

## 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 sheet:	6928-3 (Halidon)	Hundred:	Bandon
Annual rainfall:	300 mm	Sampling date:	03/12/02
Landform:	Lower slope of gently undulating rise, 2% slope		
Surface:	Soft with no stones		

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
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.

**Water holding capacity:** Approximately 80 mm water potentially available in the root zone.

**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 <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> Acid react.	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> 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.