0.6	Drainage depression	D4	D	Pediments and plains with texture contrast soils formed on outwash sediments derived from basement rocks. Calcareous in some part of the profile. More than 20% of soils are pedaric (fine crumbly structure in subsoils). **JPo** Drainage depression. Moderately gullied (10-20%) and scalded (10-50%). **JPq** Gently sloping fans. Severely scalded (over 50%). Slopes are 1-3%, relief is less than 9m. Main soils: Clay loam over pedaric red clay - **D4**.
JPq	9.9	Fan	D4	D	
KFV	9.8	G und plain	A4	V	Gently undulating plains and flats with calcareous gradational soils and more than 20% red pedaric texture-contrast soils. **KFV** Gently undulating plains and level flats. 5-10% scalded Slopes are 1-3%, relief is less than 9m. Main soils: ***Gently undulating plains:*** Deep (rubbly) calcareous sandy loam **-A4** ***Flats:*** Deep moderately calcareous loam - **A3** and Gradational calcareous clay loam - **A6**, with over 20% Loam over pedaric red clay - **D4**.
		Flat	A6	E	

KLC	8.4	Fan	A4A3	V	Undulating fans and rises with clay loamy calcareous soils. Subsoils are moderately saline. 0-5% scalded and gullied land. Slopes are 3-10%, relief is less than 9m. Main soils: ***Fans:*** Deep (rubbly) calcareous sandy loam **-A4** and Deep moderately calcareous loam - **A3**. ***Rises****:* Deep (rubbly) calcareous sandy loam **-A4** and Gypseous calcareous loam – **A8**.
		Rise	A4A8	L	
KQB	12.7	Fan	A3A4	V	Gently undulating fan and basement-rise complexes with mostly calcareous gradational soils. Slopes are 1-3%, relief is less than 9m on fans and 9-30m on rises. Main soils: ***Fans:*** Deep moderately calcareous loam - **A3** and Deep (rubbly) calcareous sandy loam **-A4**. ***Rises:*** Deep (rubbly) calcareous sandy loam **-A4**.
		Rise	A4	L	

PROPORTION codes assigned to Soil Landscape Unit (SLU) components:

D	Dominant in extent (>90% of SLU)	C	Common in extent (20–30% of SLU)
V	Very extensive in extent (60–90% of SLU)	L	Limited in extent (10–20% of SLU)
E	Extensive in extent (30–60% of SLU)	M	Minor in extent (<10% of SLU)

Detailed soil profile descriptions:

A2/L1 Shallow calcareous loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol)(**A2**) **OR** Shallow stony loam (Calcareous, Paralithic, Leptic Tenosol)(**L1**).

A3 Deep moderately calcareous (sandy) loam (Calcic Calcarosol)
Calcareous (sandy) loam topsoil grading into loamy-clay loamy subsoil without a significant CO_3 build-up in the subsoil (<20% CO_3 in subsoil). Pediment type Calcarosols.

A4 Deep (rubbly) calcareous loam (Hypercalcic-Lithocalcic Calcarosol)
Calcareous sandy-clay loamy topsoil grading into loamy-clay loamy subsoil with a significant CO_3 build-up in the subsoil. Often rubbly. Soil usually >120 cm in depth.

A6 Gradational calcareous clay loam (Pedal Hypercalcic-Lithocalcic Calcarosol on clayey subsoil)
Calcareous loams to clay loams grading into brown-red clay. Often rubbly.

A8 Gypseous calcareous loam (Gypseous Calcarosol)
Calcareous soil with a Gypsic horizon) (>20% visual gypsum in a horizon which is at least 10 cm thick). Found on lunettes, flats, etc.

C1 Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol)
Friable sandy to loamy topsoil grading into massive red-brown alkaline loamy to clay loamy subsoil.

C2 Gradational loam on rock (Calcic / Hypercalcic Red Dermosol)
Loam to clay loam grading to a friable red clay with soft Class I carbonate within 50 cm, grading to weathering rock within 100 cm.

D4 Loam over red friable clay (Calcic, Pedaric, Red Sodosol)
Thin to medium thickness fine sandy loam to loam over a finely structured friable red clay, calcareous from about 50 cm, grading to fine or medium grained alluvium.

L1 Shallow stony loam (Paralithic, Leptic Tenosol)
Shallow stony loam, often calcareous throughout or with depth, overlying weathering rock shallower than 50 cm.

Further information: DEWNR Soil and Land Program