CDK Cradock Land System

Undulating rises with rocky upper slopes and gently sloping pediments around and to the north west of Cradock

Area: 217.9 km^2

Topography: This land system consists of undulating low rises with rocky upper slopes and sloping plains. Low angle pediments surround the rises. Broad alluvial plains occur near Cradock. Rock outcrop is common on steeper slopes. While lower slopes are arable, rock outcrop occurs in places. Massive outcrops of quartzites and siltstones occur near Cradock.

Geology: A range of rock types underlies the system. Cradock and ABC Range Quartzites, and Appila Tillites are highly resistant to weathering and form the higher hills. Finer grained rocks are more extensive overall and include a) siltstones and shales (often calcareous) of the Saddleworth, Wonoka, Bunyeroo Formations; b) highly erodible siltstones of the Tapley Hill, Tarcowie and Brachina Formations; and c) limestones and dolomites of the Skillogalee Formation and Hawker Group. Outwash sediments are locally derived from erosion and re-deposition of these rocks and associated soils.

Annual rainfall: 255 – 345 mm average

Soils: Red loams and clay loams with gradational profiles directly overlying rock occur on rises, with shallow stony loams (often calcareous) on steeper rocky slopes. Red gradational and loamy surfaced texture contrast soils occur on pediments surrounding the rises. Red clay and texture contrast soils occur on alluvial plains.

Main soils

On outwash

A5 Rubbly calcareous loam to clay loam on clay
D4 Loam to clay loam over pedaric red clay

On rock

A2 Shallow calcareous loam
L1a Shallow stony loam

Minor soils

On outwash and unconsolidated sediments

A3 Deep moderately calcareous loam
A4 Deep (rubbly) calcareous sandy loam
A6 Gradational calcareous clay loam to clay
A8 Gypseous calcareous loam
C1 Gradational sandy loam
C3 Gradational clay loam
C4 Hard gradational clay loam
D2 Loam to clay loam over red clay
E2 Red cracking clay
M1 Deep alluvial loam
M2 Deep gradational clay loam
M3 Deep gravelly sandy loam

On rock

B2 Shallow calcareous loam on clay
C2 Gradational sandy loam to clay loam on rock
D1 Sandy loam to clay loam over clay on rock
D7 Loam over poorly structured clay on rock

L1b Shallow stony sandy loam
L1c Shallow stony loamy sand
L1d Shallow stony clay loam
RR Rock outcrop

Summary: The Cradock Land System consists of a core of undulating low rises with rocky upper slopes and gently sloping pediments with shallow to moderately deep, red, loamy soils with gradational profiles. Broad alluvial plains with red clay and texture contrast soils occur near Cradock township.

Soil Landscape Unit summary: 90 Soil Landscape Units (SLUs) mapped in the Cradock Land System:

