

SAND OVER COARSELY STRUCTURED CLAY

General Description: *Medium thickness sand with a bleached A2 layer over a coarsely structured brown clay, calcareous with depth*

Landform: Level plain.

Substrate: Calcreted clay or limestone.

Vegetation:



Type Site:	Site No.:	SE019	1:50,000 mapsheet:	6924-2 (Lucindale)
	Hundred:	Joyce	Easting:	445470
	Section:	492	Northing:	5909530
	Sampling date:	13/05/1994	Annual rainfall:	590 mm average

Plain. Firm surface with up to 2% calcrete stone (60-200 mm).

Soil Description:

Depth (cm)	Description
0-5	Very dark brown soft single grain loamy fine sand. Gradual to:
5-23	Yellowish brown and strong brown (bleached when dry) soft single grain fine sand. Sharp to:
23-60	Yellowish brown firm medium clay with coarse prismatic breaking to coarse polyhedral structure. Gradual to:
60-82	Yellowish brown firm highly calcareous medium clay with coarse prismatic breaking to coarse polyhedral structure, 2-10% fine carbonate segregations and 2-10% carbonate concretions (20-60 mm). Sharp to:
82-83	Calcrete pan.



Classification: Bleached-Sodic, Calcic, Brown Chromosol; medium, non-gravelly, sandy / clayey, moderate



Summary of Properties

Drainage: Imperfectly drained. Water perches on the clayey subsoil, causing saturation for up to several weeks following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderately low, as indicated by the exchangeable cation data. The sandy surface soil has limited nutrient retention capacity, so organic matter is needed to hold applied fertilizer nutrients against leaching. Phosphorus and magnesium levels are low, but concentrations of other tested elements are satisfactory.

pH: Acidic at the surface, alkaline with depth.

Rooting depth: 82 cm in pit.

Barriers to root growth:

Physical: Root growth is restricted to some extent by the tight clayey subsoil. The calcrete prevents deeper growth.

Chemical: There are no chemical barriers.

Waterholding capacity: Approximately 90 mm in the rootzone.

Seedling emergence: Fair, due to water repellent surface soil.

Workability: The soft to firm surface is easily worked.

Erosion Potential:

Water: Low.

Wind: Moderate.

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 mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	5.8	5.4	0	0.16	1.38	3.1	13	212	-	0.9	0.7	164	2.7	1.9	9.7	7.2	0.9	0.26	0.54	2.7
0-5	5.4	4.9	0	0.14	1.28	3.3	9	242	-	0.7	0.2	217	4.3	1.9	7.0	4.9	0.9	0.19	0.58	2.7
5-23	4.9	4.5	0	0.14	0.43	0.4	5	68	-	0.2	0.1	151	0.2	0.2	2.1	1.0	0.2	0.12	0.16	na
23-60	6.6	6.4	0	0.16	0.86	0.5	<4	360	-	2.8	<0.1	21	<0.1	0.1	20.3	14.0	3.3	0.84	1.47	4.1
60-82	8.1	7.5	8.0	0.34	1.37	0.5	<4	307	-	2.8	<0.1	8	0.4	0.2	25.2	17.5	2.3	1.73	1.22	6.9

Note: Paddock sample bulked from 20 cores (0-10 cm) taken around the pit.
CEC (cation exchange capacity) 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 CEC.

Further information: [DEWNR Soil and Land Program](#)

