

BLEACHED SAND OVER BROWN CLAY

General Description: *Grey loamy sand with a bleached subsurface layer, over brown poorly structured clay*

Landform: Plain

Substrate: Tertiary clay

Vegetation: Red gum (*Euc. camaldulensis*) woodland



Type Site:	Site No.:	SE105	1:50,000 mapsheet:	7024-2 (Hynam)
	Hundred:	Hynam	Easting:	4807450
	Section:	319	Northing:	5930560
	Sampling date:	19/08/2008	Annual rainfall:	560 mm average

Level plain. Firm surface with no stones.

Soil Description:

Depth (cm)	Description
0-12	Brown organically stained sand, single grain, many roots. Abrupt change to:
12-28	Pale brown (bleached) sand, massive. Sharp change to:
28-60	Brown medium clay with weak 20-50 mm columnar structure, breaking to medium polyhedral. Gradual change to:
60-90	Brown, mottled red, medium clay with weak 50-100 mm prismatic structure. Gradual change to:
90-120	Brown, mottled red and grey, heavy clay with weak 50-100 mm prismatic structure. Gradual change to:
120-150	Brown heavy clay, with weak 50-100 mm prismatic structure.



Classification: Eutrophic, Mottled-Subnatric, Brown Sodosol; medium, non-gravelly, sandy/clayey, very deep



Summary of Properties

- Drainage:** Surface horizons are well drained. The clay horizons are imperfectly drained. The sub-surface profile may remain wet for several weeks following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is moderate as indicated by the exchangeable cation data. Phosphorus levels are marginal, and potassium levels are very low in the sandy horizons.
- pH:** The sandy horizons are slightly acidic, and are in the ideal range for most plants. The clay sub-soil is alkaline, becoming strongly alkaline below 90 cm.
- Rooting depth:** Most roots are in the 0-12 cm layer, with a significant decrease thereafter. Main rootzone ends at 90 cm. Some roots to a depth of 120 cm.
- Barriers to root growth:**
- Physical:** Coarse clay subsoil structure, combined with a tendency to perch water within the bleached sand layer, will restrict subsoil root development.
 - Chemical:** Poor nutrition in the sandy horizons is likely to restrict root growth below the immediate surface horizon. Strong alkalinity below 90 cm will limit root growth in the lower profile.
- Waterholding capacity:** Approximately 110 mm of plant available water in the rootzone.
- Seedling emergence:** Good.
- Workability:** Good.
- Erosion Potential:**
- Water:** Low.
 - Wind:** Moderate due to sandy surface.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Cl mg/kg	Org.C %	NO ₃ + NH ₄ mg/kg	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				Est. ESP	
													Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
0-12	6.4	5.7	0	0.04	0.30	5	2.4	4	17	43	10.6	0.6	0.3	125	1.9	2.66	5.3	4.57	0.5	0.08	0.10	1.5	
12-28	6.7	6.0	0	0.02	0.17	1	0.57	2	9	32	5.2	0.4	0.1	66	0.27	0.14	1.7	1.31	0.3	0.07	0.09	4.0	
28-60	8.1	7.3	0	0.20	0.97	23	0.57	7	1	202	33.0	2.1	0.1	11	0.14	0.1	17.6	9.0	6.2	1.87	0.54	10.6	
60-90	8.1	7.3	0	0.10	0.42	28	0.37	8	2	256	31.3	2.8	<0.1	5	0.14	0.5	15.1	4.7	7.0	2.58	0.73	17.1	
90-120	9.3	8.1	0	0.13	0.73	35	0.13	2	1	174	15.2	4.8	0.1	6	0.12	0.21	14.6	4.3	6.7	3.15	0.47	21.5	
120-150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Sum of cations, in a neutral to alkaline soil, 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. Soil results are from a single point sample and are indicative only. They may not reflect the general condition of the rest of the paddock. Also, plant responses relating to nutrition measurements can vary between soil types and plant species, so values are indicative only.

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