SLU	% of area	Component	Main soils	Prop#	Notes
ADA	0.9	Undulating rises	C2L1A2	D	Rocky rises formed on limestones and calc-siltstones incl. Skillogalee Dolomite with very shallow loamy soils. **ADA** Undulating rises. Relief: less than 30m, slopes: 3-10%. **ADG** Undulating rises with eroded watercourses. Relief is less than 30m, slopes are 3-10%. **ADH** Rolling rises with eroded watercourses. Relief is 9-30m, slopes are 10-30%. **ADI** Rolling low hills with eroded watercourses. Relief is 30-90m, slopes are 3-10%. **ADJ** Steep low hills with eroded watercourses. Relief is 30-90m, slopes are 30-50%. Main soils: shallow stony loam - **L1a**, gradational loam on rock - **C2** and shallow calcareous loam - **A2**, with rock outcrop - **RR**.
ADG	0.3	Undulating rises	C2L1A2	D	
ADH	6.3	Rolling rises	L1	D	
ADI	1.4	Rolling low hills	L1		
ADJ	2.1	Steep low hills	L1RR	D	
AMC	1.2	Rolling low hills	L1C2	D	Rolling low hills formed on Cradock Quartzite. Slopes are 10-30%, relief is 30-90m. Main soils: shallow stony clay loam - **L1d** and gradational clay loam on rock - **C2**, with clay loam over clay on rock - **D1** and red cracking clay - **E2**.
APA	0.4	Undulating rises	L1D1	D	Hills and rises on coarse-grained basement rocks particularly Appila Tillite Formation. **APA** Undulating rises. Relief: less than 30m, slopes: 3-10%. **APB** Rolling rises. Relief is 9-30m, slopes are 10-30%. **APD** Steep low hills. Relief is 30-90m, slopes are 30-50%. **API** Rolling low hills with eroded watercourses. Gullying affects 5-10% of land. Relief is 30-90m, slopes are 10-30%. **APM** Undulating rises with 5-10% scalded land. Relief is less than 30m, slopes are 3-10%. Main soils: shallow stony sandy loam **- L1b** and sandy loam over (pedaric) clay on rock - **D1**.
APB	0.2	Rolling rises	L1D1	D	
APD	2.3	Steep low hills	L1D1	D	
API	1.1	Rolling low hills	L1D1	D	
APM	0.8	Undulating rises	L1D1	D	
AQB	1.6	Rolling rises	L1	D	Rises formed on quartzite (mostly Cradock Quartzite) with significant rock outcrop and shallow rocky soils. **AQB** Rolling rises. Relief: less than 30m, slopes are 10-30%. **AQD** Steep low hills. Relief is 30-90m, slopes are 30-60%. **AQH** Rolling rises with eroded watercourses. Relief is 9-30m, slopes are 10-30%. **AQI** Rolling low hills with eroded watercourses. Relief is 30-90m, slopes are 3-10%. Main soils: shallow stony loamy sand **- L1c**, with gradational sandy loam on rock - **C2**. Suit limited grazing land use only, high scenic value.
AQD	0.2	Steep how hills	L1	D	
AQH	1.3	Rolling rises	L1	D	
AQI	1.3	Rolling low hills	L1	D	
AWg	1.6	Undulating rises	L1A2RR	D	Hills and rises with shallow rocky soils formed on quartzites with more than 50% interbedded calcareous rocks. **AWg** Undulating rises with 5-15% scalded land and 10-20% gullied. Relief is less than 30m, slopes are 3-10%. **AWH** Rolling low hills with eroded watercourses. Relief is
AWH	0.4	Rolling low hills	L1A2RR	D	
AWJ	0.5	Steep low	L1A2RR	D	

