

## SHALLOW LOAMY SAND ON CALCRETE

**General Description:** *Medium thickness loamy sand with variable calcrete fragments overlying sheet calcrete*

**Landform:** Relict coastal dunes.

**Substrate:** Calcreted calcarenite.

**Vegetation:**



**Type Site:** Site No.: SE033

1:50,000 sheet:	6825-4 (Santo)	Hundred:	Santo
Annual rainfall:	500 mm	Sampling date:	24/03/95
Landform:	Upper slope of undulating rise, 5% slope		
Surface:	Soft with 20-50% calcrete stones, 20-200 mm diameter		

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Brown soft loamy sand with 20-50% calcrete fragments. Clear to:
10-18	Light brown soft loamy sand with 10-20% calcrete fragments. Clear to:
18-27	Brownish yellow soft loamy sand with 20-50% calcrete fragments. Sharp to:
27-35	Sheet calcrete. Clear to:
35-100	White very highly calcareous semi hard massive clayey sand (calcarenite). Diffuse to:
100-180	Pink very highly calcareous coarse sand.



**Classification:** Basic, Petrocalcic, Leptic Tenosol; medium, moderately gravelly, sandy/sandy, shallow

## Summary of Properties

<b>Drainage</b>	Rapidly drained. The soil is never likely to be saturated.
<b>Fertility</b>	The natural fertility is moderately low due to the low clay content. Phosphorus is low and potassium and magnesium are marginal. Organic carbon levels must be kept high to maintain the nutrient retention capacity of the surface soil.
<b>pH</b>	Alkaline at the surface, strongly alkaline with depth
<b>Rooting depth</b>	27 cm in pit.
<b>Barriers to root growth</b>	
<b>Physical:</b>	Sheet calcrete
<b>Chemical:</b>	Nil.
<b>Water holding capacity</b>	Approximately 25 mm in root zone
<b>Seedling emergence</b>	Good.
<b>Workability</b>	Non arable due to surface stone and sheet rock
<b>Erosion Potential</b>	
<b>Water:</b>	Low
<b>Wind:</b>	Moderately low

## 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	SO <sub>4</sub> -S 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	8.4	7.8	1.3	0.14	1.18	1.7	10	89	13	0.8	-	-	-	-	6.8	6.71	0.92	0.13	0.19	1.9
0-10	8.3	7.6	0.7	0.13	1.19	1.5	13	93	12	0.9	-	-	-	-	6.5	5.78	1.06	0.23	0.21	3.5
10-18	8.7	7.9	0.5	0.11	1.09	1.0	6	49	9	0.6	-	-	-	-	5.1	5.12	0.78	0.17	0.16	3.3
18-27	8.8	8.0	0.4	0.18	1.84	0.8	4	61	11	0.8	-	-	-	-	6.4	6.09	0.81	0.38	0.20	5.9
27-35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35-100	9.5	8.3	47.1	0.21	1.72	0.1	<4	<20	27	0.4	-	-	-	-	0.8	1.40	0.36	0.25	0.04	31.3
100-180	9.7	8.6	40.7	0.17	1.50	<0.1	<4	<20	16	0.3	-	-	-	-	0.7	1.08	0.44	0.29	0.07	41.4

**Note:** Paddock sample bulked from 20 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.