

## BLEACHED SAND OVER SANDY CLAY LOAM

**General Description:** *Bleached sandy topsoil over light sandy clay loam subsoil with fine carbonate at depth*

**Subgroup soil:** G2

**Landform:** Linear dune

**Substrate:** Sandy loam.

**Vegetation:** Woody native revegetation site (revegetated in 1996).

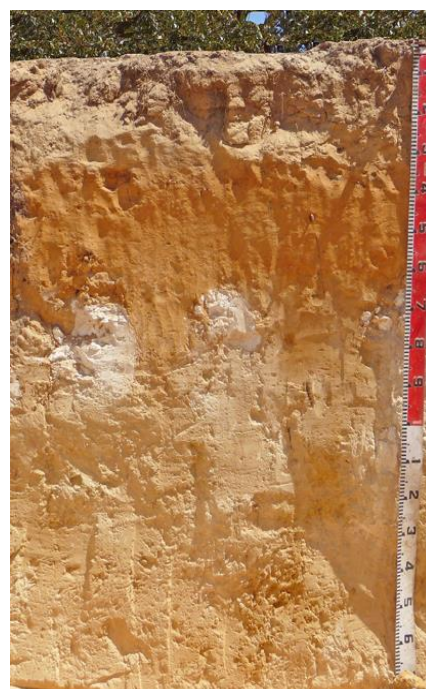


<b>Type Site:</b>	Site No:	MM168	1:50,000 mapsheet:	6827-3 (Moorlands)
	Hundred:	Sherlock	Easting:	376000
	Section:	-	Northing:	6089160
	Sampling date:	13/12/2011	Annual rainfall:	385 mm average

The site is in on a dunecrest. The site and surrounding area have been subjected to considerable wind erosion activity since clearing and settlement.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-11	Loose, water repellent, dark brown, loamy sand with single grain structure.
11-25	Bleached loamy sand with single grain structure.
25-62	Light yellowish brown and strong brown, heavy sandy loam with sporadic bleaching and massive structure.
62-88	Light yellowish brown and strong brown, light sandy clay loam with sporadic bleaching, massive structure and >50% hard carbonate fragments (>60 mm diameter).
88-125	Very highly calcareous, light yellowish brown, light sandy clay loam with massive structure and 10-20% hard carbonate fragments (>60 mm diameter).
125-175	Very highly calcareous, light yellowish brown, heavy sandy loam with massive structure and 2-10% hard carbonate fragments (>60 mm diameter).



**Classification:** Bleached, Supracalcic, Yellow Kandosol; medium, non-gravelly, sandy / clay loamy, deep.



## Summary of Properties

<b>Drainage:</b>	The soil profile is well drained.
<b>Fertility:</b>	Inherent fertility is low, especially in the sandy topsoil where cation exchange capacity (which is approximated by the sum of cations) is very low. Capacity to retain nutrients increases with increasing soil texture and cation exchange capacity below 25 cm, and especially below 62 cm. However, phosphorus levels are extremely low below the surface soil. Organic matter levels are low owing to sandy texture and the disturbed nature of the site. Maintenance and improvement of surface soil organic matter, residues and vegetative cover is extremely important for maintenance of fertility as well as protection against erosion.
<b>pH:</b>	Soil pH is acidic in the surface soil, neutral in the subsurface layer and alkaline in the subsoil.
<b>Rooting depth:</b>	Root growth was observed to the base of the pit, with most roots in the top 25 cm.
<b>Barriers to Root Growth</b>	
<b>Physical:</b>	A minor physical limitation to root growth occurs at around 62 cm where the subsoil increases in strength.
<b>Chemical:</b>	Low fertility may limit root growth (e.g. very low phosphorus levels). Low zinc levels may also limit root growth. Surface organic carbon level is low.
<b>Waterholding capacity:</b>	Estimate for perennial vegetation to 170 cm = 95 mm (moderate) [(0.11x100)+(0.14x80)+(1.45x100x0.5)].
<b>Seedling emergence:</b>	Good.
<b>Workability:</b>	Good.
<b>Erosion Potential:</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	High. Residue retention and maintenance of surface cover are crucial for protection against erosion.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC 1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	Cl mg/kg	SO <sub>4</sub> -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				Est. ESP
												Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	6.1	5.2	0	0.045	0.35	0.82	9	127	7.8	6.2	0.31	0.45	28.6	3.10	0.24	3.6	2.78	0.56	0.04	0.25	1.1
0–11	6.3	5.4	0	0.085	0.42	0.80	12	137	13.4	8.7	0.28	0.62	28.1	3.64	0.41	3.6	2.70	0.55	0.04	0.27	1.1
11–25	7.0	6.3	0	0.087	0.42	0.26	<2	120	8.0	5.1	0.32	0.42	13.2	1.13	0.08	3.4	2.32	0.71	0.05	0.28	1.5
25–62	8.9	7.9	0.45	0.129	0.83	0.08	<2	195	24.7	6.5	0.86	0.28	9.73	0.34	0.14	8.2	6.31	1.23	0.19	0.50	2.3
62–88	9.0	8.1	4.51	0.138	0.66	0.14	<2	184	30.9	3.3	1.45	0.35	7.80	0.42	0.26	13.1	9.23	3.15	0.25	0.47	1.9
88–125	9.1	8.3	7.51	0.137	0.71	0.15	2	260	19.1	3.1	3.90	0.54	7.79	0.28	0.25	13.7	7.59	4.89	0.58	0.67	4.2
125–175	9.1	8.3	4.29	0.205	1.02	0.07	<2	324	10.9	2.5	5.96	0.24	7.31	0.25	0.10	11.8	5.43	4.04	1.54	0.81	13.0

**Note:** Paddock sample bulked from 20 cores (0–10 cm) taken around the pit.

Sum of cations approximates the CEC (cation exchange capacity), 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, in this case estimated by the sum of cations.

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

