

SHALLOW CALCAREOUS LOAM

General Description: *Calcareous brown to grey loam, becoming more calcareous and usually more clayey with depth, grading to weathering calcareous basement rock within 100 cm*

Landform: Undulating to rolling rises and low hills.

Substrate: Fine grained basement rock, either calcareous or mantled by secondary carbonate.

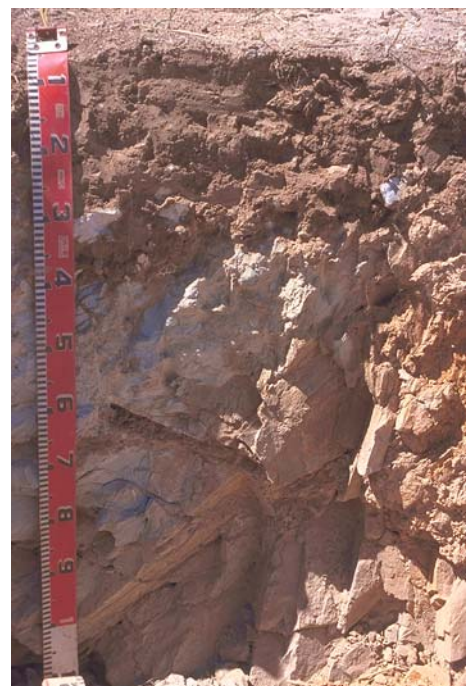
Vegetation:



Type Site: Site No.: CM912
 1:50,000 sheet: 6630-1 (Burra) Hundred: Ayres
 Annual rainfall: 425 mm Sampling date: 21/03/00
 Landform: Upper slope of undulating low hills, 10% slope
 Surface: Firm, 2-10% calcareous siltstone fragments (20-60 mm), and minor outcrop

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-13	Dark brown firm massive highly calcareous silty loam with 2-10% siltstone fragments (6-20 mm). Clear to:
13-27	Brown firm massive very highly calcareous silty loam with 2-10% siltstone fragments (6-20 mm). Gradual to:
27-40	Brown firm massive very highly calcareous silty clay loam with 20-50% fine carbonate segregations, and 2-10% siltstone and 10-20% calcrete fragments (20-60 mm). Gradual to:
40-70	Light grey firm massive highly calcareous silty loam with 20-50% siltstone fragments (20-60 mm). Gradual to:
70-110	Soft weathering siltstone.



Classification: Epihypersodic, Paralithic, Hypercalcic Calcarosol; medium, slightly gravelly, silty / silty, moderate

Summary of Properties

Drainage: Rapidly drained. The soil rarely remains wet for more than a few hours following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderately low. Low clay content, high carbonate content and high pH at the surface restrict nutrient retention capacity and nutrient availability.

pH: Alkaline at the surface, strongly alkaline with depth.

Rooting depth: 70 cm in pit, but few roots below 40 cm.

Barriers to root growth:

Physical: Basement rock is the only significant barrier, and then only if it is hard within 80 cm or so of the surface.

Chemical: High pH and sodicity, and marginal salinity, limit root growth below 40 cm.

Water holding capacity: Approximately 70 mm in the root zone.

Seedling emergence: Good.

Workability: Firm surface is easily worked, although rocky reefs prevent working of some parts of paddocks with these soils.

Erosion Potential

Water: Moderate.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-27	9.1	8.1	-	0.50	-	0.89	4	139	29	-	-	-	-	-	-	-	-	-	-	-
27-40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40-70	9.3	8.5	-	0.96	-	0.35	4	76	113	1.8	-	-	-	13.7	6.22	2.66	4.65	0.18	33.9	
70-110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Sum of cations (an estimate of cation exchange capacity or CEC) is a measure of the soil's capacity to store and release major nutrient elements.

ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the estimated CEC.