		hills			30-90m, slopes are 10-30%.
AWO	0.8	Rolling low hills	L1A2RR	D	**AWJ** Steep low hills with more than 20% gullied land and potential for landslip, but none present. Relief is 30-90m, slopes are 30-50%. **AWO** Rolling low hills, with 10-50% scalding. Relief is 30-90m, slopes are 10-30%. Main soils: shallow stony loamy sand **- L1c**, shallow calcareous loam - **A2** and rock outcrop - **RR**.
AXg	0.7	Undulating rises	L1D1	D	Dissected Tertiary residuals, forming hills and rises on weathered Permian-Triassic siltstones in the Springfield Basin. Silcrete gravels are common as a surface lag on the shallow soils. **AXg** Undulating rises with 5-10% scalded land and over 20% gullied. Soils are moderately saline. Relief is less than 30m, slopes are 3-10%. **AXi** Rolling low hills with up to 5% scalded land and 10-20% gullied. Subsoil salinity. Relief: 30-90m, slopes: 10-30%. **AXj** Steep low hills with more than 20% gullied land and landslip potential, but none present. Up to 5% scalded land. Subsoil salinity. Relief: 30-90m, slopes: 30-50%. Main soils: shallow stony sandy loam **- L1b** and sandy clay loam over clay on rock - **D1**, with gradational loam on rock - **C2** and shallow calcareous loam - **A2**.
AXi	0.5	Rolling low hills	L1D1	D	
AXj	<0.1	Steep low hills	L1D1	D	
AYA	0.4	Undulating rises	A2L1RR	D	Hills and rises on fine grained rocks, especially siltstones of the Tapley Hill Formation. **AYA** Undulating rises. Relief: less than 30m, slopes: 3-10%. **AYB** Rolling rises. Relief: less than 30m, slopes: 10-30%. **AYC** Rolling low hills. Slopes are 10-30%, relief is 30-90m. **AYG** Undulating rises with 10-20% gullied land. Relief is less than 30m, slopes are 3-10%. **AYH** Rolling rises with eroded watercourses, with 10-20% gullied and 5% scalded. Relief: -30m, slopes are 10-30%. **AYI** Rolling low hills with eroded watercourses; 10-20% of land is gullied. Relief is 30-90m, slopes are 10-30%. **AYJ** Very steep low hills with eroded watercourses; 10-20% of land is gullied. Relief is 30-90m; slopes are 50-100%. Main soils: shallow calcareous loam - **A2**, shallow stony loam - **L1a** and rock outcrop - **RR**.
AYB	0.2	Rolling rises	A2L1RR	D	
AYC	0.2	Rolling low hills	A2L1RR	D	
AYG	2.1	Undulating rises	A2L1RR	D	
AYH	0.3	Rolling rises	A2L1RR	D	
AYI	2.7	Rolling low hills	A2L1RR	D	
AYJ	6.5	Very steep low hills	A2L1RR	D	
AZH	1.0	Rolling rises	L1RR	V	Rocky rolling rises formed on Saddleworth Formation siltstones and mudstones. Pediments and outwash fans and valley infill form in complex with the basement rises. Watercourses are eroded, 10-20% of land on the pediments is gullied. Relief is 9-30m, slopes are 10-30%. Main soils: *Rises:* shallow stony sandy loam - ***L1,*** *rock outcrop* - ***RR***. *Pediments:* Clay loam over pedaric red clay - **D4**, clay loam over red clay - **D2** and Clay loam over clay on rock - **D1**, with deep (rubbly) calcareous sandy loam - **A4**.
		Pediments	D4D2D1	L	
DNV	0.2	Gently undulating rises	D1	D	Gently undulating rises formed on fine grained rocks, typically Brachina Shale Formation. The soils have clay loam surface textures. 5-10% of land is scalded. Slopes are 1-3%, relief is less than 30m. Main soils: sandy clay loam over clay on rock - **D1**, with sandy clay loam on red clay - **D2**, red cracking clay - **E2**.
ECH	0.3	Undulating rises	L1C2	D	Undulating rises formed on Tapley Hill Formation siltstones. Relief is less than 30m, slopes are 3-10%. 5-10% of land is gullied. Main soils: shallow stony sandy loam - **L1b** and gradational sandy loam on rock - **C2**, with sandy loam over clay on rock - **D1**.
EFC	0.2	Undulating rises	A2D7L1	D	Undulating rises formed on hard calcareous rocks, typically Hawker Group siltstones and limestones. Minor

