PAD Padthaway Land System

Area: 49.5 km^2

Annual rainfall: 545 – 555 mm average

Geology: The land system is underlain by sediments of the Padthaway Formation, which includes limestone, lacustrine and lagoonal dolomite and clay and sand. There are indistinct depressions and scattered calcarenites protruding through the Padthaway Formation, probably islands in the old lagoons. These rises are often shallow and stony.

Topography: The Padthaway Land System is a NNW-SSE trending gentle rises and plains bordered to the east by the West Naracoorte Range.

Elevation: 40 m

Relief: Less than 10 m

Soils: *Stony soils (rises and plains)*

B2 Shallow calcareous loam on calcrete
B3 Shallow sandy loam on calcrete
B4 Shallow red loam on calcrete
B6 Shallow loam over red-brown clay on calcrete
RR Limestone outcrop

Main features: The Padthaway Land System is characterised by shallow to medium thickness of soil over calcrete. Main soils: sandy loams to clay loams directly overlying calcrete or loam over red clay over calcrete. The soils are well structured. The deeper soils grade from loam to well structured red clay on calcrete. Waterholding capacity of these soils are variable due to the variation in depth and fertility is generally high. The majority of the Land System is under viticulture.

Soil Landscape Unit summary: 3 Soil Landscape Units (SLUs) mapped in the Padthaway Land System:

SLU	% of area	Main features
MVB	2.6	Isolated gently undulating rises with less than 10 m and 2% slope with 40 – 50% stony outcrops. Main soils: shallow calcareous loam on calcrete - **B2** and limestone outcrop – **RR** with minor shallow red loam on limestone – **B4** and shallow loam over red-brown clay on calcrete - **B6**. The loamy soils are shallow, have high fertility and low waterholding capacity. The soils are well drained and surface rockiness may be a slight limitation to cropping. The stony soils are very shallow, have moderately low fertility and very low waterholding capacity. Drainage is rapid. There are some areas with bare calcreted calcarenite. The soils are calcareous throughout. Rockiness will be a moderate limitation to cropping.
MYA MYAA	84.9 12.5	Elevated undulating plain with areas of low dune core topography with predominatly loamy soils and up to 30% stony rises/outcrops. **MYA** Level to undulating plain **MYAA** Level to undulating plain with low dune core topography Main soils: shallow red loam on limestone – **B4**, shallow loam over red-brown clay on calcrete - **B6**, shallow calcareous loam on calcrete - **B2**, limestone outcrop - **RR** and shallow sandy loam on calcrete - **B3**. The loamy soils are shallow to moderately deep, have high fertility and moderately low waterholding capacity. The soils are well drained and surface rockiness may be a slight limitation to cropping. The stony soils are very shallow, have moderate fertility and low to very low waterholding capacity. The soils are well drained and there are some areas with bare calcreted calcarenite. The soils are calcareous throughout. Rockiness will be a moderate limitation to cropping.

Detailed soil profile descriptions:

B2 Shallow calcareous loam on calcrete (Petrocalcic, Hypocalcic Calcarosol)
Shallow calcareous dark light clay directly overlying calcrete within 30 cm

B3 Shallow sandy loam on calcrete (Petrocalcic, Orthic Tenosol)
Loamy sand to loam with variable rubble and slight clay increase with depth overlying calcreted calcarenite shallower than 50 cm. Extensive on stony rises.

B4 Shallow red loam on calcrete (Petrocalcic, Red Dermosol)
Red/brown loam to clay loam grading to red well structured clay directly overlying calcreted calcarenite within 50 cm.

B6 Shallow loam over red-brown clay on calcrete (Petrocalcic, Red-brown Chromosol)
Thin to medium thickness brown sandy loam to clay loam over a red/brown well structured clay directly overlying calcreted calcarenite within 50 cm.

RR Limestone outcrop (Petrocalcic, Leptic Rudosol)
Thin sandy loam to loam surface directly overlying calcreted calcarenite. Any subsoil present would show very little development.

Further information: DEWNR Soil and Land Program