

SAND OVER SANDY CLAY LOAM

General Description: *Loose sandy loam to sand abruptly overlying a hard coarsely structured brown and yellow mottled sandy clay loam, calcareous with depth*

Landform: Gently undulating rises

Substrate: Tertiary age medium to fine textured sediments

Vegetation: Mallee



Type Site:	Site No.:	MM044	1:50,000 mapsheet:	6928-3 (Halidon)
	Hundred:	Bandon	Easting:	413620
	Section:	24	Northing:	6154080
	Sampling date:	03/12/2002	Annual rainfall:	290 mm average

Lower slope of gently undulating rise, 2% slope. Soft surface with no stones.

Soil Description:

Depth (cm)	Description
0-10	Brown soft single grain loamy sand. Clear to:
10-22	Reddish yellow soft single grain light loamy sand. Sharp to:
22-40	Strong brown, reddish yellow and yellowish brown mottled very hard sandy clay loam with weak very coarse columnar structure. Clear to:
40-65	Yellowish red and reddish yellow hard highly calcareous sandy clay loam with weak very coarse subangular blocky structure and 2-10% soft carbonate segregations. Diffuse to:
65-90	Red and reddish yellow firm massive highly calcareous light sandy clay loam with 10-20% soft carbonate segregations. Diffuse to:
90-150	Yellowish red, strong brown and pale yellow hard moderately calcareous sandy light clay with weak coarse subangular blocky structure and 2-10% soft carbonate segregations.



Classification: Calcic, Mottled-Hypernatric, Brown Sodosol; medium, non-gravelly, sandy/clay loamy, moderate



Summary of Properties

Drainage: Moderately well drained. Water may perch on the dense subsoil for up to a week at a time following heavy or prolonged rainfall.

Fertility: Inherent fertility is low, as indicated by the exchangeable cation data. Test results indicate that phosphorus, copper and zinc concentrations are low, and organic carbon levels are sub-optimal.

pH: Neutral to alkaline at the surface, strongly alkaline with depth.

Rooting depth: 65 cm in the pit.

Barriers to root growth:

Physical: The dense subsoil restricts root growth to some extent.

Chemical: High pH from 40 cm and high sodicity from 22 cm restrict root growth.

Waterholding capacity: Approximately 80 mm water potentially available in the rootzone.

Seedling emergence: Satisfactory, except in water repellence seasons.

Workability: The sandy surface is easily worked.

Erosion Potential:

Water: Moderately low to low.

Wind: Moderate.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ Acid react.	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)				Sum of cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	8.2	7.3	Nil	0.06	-	0.33	12	149	7.7	1.1	0.10	24.6	3.28	1.42	3.32	1.89	0.74	0.32	0.37	9.6
0-10	7.3	6.6	Nil	0.06	-	0.34	11	136	2.8	0.8	0.08	34.2	3.41	0.29	3.15	1.89	0.68	0.30	0.28	9.5
10-22	7.4	6.8	Nil	0.03	-	0.13	4	63	1.1	0.5	0.04	9.58	0.81	0.34	2.35	1.31	0.59	0.29	0.16	na
22-40	9.0	8.1	Nil	0.33	-	0.15	4	291	12.7	3.4	0.08	8.83	0.74	0.11	11.28	2.41	5.02	3.14	0.71	27.8
40-65	9.7	8.9	High	0.73	-	0.15	2	385	79.4	10.6	0.25	5.90	0.39	0.11	17.65	4.62	6.68	5.41	0.94	30.7
65-90	9.7	8.9	High	0.68	-	0.09	2	382	111	12.6	0.28	4.31	0.25	0.06	18.07	5.29	6.40	5.43	0.95	30.0
90-150	9.5	8.8	Mod	1.18	-	0.06	2	445	196	10.8	0.35	4.96	0.29	0.15	23.36	6.02	8.40	7.78	1.16	33.3

Note: Paddock sample bulked from cores (0-10 cm) taken around the pit.

Sum of cations approximates CEC (cation exchange capacity) - a measure of the soil's capacity to store and release major nutrient elements.

ESP (exchangeable sodium percentage) is estimated by dividing the exchangeable sodium value by the sum of cations.

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