					scalding. Relief is less than 30m, slopes are 3-10%. Main soils: shallow calcareous loam - **A2**, loam over poorly structured clay on rock - **D7** and shallow stony loam **- L1a**.
EHmm	0.5	Undulating pediments	A2	V	Rises and pediments formed on calcareous siltstones and limestones, mainly of the Tapley Hill and Wonoka Formations, the ABC Range Quartzite and Bunyeroo Formation shales. Pediments are partly formed on outwash from Wonoka Formation calc-siltstones. Areas of rocky outcrops account for 10-20% of the land surface. **EHmm** Undulating pediments with low rises. Relief is less than 30m, slopes are 3-10%.10-50% of land is scalded, and more than 20% is affected by gullying. Moderate salinity occurs in subsoils. **EHMz** Undulating pediments with rocky rises. Relief is less than 30m, slopes are 3-10%. On the pediments; scalding affects 10-50% of land, 10-20% is gullied and soils saline. **EHU** Plains with rocky rises. Slopes on plains are less than 1%, and up to 3% on rises. Scalding affects up to 50% of the plains and up to 5% of the rises. **EHV** Gently undulating pediments (1-3% slope) with rocky rises, slopes 3-10% and relief 9-30m. 10-50% of pediments are scalded, less than 5% on rises. Main soils: *Pediments*: shallow calcareous loam - **A2**, with loam over poorly structured clay on rock - **D7** and shallow stony loam **- L1a**. *Rocky rises*: shallow stony loam - **L1a**, rock outcrop - **RR**.
		Rocky outcrops	RR	L	
EHMz	0.4	Undulating pediments	A2	V	
		Rocky outcrops	RR	L	
EHU	3.6	Plains Rocky outcrops	A2 RR	V L	
EHV	0.4	Gently sloping plains	A2	V	
		Rocky outcrops	RR	L	
EOV	2.0	Gently undulating rises	A2A6	D	Gently undulating rises with pulverulent calcareous soils formed mainly on Hawker Group limestones. 5-10% of land is scalded, gullying affects up to 5% of land. Slopes are 1-3%, relief is less than 30m. Main soils: shallow calcareous loam - **A2** and gradational calcareous clay loam - **A6**, with shallow stony loam - **L1a**.
EVB	0.3	Gently undulating rises	A2	V	Rises with rock outcrops and shallow calcareous soils formed on fine grained calcareous rocks. **EVB** Gently undulating rises. Slopes are 1-3%, relief is less than 30m. **EVC** Undulating rises. Slopes are 3-10%, relief is less than 9-30m. **EVm** Undulating rises. Slopes are 3-10%, relief is less than 9-30m. 5-10% of land is gullied, and up to 50% is scalded. **EVn** Rolling rises. Relief is 9-30m, slopes are 10-30%. 5-10% of land is gullied, and up to 50% is scalded. Main soils: *Rises*: shallow calcareous loam - **A2**, with rubbly calcareous loam on clay - **A5** and shallow calcareous loam on calcrete - **B2** *Rocky areas*: rock outcrop - **RR**, with shallow stony loam - **L1a**.
		Rocky outcrops	RR	C	
EVC	0.1	Undulating rises	A2	V	
		Rocky outcrops	RR	C	
EVm	0.1	Undulating rises	A2	V	
		Rocky outcrops	RR	C	
EVn	0.2	Rolling rises	A2	V	
		Rocky outcrops	RR	C	
EXk	0.2	Low rises	C2L1RR	E	Complex of gentle rises with shallow gradational soils formed mainly on quartzites and alluvial plains with deeper soils. Main soils: *Rises*: gradational sandy loam on rock - **C2**, shallow stony sandy loam - L1b and rock outcrop - **RR**. *Plains*: gradational sandy loam - **C1**, loam over pedaric red clay - D4 and loam over red clay - **D2**.
		Plains	C1D4D2	E	
EZh	1.3	Undulating rises	A2A5B2	V	Rises formed on weathered siltstones of the Tapley Hill Formation and the Tarcowie Siltstone. Areas of rocky outcrops occupy 20-30% of the area. **EZh** Undulating rises with rocky outcrops. Slopes are 3-
		Rocky outcrops	RR	C	

