BTV Beautiful Valley Land System

Area: 24.8 km^2

Landscape: Steep low hills and rises west of Wilmington with associated pediments. The landscape is a series of dissected ridges trending northwest to southeast, with steep to moderate slopes and with narrow ridges and valleys. The Beautiful Valley Creek is the main drainage system which runs northwest, eventually joining the Willochra Creek.

Annual rainfall: 395 – 525 mm average

Geology: Proterozoic rocks of the Adelaide Geosyncline. Wilmington Formation sandstone, limestone and siltstone underlie much of the land system, with other parts underlain by Angepena Formation with similar lithologies including siltstone, dolomite and limestone. Tapley Hill Formation calc-siltstones are also present.

Elevation: Highest point is 626 m asl, lowest is around 350 m asl

Relief: Relief is around 20 - 30m mostly, up to 40m in places, on steep low hills.

Typical Soils: Mostly shallow soils on rock with a small percentage of moderately shallow soils on rock, including texture contrast, gradational and calcareous soils.

Main soils:
L1 (74%) Shallow soil on rock (Rocky Rudosol-Tenosol)
D1 (7%) Loam over clay on rock (Shallow Calcic-Hypercalcic Red Chromosol)
A2 (7%) Calcareous loam on rock (Paralithic Calcarosol)

Minor soils: **C2** (4%) Gradational loam on rock (Shallow Red Dermosol-Kandosol-Calcarosol)

Summary: The Beautiful Valley Land System consists of a series of northwest-southeast trending narrow ridges and valleys with shallow soils, including texture contrast, gradational and calcareous soils, formed on Proterozoic siltstones, limestones and sandstones. Deeper soils occur on the more gently sloping terrain along the southern part of the land system.

Soil Landscape Unit summary: Beautiful Valley Land System (BTV)

SLU	% of area	Component	Main soils	Prop#	Notes
AAD	67.2	Steep low hills	L1	D	Steep low hills with shallow rocky calcareous soils formed on Tapley Hill Formation calc-siltstones. Relief is 30-90m, slopes are 30-50%. Main soils: calcareous loamy, Shallow stony soils on rock - **L1**.
DAC	17.5	Undulating rises	D1C2	D	Undulating rises with duplex soils over basement rocks, typically siltstones of the Saddleworth Formation. Calcareous subsoils. Relief is 9-30m, slopes are 3-10%. Main soils: Clay loam over pedaric red clay on rock - **D1** and Gradational loam on rock -**C2**.
DXC	15.3	Undulating rises	D1L1	V	Complex of undulating rises and pediment slopes with red duplex soils over basement rock or saprolite within one metre of the surface. More than 20% of soils are formed on outwash sediments. Soils formed on basement rock in complex with
		Pediments	D2D4C3	C	

					soils formed in outwash materials. Surface textures are loamy Relief is 9-30m, slopes are 3-10%. Main soils: ***Rises:*** Rocky rises have shallow red duplex soils on rock. Clay loam over pedaric red clay on rock - D1 and Shallow stony soils on rock - L1. ***Pediments:*** Pediment slopes have red duplex and gradational soils. Loam over red clay - D2, Loam over pedaric red clay - D4 and Friable gradational clay loam - C3.

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

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

Detailed soil profile descriptions:

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.

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

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

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

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