

RED CLAY LOAM ON CALCRETED CALCARENITE

General Description: *Red loam to clay loam grading to a well structured red clay on limestone or calcrete at shallow to moderate depth*

Landform: Low ridges (old coastal dunes) separated by corridors (old lagoon floors).

Substrate: Calcreted calcarenite.

Vegetation:



Type Site: Site No.: SE009

1:50,000 sheet:	7023-2 (Penola)	Hundred:	Comaum
Annual rainfall:	625 mm	Sampling date:	12/10/92
Landform:	Upper slope of low rise, 2% slope		
Surface:	Firm with 2-10% calcrete (20-60 mm)		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-12	Dark reddish brown friable clay loam with strong fine polyhedral structure and 2-10% calcrete stones (6-200 mm). Gradual to:
12-31	Dark reddish brown friable clay loam with strong fine polyhedral structure and 20-50% calcrete fragments (60-200 mm). Gradual to:
31-37	Dark reddish brown friable light clay with strong fine polyhedral structure and 2-10% calcrete stones (6-200 mm). Sharp to:
37-140	Calcrete capped calcarenite.



Classification: Haplic, Petrocalcic, Red Dermosol; thick, slightly gravelly, clay loamy / clayey, shallow

Summary of Properties

Drainage Soil is well drained and rarely remains saturated for more than a day or so following heavy or prolonged rainfall.

Fertility Inherent fertility is high, as indicated by the exchangeable cation data. High calcium saturation and organic matter levels augment fertility. There are no apparent nutrient deficiencies.

pH Alkaline throughout.

Rooting depth Some root penetration into calcrete, but most growth is in the upper 37 cm.

Barriers to root growth

Physical: The calcrete cap on the calcarenite is an effective root barrier.

Chemical: There are no chemical barriers.

Water holding capacity Approximately 75 mm in the root zone.

Seedling emergence: Satisfactory.

Workability: Firm surface is easily worked.

Erosion Potential

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ -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	
0-12	8.0	7.4	3.0	0.12	-	2.1	29	350	-	2.1	6.1	9.7	16	1.6	25.6	21.5	1.6	0.19	0.94	0.7
12-31	8.1	7.4	1.8	0.12	-	1.2	6.4	140	-	2.1	0.25	12	11	0.78	21.3	20.3	0.8	0.36	0.46	1.7
31-37	8.3	7.7	19.0	0.15	-	2.2	8.6	70	-	1.0	0.22	18	11	0.42	24.7	23.1	0.6	0.47	0.34	1.9
37-140	8.8	7.8	96.2	0.09	0.24	<0.1	<4	28	-	0.6	0.4	1	1.3	0.2	1.1	1.92	0.08	0.14	0.06	na

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