EZi	0.9	Rolling rises	A2A5B2	V	10%, relief is less than 30m. Gullying affects 10-20% of land, scalding affects around 5%. Soils are highly saline. **EZi** Rolling rises with rocky outcrops. Relief is 9-30m, slopes are 10-30%. Gullying affects 10-20% of land, scalding affects around 5%. Soils are highly saline throughout. **EZl** Gently undulating rises with rocky outcrops. Slopes are 1-3%, relief is less than 30m. 10-50% of land is scalded and 10-20% is affected by gullying. Main soils: *Rises*: shallow calcareous loam - **A2**, rubbly calcareous loam on clay - **A5** and shallow calcareous loam on calcrete - **B2**. *Rocky outcrops*: rock outcrop - **RR**, with shallow stony loam - **L1a**, shallow calcareous loam on calcrete - **B2**.
		Rocky outcrops	RR	C	
EZl	0.9	Gently undulating rises	A2A5B2	V	
		Rocky outcrops	RR	C	
JNE	0.3	Creek flats	D4D2A5	D	Creek flats formed on clayey outwash sediments with mainly clay loamy soils. Main soils: clay loam over pedaric red clay - **D4**, clay loam over red clay - **D2** and rubbly calcareous loam on clay - **A5**, with red cracking clay - **E2**.
JPl	0.7	Gently sloping plains	D4A5	D	Pediments and plains formed on fine textured outwash sediments derived from basement rocks. **JPl** Gently sloping plains, slopes 1-3%, with 10-20% land affected by gullying and 5-10% scalded. **JPoo** Creek flats with more than 20% gullying and 10-50% scalding. Soils have moderately saline subsoils. **JPU** Plains, 0-1% slope, 10-50% scalded. **JPV** Gently sloping plains, 1-3% slope, 5-10% scalding. Main soils: clay loam over pedaric red clay - **D4**, and rubbly calcareous loam on clay - **A5**, with gradational loam on rock - **C2**.
JPoo	0.3	Creek flats	D4A5	D	
JPU	0.2	Plains	D4A5	D	
JPV	3.2	Gently sloping plains	D4A5	D	
JZc	0.2	Undulating pediments	D4A5	V	Complex of pediments formed on fine grained outwash, and 20-30% rocky rises. **JZc** Undulating pediments and rocky rise complex. Slopes are 3-10%. Rises up to 30 m high. Gullying affects 10-20% of pediments and up to 5% of rises. Pediment soils are moderately saline, with 10-50% scalding and magnesia patches. **JZI** Rolling pediments and rocky rise complex. Slopes: 10-30%, relief: up to 30m. Pediments have over 20% gullying. **JZV** Gently undulating pediments and rocky rise complex. Slopes are 1-3% on pediments and 3-10% on rises. 10-50% of land on pediments is scalded, and gullying affects up to 5%; soils have saline subsoils. **JZW** Undulating pediments and rocky rise complex. Slopes are 3-10%. Rises have up to 30 m relief. 5-10% of pediments are gullied. Minor scalding. Subsoils saline. Main soils: *Pediments and plains*: clay loam over pedaric red clay - **D4** and rubbly calcareous loam on clay - **A5**, with deep moderately calcareous loam - **A3**. *Rocky rises*: rock outcrop - **RR**, with shallow stony loam - **L1a**.
		Rocky outcrops	RR	C	
JZI	0.1	Rolling pediment	D4A5	V	
		Rocky outcrops	RR	C	
JZV	0.5	Gently undulating pediments	D4A5	V	
		Rocky outcrops	RR	C	
JZW	0.8	Undulating pediments	D4A5	V	
		Rocky outcrops	RR	C	
KAE	1.1	Valley flats	C1A2	D	Valley flats, drainage depressions and plains formed in outwash sediments. Up to 5% of land is scalded. Main soils: gradational sandy loam - **C1** and shallow calcareous loam - **A2**.
KBm	1.3	Undulating pediments	A5C3	D	Pediments and plains formed on clayey outwash sediments with mainly clay loam surfaced soils. **KBm** Undulating pediments, 3-10% slopes. 5-10% scalded and 10-20% gullied land.
KBo	0.6	Creek flats	A5C3	D	
KBU	1.0	Plains	A5C3	D	

