

## BLEACHED SILICEOUS SAND

**General Description:** *Deep bleached sand, organically darkened at the surface, over calcrete at depth*

**Landform:** Undulating plain

**Substrate:** Calcreted calcarenite (Bridgewater Formation).

**Vegetation:** Mallee heath



**Type Site:** Site No.: MM075

1:50,000 sheet: 6826-1 (Coonalpyn)

Hundred: Kirkpatrick

Annual rainfall: 425 mm

Sampling date: 12/10/92

Landform: Crest of low sandhill

Surface: Soft with no stones

### Soil Description:

Depth (cm)	Description
0-10	Dark greyish brown soft single grain sand. Abrupt to:
10-35	Very pale brown (bleached) loose single grain sand. Diffuse to:
35-90	Very pale brown (bleached) sand with yellowish red inclusions. Diffuse to:
90-125	Yellow, yellowish red and very pale brown loose sand. Clear to:
125-168	Brownish yellow soft loamy sand with orange sandy loam lamellae. Sharp to:
168-176	Orange friable sandy clay with weak angular blocky structure. Sharp to:
176-200	Rubby calcrete.



**Classification:** Calcareous, Argic, Bleached-Orthic Tenosol; medium, non-gravelly, sandy / sandy, very deep

### Summary of Properties

<b>Drainage</b>	Rapidly drained. Soil never remains saturated for more than a few hours.
<b>Fertility</b>	Inherent fertility is very low, as indicated by the exchangeable cation data. Phosphorus and nitrogen deficiencies are widespread. Zinc and copper are also likely to be deficient (copper is low at sampling site). Manganese may be required for lupins. Organic carbon levels are low.
<b>pH</b>	Neutral to slightly acidic at the surface, alkaline with depth.
<b>Rooting depth</b>	168 cm in pit (lucerne, primrose and possibly lupins)
<b>Barriers to root growth</b>	
<b>Physical:</b>	No physical barriers.
<b>Chemical:</b>	No chemical barriers. Low nutrient retention capacity restricts rooting depth of annuals.
<b>Water holding capacity</b>	115 mm in root zone. Probably less than 50 mm for annuals.
<b>Seedling emergence:</b>	Reduced by water repellence.
<b>Workability:</b>	Soft / loose surface is easily worked.
<b>Erosion Potential</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	Moderately high.

### Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	6.5	5.9	<1	0.03	0.3	0.6	14	48	<0.4	0.11	22	2	1.2	2.5	2.21	0.30	0.05	0.09	na
0-10	6.3	5.9	<1	0.02	0.2	0.4	8	<40	<0.4	0.09	21	1.5	0.47	2.1	1.51	0.20	0.04	0.03	na
10-35	6.9	6.8	<1	0.01	0.1	<0.1	6	<40	<0.4	<0.05	12	0.09	0.06	1.3	0.75	0.16	0.04	0.03	na
35-90	7.0	7.0	<1	0.01	0.1	<0.1	6	<40	<0.4	<0.05	6.4	<0.06	<0.06	1.3	0.82	0.20	0.05	0.07	na
90-125	7.2	6.9	<1	0.01	0.1	<0.1	<2	52	<0.4	<0.05	4.6	0.08	<0.06	1.8	1.16	0.30	0.05	0.10	na
125-168	7.0	6.6	<1	0.02	0.2	<0.1	<2	66	<0.4	<0.05	6.4	0.16	<0.06	2.5	1.54	0.62	0.06	0.22	na
168-176	8.1	7.3	<1	0.07	0.4	<0.1	<2	130	76	<0.05	7	0.18	<0.06	9.0	6.67	1.78	0.12	0.43	1.3
176-200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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.