

## DEEP BLEACHED SAND

**General Description:** *Thin grey to brown loose sand over a thick bleached sandy A2 layer becoming yellower with depth, over Tertiary clayey sand.*

**Landform:** Undulating rises and dunes

**Substrate:** Tertiary age clayey sand (Parilla Sand)

**Vegetation:**



**Type Site:** Site No.: MO002

1:50,000 sheet: 6727-4 (Monarto)      Hundred: Monarto

Annual rainfall: 360 mm      Sampling date: 1976

Landform: Lower slope of undulating rise, 5% slope

Surface: Loose with no stones

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Brown single grain loose sand. Clear to:
10-20	Very pale brown loose single grain sand. Gradual to:
20-40	White single grain loose sand. Gradual to:
40-110	Very pale brown soft single grain sand. Sharp to:
110-128	Yellow soft single grain sand. Sharp to:
128-134	Yellowish brown firm massive loamy sand. Clear to:
134-170	Brownish yellow firm massive loamy sand (surface of Parilla Sand). Clear to:
170-230	Brownish yellow and red massive very firm clayey sand.



**Classification:** Basic, Arenic, Bleached-Orthic Tenosol; medium, non gravelly, sandy / sandy, deep

## Summary of Properties

- Drainage:** Rapidly drained. Soil never remains wet for more than a few hours.
- Fertility:** Inherent fertility is very low, as indicated by the exchangeable cation data. Surface CEC due to organic matter, and only in the substrate where clay content increases does the nutrient retention capacity increase. Deficiencies of nitrogen, phosphorus, copper and zinc are most likely, while low manganese levels affect lupin growth.
- pH:** Slightly alkaline at the surface, alkaline with depth.
- Rooting depth:** Not recorded. Estimate 50 cm in pit.
- Barriers to root growth:**
- Physical:** There are no physical barriers, although the surface of the Parilla Sand at 135 cm may have a hard cap.
- Chemical:** There are no barriers apart from low nutrient status and retention. Roots generally do not grow to potential depth.
- Water holding capacity:** Approximately 40 mm in the actual root zone, but up to 90 mm in the potential root zone.
- Seedling emergence:** Good except in seasons when water repellence is a problem.
- Workability:** Satisfactory.
- Erosion Potential**
- Water:** Low, except where surfaces are water repellent.
- Wind:** High to extreme.

## Laboratory Data

Depth cm	Coarse sand %	Fine sand %	Silt %	Clay %	pH H <sub>2</sub> O	CO <sub>3</sub> %	EC 1:5 dS/m	Cl mg/kg	CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Ca	Mg	Na	K	
0-10	74	21	3	3	7.8	0.1	0.06	<50	4	3.8	0.67	0.01	0.10	na
40-60	67	30	1	1	9.2	0.3	0.06	<50	2	1.3	0.44	0.01	0.01	na
128-134	63	22	2	12	7.8	0	<0.06	<50	6	2.6	2.1	0.37	0.24	6.2
170-200	53	28	3	15	9.0	0.1	0.10	<50	11	4.4	3.5	1.2	0.28	10.9

**Note:** 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.