KBX	0.5	Rolling pediments	A5C3	D	**KBo** Creek flats, 0-1% slope. 5-10% scalded and 10-20% gullied land. **KBU** Plains, 0-1% slope. 5-10% scalding. **KBX** Rolling pediments. Slopes are 10-30%, relief is up to 30m. 10-50% scalded, and up to 5% gullied land. Main soils: rubbly calcareous clay loam on clay - **A5** and gradational clay loam - **C3**.
KcG	0.1	Gently undulating pediments	A5D4C1	D	Pediments formed on clayey outwash sediments. **KcG** Gently sloping pediments. Slopes 1-3%. Gullying affects 10-20% of land. **Kcj** Drainage lines, less than 1% slope. Gullying affects 10-20% of land, up to 5% is scalded and soils are highly saline. **KcMz** Undulating pediments. Slopes are 3-10%. 10-20% gullied, 5-10% scalded, soils are highly saline. **KcV** Gently undulating pediments, slopes 1-3%. Gullying affects up to 5% of land and scalding affects 5-10%. **Kcv** Gently undulating pediments, slopes 1-3%. Gullying affects 10-20% of land and scalding affects more than 50%. Main soils: rubbly calcareous clay loam on clay - **A5**, clay loam over pedaric red clay - **D4** and gradational sandy loam - **C1**.
Kcj	0.7	Drainage lines	A5D4C1	D	
KcMz	1.2	Undulating pediments	A5D4C1	D	
KcV	1.6	Gently undulating pediments	A5D4C1	D	
Kcv	0.2	Gently undulating pediments	A5D4C1	D	
KdH	1.2	Undulating pediments	C3	D	Undulating pediments formed on clayey outwash sediments. Slopes: 3-10%. Gullying affects 10-20% of land. Main soils: gradational clay loam - **C3**, with clay loam over pedaric red clay - **D4** and gradational calcareous clay loam - **A6**.
KEB	3.5	Gently undulating pediments	C3C1	D	Pediments and plains formed on fine grained outwash sediments. **KEB** Gently undulating pediments, slopes 1-3%. Minor scalding and gullying. **KEl** Gently undulating pediments, slopes 1-3%. 5-10% gullied land and 5-10% scalded. **KEU** Plains, 0-1% slope with 10-50% scalded land. Main soils: gradational clay loam - **C3** and gradational sandy loam - **C1**, with loam over red clay - **D2**.
KEl	0.9	Gently undulating pediments	C3C1	D	
KEU	0.4	Plains	C3C1	D	
KFGG	0.9	Gently undulating pediments	A5	D	Pediments formed on clayey outwash sediments. **KFGG** Gently undulating pediments, 1-3% slope. Over 20% of land is gullied and 0-5% scalded. Subsoils are saline. **KFl** Gently undulating pediments, 1-3% slope. 10-20% of land is gullied and 5-10% scalded. Moderate subsoil salinity. **KFLz** Gently undulating pediments, 1-3% slope. 10-20% of land is gullied and 5-10% scalded. **KFMz** Undulating pediments, 3-10% slope. 10-20% of land is gullied and 5-10% scalded. Soils are highly saline. Main soils: rubbly calcareous clay loam on clay - **A5**, with clay loam over pedaric red clay - **D4**.
KFl	4.7	Gently undulating pediments	A5	D	
KFLz	2.6	Gently undulating pediments	A5	D	
KFMz	0.3	Undulating pediments	A5	D	
KHG	0.3	Gently undulating pediments	A4D4C1	D	Gently undulating pediments formed on outwash sediments. Slopes: 1-3%. Gullying affects 5-10% of land. Main soils: deep (rubbly) calcareous sandy loam **- A4**, loam over pedaric red clay - **D4** and gradational sandy loam - **C1**.
KJC	0.6	Undulating pediments	C4C3A6	D	Undulating pediments formed on fine grained outwash sediments. Slopes are 3-10%, relief is less than 9m. Main soils: hard gradational clay loam - **C4**, gradational clay loam - **C3**, gradational calcareous clay loam - **A6**.
KKB	0.3	Gently undulating pediments	A6A5	D	Pediments formed on clayey outwash sediments. **KKB** Gently undulating pediments, slopes 1-3%. **KKH** Gently undulating pediments, slopes 1-3%. 5-10% of land affected by gullying, and up to 5% scalded. **KKm** Undulating pediments, slopes 3-10%. 5-10% gullied land and 5-10% scalded. Subsoils are moderately saline.
KKH	0.3	Gently undulating pediments	A6A5	D	

