

## CALCAREOUS SANDY LOAM OVER CLAY

**General Description:** *Shallow loamy topsoil overlying rubbly calcrete, grading to soft carbonate*

**Landform:** Gently undulating rises.

**Substrate:** Tertiary clayey sands to sandy clays, mantled by carbonate.

**Vegetation:** Grassland.



**Type Site:** Site No.: CU012

1:50,000 sheet: 6531-1 (Laura)

Hundred: Booyoolie

Annual rainfall: 425 mm

Sampling date: 31/08/92

Landform: Upper slope of low rise, slope 1%

Surface: Firm with minor calcrete stone

### Soil Description:

Depth (cm)	Description
0-10	Reddish brown weakly granular sandy clay loam. Abrupt to:
10-22	Dark brown highly calcareous sandy clay loam with up to 50% rubbly calcrete. Clear to:
22-45	Cemented calcrete (Class III C carbonate layer). Clear to:
45-65	Reddish yellow very highly calcareous light sandy clay loam. Gradual to:
65-90	Yellowish red very highly calcareous light clay. Gradual to:
90-150	Red and grey sandy clay with 10% soft carbonate pockets (Tertiary sediment).



**Classification:** Epihypersodic, Regolithic, Lithocalcic Calcarosol; medium, non-gravelly, clay loamy / clay loamy, moderate

## Summary of Properties

<b>Drainage</b>	Well drained. Soil is unlikely to remain wet for more than a day or two.
<b>Fertility</b>	No surface soil deficiencies. Subsoil trace element deficiencies likely due to high pH.
<b>pH</b>	Slightly alkaline (7.5) in surface, becoming strongly alkaline (9.4) below calcrete. Sulphonylurea herbicides may not break down in material below 10 cm.
<b>Rooting depth</b>	65 cm. Root growth is good down to and including rubble. Thins out in soft carbonate below rubble.
<b>Barriers to root growth</b>	
<b>Physical:</b>	None, except where sheets of calcrete occur.
<b>Chemical:</b>	High subsoil pH and high sodium may restrict subsoil root growth.
<b>Water holding capacity</b>	55 mm in rootzone (moderately low).
<b>Seedling emergence</b>	No restrictions, due to friable condition of surface soil (caused by slight carbonate content).
<b>Workability</b>	Good, due to favourable structure of surface soil.
<b>Erosion Potential</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	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	7.9	7.6	4.0	0.18	0.63	1.7	62	480	-	2.4	0.8	7.5	10	0.8	18.7	16.0	1.5	0.2	1.5	1.2
0-10	7.5	7.5	1.7	0.18	0.54	1.8	99	685	-	2.4	0.9	9.5	11	0.9	19.8	17.2	1.6	0.3	1.3	1.3
10-22	8.3	7.9	20.0	0.12	0.35	1.0	7	590	-	1.6	0.4	3.8	2.5	0.2	14.6	13.4	1.3	0.3	0.6	1.9
Calcrete	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45-65	9.4	8.3	66.9	0.31	1.13	0.3	<5	146	-	7.0	0.3	1.8	0.4	0.1	7.8	3.2	3.9	2.2	0.3	28
65-90	9.4	8.4	43.2	0.68	3.50	0.3	<5	197	-	10.8	0.2	2.6	0.4	0.1	11.5	3.0	5.4	4.0	0.6	34
90-150	8.9	8.5	0.3	1.14	4.86	0.1	<5	175	-	16.9	<0.1	1.1	<0.1	0.3	12.3	2.5	5.3	5.6	0.4	45

**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.