

## HIGHLY CALCAREOUS CLAY LOAM

**General Description:** *Highly calcareous grey clay loam, becoming more calcareous, rubbly and slightly more clayey with depth*

**Landform:** Gently undulating plain.

**Substrate:** Tertiary Hindmarsh Clay mantled by very highly calcareous Woorinen Formation deposits.

**Vegetation:**



<b>Type Site:</b>	Site No.:	CY039	1:50,000 mapsheet:	6430-2 (Alford)
	Hundred:	Kadina	Easting:	755260
	Section:	242	Northing:	6237810
	Sampling date:	24/4/1996	Annual rainfall:	365 mm average

Flat. Firm surface with 10-20% calcrete stones (20-200 mm).

### Soil Description:

Depth (cm)	Description
0-10	Dark brown firm cloddy highly calcareous clay loam. Clear to:
10-26	Brown firm massive very highly calcareous clay loam. Clear to:
26-89	Strong brown soft massive very highly calcareous clay loam with 20-50% carbonate nodules (6-20 mm). Gradual to:
89-155	Reddish yellow friable massive highly calcareous light medium clay.



**Classification:** Hypervescent, Regolithic, Supracalcic Calcarosol; medium, gravelly, clay loamy / clay loamy, moderate



## Summary of Properties

- Drainage:** Well drained. The soil rarely remains wet for more than a day or so following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is moderate, as indicated by the exchangeable cation data. Relatively high clay and organic matter levels provide favourable nutrient retention capacity, although high carbonate levels to the surface reduce availability of trace elements and phosphorus. Regular phosphorus applications are needed - concentrations at the sampling site are high.
- pH:** Alkaline at the surface, strongly alkaline in the substrate.
- Rooting depth:** Approximately 90 cm in pit.
- Barriers to root growth:**
- Physical:** There are no physical barriers.
  - Chemical:** High pH, sodicity and boron concentrations from 89 cm restrict deeper root growth.
- Waterholding capacity:** Approximately 80 mm (moderate) in rootzone.
- Seedling emergence:** Good. Organic matter levels need to be maintained to preserve surface structure.
- Workability:** Good.
- Erosion Potential:**
- Water:** Low.
  - Wind:** 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> 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	8.2	7.7	17.2	0.20	1.18	1.5	38	921	25	2.3	6.50	6	12.8	1.18	20.2	16.91	2.21	0.26	2.52	1.3
0-10	8.3	7.7	13.5	0.17	0.94	1.9	38	736	23	2.6	-	-	-	-	20.4	16.73	2.04	0.30	2.45	1.5
10-26	8.5	7.8	24.8	0.13	0.49	0.8	4	403	20	2.5	-	-	-	-	18.5	15.89	2.56	0.35	1.58	1.9
26-89	8.7	7.9	36.3	0.33	2.26	0.4	<4	142	36	3.5	-	-	-	-	16.2	9.54	4.96	1.50	0.56	9.3
89-155	9.5	8.4	55.8	0.86	6.53	0.2	<4	235	120	22.6	-	-	-	-	8.1	1.72	3.73	3.31	0.66	41.1

**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

**Further information:** [DEWNR Soil and Land Program](#)