KKm	2.3	Undulating pediments	A6A5	D	Main soils: gradational calcareous clay loam - **A6** and rubbly calcareous clay loam on clay - **A5**, with gradational clay loam - **C3** and red cracking clay - **E2**.
KQH	1.6	Undulating pediments	A5	V	Complex of pediments formed on fine grained outwash, and 20-30% basement rock rises. **KQH** Undulating pediments with low rises. Slopes are 3-10%, rise relief up to 30m. 5-10% of land is gullied. Rises have few or no scalds and gullies. **KQJJ** Valley lower slopes and low rises. Over 20% is gullied, 10-50% is scalded and subsoil salinity is moderate. **KQl** Gently undulating pediments with low rises, slopes 1-3%. Up to 50% of land on pediments is scalded and over 20% is gullied. Subsoils are moderately saline. Rises have few or no scalds and gullies. Main soils: *Pediments*: rubbly calcareous loam on clay - **A5**, with loam over pedaric red clay - **D4** *Rises*: shallow calcareous loam - **A2**, with shallow calcareous loam on calcrete - **B2** and rock outcrop - **RR**.
		Low rises	A2	C	
KQJJ	0.3	Valley lower slopes	A5	V	
		Low rises	A2	C	
KQl	0.4	Gently undulating pediments	A5	V	
		Low rises	A2	C	
KVG	0.2	Gently sloping plains	A6	D	Pediments and plains formed on fine grained calcareous outwash sediments derived from basement rock. Most soils are calcareous clay loams. **KVG** Gently sloping plains, 1-3% slope. 5-10% gullied, up to 5% scalded. Moderately saline subsoils. **KVH** Undulating pediments, 3-10% slope. 5-10% gullied, up to 5% scalded. Moderately saline subsoils. **KVl** Gently sloping plain, 1-3% slope. 5-10% gullied, 5-10% scalded. Moderately saline subsoils. **KVLz** Gently sloping plains, 1-3% slope. 5-10% gullied, 10-50% scalded. Soils highly saline. **KVo** Creek lines, 0-1% slope. 5-10% gullied, 10-50% scalded. Main soils: gradational calcareous clay loam - **A6**, with rubbly calcareous clay loam on clay - **A5** and deep moderately calcareous loam - **A3**.
KVH	0.8	Undulating pediments	A6	D	
KVl	2.5	Gently sloping plains	A6	D	
KVLz	0.6	Gently sloping plains	A6	D	
KVo	0.9	Creek lines	A6	D	
XAB	4.3	Flood plains	M1M3 D4	D	Floodplains on mixed alluvium. Watercourses have been eroded in the past, but are now stable. Main soils: deep alluvial loam - **M1**, deep gravelly sandy loam - **M3** and loam over pedaric red clay - **D4**, with red cracking clay - **E2**.
XOA	1.2	Flood plains	M2A6C3	D	Flood plain formed on clayey alluvium. Swampy and marginally saline with clayey soils. **XOA** Floodplain, marginally saline, up to 5% scalded. **XOG** Floodplain, marginally saline, with 10-50% scalding. Main soils: deep gradational clay loam - **M2**, gradational calcareous clay - **A6** and gradational clay loam - **C3**, with clay loam over pedaric red clay - **D4** and red cracking clay - **E2**.
XOG	2.8	Flood plains	M2A6C3	D	
ZM-	0.6	Gypsum hummocks	A8	D	Low, jumbled gypsum hummocks. Over 50% scalded, 10-20% gullied watercourses. Soils are highly saline. Main soil is: gypseous calcareous loam - **A8**.

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 Shallow calcareous loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol)
Calcareous stony loam grading to soft or rubbly carbonate over weathering dolomite or calc-siltstone within 50 cm.

A3 Deep moderately calcareous loam (Regolithic, Calcic Calcarosol)
Calcareous loam grading to a loamy to clayey subsoil without a significant carbonate accumulation in the subsoil, grading to medium to fine grained alluvium.

A4 Deep (rubbly) calcareous sandy loam (Regolithic, Hypercalcic / Lithocalcic Calcarosol
Calcareous sandy loam grading to a very highly calcareous sandy clay loam to light clay with variable rubble, continuing below 120 cm.

A5 Rubbly calcareous loam to clay loam on clay (Regolithic, Supracalcic / Hypercalcic Calcarosol)
Calcareous loam to clay loam grading to a very highly calcareous rubbly sandy clay loam to light clay, over a clayey substrate deeper than 60 cm, but within 120 cm.

