

## RED CALCAREOUS SAND OVER RUBBLY BROWN SAND

**General Description:** *Reddish sand becoming paler and more calcareous with depth. Hard carbonate nodules are abundant in the subsoil. Profile overlies calcareous coastal sand.*

**Landform:** Sub-coastal dunes

**Substrate:** Calcareous sand

**Vegetation:** -



**Type Site:** Site No.: SE091

1:50,000 sheet: 6823-1 (Robe)

Hundred: Waterhouse

Annual rainfall: 625 mm

Sampling date: 15/10/04

Landform: Midslope of low dune

Surface: Soft with no stones

### Soil Description:

Depth (cm)	Description
0-20	Dark reddish brown slightly calcareous fine sand with 5% calcarenite fragments. Gradual change to:
20-30	Dark reddish brown slightly calcareous loamy fine sand with weak polyhedral structure and 1% hard calcarenite fragments. Abrupt change to:
30-50	Dark reddish brown highly calcareous heavy loamy fine sand with 60% hard calcareous nodules and calcarenite fragments. Clear break to:
50-140	Light yellowish brown very highly calcareous medium sand with 20% hard calcareous nodules. Continues.



**Classification:** Ceteric, Regolithic, Lithocalcic Calcarosol; thick, non-gravelly, sandy/sandy, very deep.

## Summary of Properties

- Drainage:** Rapidly drained. The soil never remains wet more than a few hours.
- Fertility:** Inherent fertility is moderate, as indicated by the exchangeable cation data. Phosphorus, sulphur and copper levels are marginal to low at test site. Livestock need treatment for cobalt deficiency or Coast Disease (determined by blood serum analysis).
- pH:** Moderately alkaline surface, strongly alkaline below 20 cm.
- Rooting depth:** 140<sup>+</sup> cm in pit.
- Barriers to root growth:**
- Physical:** There are no physical barriers.
- Chemical:** Alkaline subsoil and high carbonate levels restrict the roots of sensitive species.
- Water holding capacity:** Approximately 125 mm.
- Seedling emergence:** Satisfactory, although there is potential for sandblasting by wind action.
- Workability:** Easily workable with good access even when wet.

## Erosion Potential

- Water:** Low
- Wind:** Moderately high.

## 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 (EDTA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				Est. ESP
												Cu	Fe	Zn	Mn		Ca	Mg	Na	K	
0-20	8.3	7.7	3.5	0.11	0.61	1.9	24	208	17	5.5	0.9	0.6	44	2.4	40.2	14.7	13.0	1.1	0.1	0.5	0.5
20-30	8.5	7.8	2.8	0.08	0.23	0.6	3	247	6	1.7	0.5	0.4	65	0.7	23.8	10.1	9.0	0.5	0.0	0.6	0.4
30-50	8.6	7.8	19.5	0.09	0.26	0.7	3	213	6	1.6	0.5	0.4	11	0.6	2.0	13.0	12.0	0.5	0.1	0.5	0.4
50-140	8.8	7.9	76.0	0.06	0.16	0.2	2	33	2	1.0	0.2	0.2	3	0.3	2.3	9.3	8.9	0.3	0.0	0.1	0.4

- 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, in this case estimated by sum of cations.