

CALCAREOUS SANDY LOAM

General Description: *Soft reddish brown calcareous sandy to light loamy soil, becoming more clayey and more calcareous with depth, overlying soft sandstone*

Landform: Gently undulating to undulating rises.

Substrate: Tertiary age sandstones, calcified by windblown lime, leached through the overlying soil.

Vegetation:



Type Site: Site No.: CU004

1:50,000 sheet:	6531-2 (Gladstone)	Hundred:	Narridy
Rainfall:	415 mm	Sampling date:	21/02/92
Landform:	Upper slope of undulating rise, 5% slope		
Surface:	Soft with no stone		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-12	Dark reddish brown soft moderately granular moderately calcareous light sandy loam. Clear to:
12-40	Yellowish red massive highly calcareous light sandy clay loam, with a trace of calcrete nodules. Gradual to:
40-70	Yellowish red massive very highly calcareous sandy clay loam with up to 10% calcrete nodules. Gradual to:
70-115	Yellowish red very highly calcareous clay loam with 20-50% soft lime (Class III A carbonate layer). Gradual to:
115-170	Yellowish red and yellow highly calcareous light sandy clay loam (weathered sandstone).



Classification: Ceteric, Regolithic, Hypercalcic Calcarosol; very thick, non gravelly, loamy / clay loamy, very deep

Summary of Properties

Drainage	Well to rapidly drained. Soil is never wet for more than a day.
Fertility	Fair. High carbonate content may induce some trace element deficiencies and tie up phosphorous, which is low at type site.
pH	Alkaline at surface, strongly alkaline with depth.
Rooting depth	115 cm at in pit, but root density is low from 70 cm.
Barriers to root growth	
Physical:	None.
Chemical:	High carbonate content (Class III A carbonate layer), reduces root growth.
Water holding capacity	140 mm in root zone (high), but this is affected by the amount of rubble. Effective water availability is less due to poor root growth in carbonate layer.
Workability	Good.
Seedling establishment	Good. No soil structural problems.
Erosion potential	
Water:	Low, but some erosion possible where slopes are steeper than 4%.
Wind:	Moderately low to moderate, due to soft sandy surface.

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	
Paddock	8.3	7.5	0.4	0.08	-	0.80	18	260	-	-	0.34	2.4	4.9	0.35	-	-	-	-	-	-
0-12	8.7	7.8	2.0	0.09	0.4	0.74	15	270	-	-	0.30	1.6	4.3	0.28	10.3	9.23	1.15	0.08	0.88	0.8
12-40	9.1	8.1	4.4	0.07	0.2	0.26	2	75	-	-	0.30	1.0	0.6	0.04	8.0	7.19	1.29	0.07	0.38	0.9
40-70	9.1	8.1	13.7	0.08	0.3	0.24	3	45	-	0.8	0.29	1.0	0.5	0.04	7.1	6.27	1.58	0.09	0.19	1.3
70-115	9.2	8.2	22.4	0.11	0.4	0.18	2	60	-	0.9	0.26	0.9	0.4	0.04	7.2	5.41	2.78	0.27	0.15	3.8
115-170	9.4	8.4	4.3	0.21	1.5	0.10	1	110	-	1.6	0.21	1.0	0.4	0.03	7.5	2.51	4.95	0.61	0.31	8.1

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.