A6 Gradational calcareous clay loam to clay (Pedal, Hypercalcic / Supracalcic Calcarosol)
Calcareous clay loam to clay grading to a well structured very highly calcareous (sometimes rubbly) clay, over a red clayey substrate within 120 cm.

A8 Gypseous calcareous loam (Gypsic Calcarosol)
Calcareous loam grading to a highly calcareous clay loam to light clay over highly gypseous light clay at between 50 and 100 cm.

B2 Shallow calcareous loam on calcrete (Petrocalcic, Calcic / Lithocalcic Calcarosol)
Stony calcareous loam, often with a very highly calcareous more clayey subsoil, over sheet calcrete within 50 cm. This grades to rubbly carbonate over weathering basement rock within 150 cm.

C1 Gradational sandy loam (Hypercalcic, Red Kandosol)
Friable sandy to loamy topsoil grading to massive red-brown alkaline loamy to clay loamy subsoil, highly calcareous with depth, over alluvium.

C2 Gradational sandy loam to clay loam on rock (Calcic / Hypercalcic Red Dermosol)
Sandy 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.

C3 Gradational clay loam (Calcic / Hypercalcic Red Dermosol)
Clay loam grading to a friable red clay with abundant soft Class I carbonate within 50 cm, overlying alluvium within 100 cm.

C4 Hard gradational clay loam (Sodic, Hypercalcic, Red Dermosol)
Hard setting clay loam grading to a coarsely structured dispersive red clay, highly calcareous with depth, over clayey alluvium. Includes eroded former texture contrast soils.

D1 Sandy loam to clay loam over clay on rock (Hypercalcic / Calcic, Red Chromosol)
Medium thickness hard gravelly sandy loam to clay loam over a friable and finely structured red clay, calcareous with depth, grading to weathering basement rock within 100 cm.

D2 Loam to clay loam over red clay (Calcic / Hypercalcic, Red Chromosol)
Hard setting loam to clay loam (with variable quartzite stones) abruptly overlying a well structured red clay with soft Class I carbonate at depth.

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

D7 Loam over poorly structured clay on rock (Calcic / Hypercalcic, Red Sodosol)
Medium to thick hard loam sharply overlying a coarsely structured dispersive red clay, calcareous with depth, grading to highly weathered kaolinized siltstone or quartzite.

E2 Red cracking clay (Epicalcareous, Epipedal, Red Vertosol)
Dark strongly structured clay grading to a well structured red calcareous medium to heavy clay continuing below 100 cm. Often containing gypsum segregations in subsoil.

L1a Shallow stony loam (Paralithic, Leptic Tenosol)
Shallow stony loam, often calcareous with depth, overlying weathering fine grained rock shallower than 50 cm.

L1b Shallow stony sandy loam (Paralithic, Leptic Tenosol)
Shallow stony sandy loam, often calcareous with depth, overlying weathering fine to medium grained sandstone or tillite shallower than 50 cm.

L1c Shallow stony loamy sand (Paralithic, Leptic Tenosol)
Shallow stony loamy sand, often calcareous with depth, overlying quartzite or coarse grained rock shallower than 50 cm.

L1d Shallow stony clay loam (Paralithic, Leptic Tenosol)
Shallow stony clay loam to light clay, often calcareous with depth, overlying weathering very fine grained rock shallower than 50 cm.

M1 Deep alluvial loam (Calcareous, Regolithic, Brown-Orthic Tenosol)
Very thick brown sandy loam to loam, usually calcareous with depth, continuing below 100 cm.

M2 Deep gradational clay loam (Calcic, Red / Brown Dermosol)
Friable loam to light clay grading to a well structured red or brown dark clay, calcareous with depth, over alluvium.

M3 Deep gravelly sandy loam (Basic, Fluvic, Clastic Rudosol OR Basic, Regolithic, Red-Orthic Tenosol)
Thick to very thick sandy loam with more than 50% quartzite stones overlying boulder beds.

RR Rock outcrop.

Further information: DEWNR Soil and Land Program