

CALCAREOUS CLAY LOAM

General Description: *Calcareous clay loam grading to a very highly calcareous clay overlying a coarsely structured heavy clay, becoming less calcareous with depth*

Landform: Flat alluvial plain.

Substrate: Heavy clay, mantled by fine windblown carbonate.

Vegetation: Chenopod shrubland.



Type Site:	Site No.:	CM093	1:50,000 mapsheet:	6831-1
	District:	Eastern Districts	Easting:	390900
	Property:	Sturtvale	Northing:	6322100
	Sampling date:	Sept. 2001	Annual rainfall:	205 mm average
	Flat plain. Firm surface, no stones.			

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-5	Yellowish red firm massive moderately calcareous clay loam. Clear to:
5-25	Red firm massive very highly calcareous light clay. Gradual to:
25-40	Reddish yellow firm massive very highly calcareous light medium clay with more than 50% fine carbonate segregations. Gradual to:
40-60	Dark reddish brown and dark greyish brown mottled hard medium clay with coarse angular blocky structure and 20-50% fine carbonate segregations. Diffuse to:
60-130	Dark reddish brown and dark greyish brown mottled firm (moist) heavy clay with coarse angular blocky structure and 2-10% fine carbonate segregations.



Classification: Epihypersodic, Regolith, Hypercalcic Calcarosol; medium, non-gravelly, clay loamy / clayey, deep



Summary of Properties

- Drainage:** Well drained - the soil is never wet for more than a day or so.
- Fertility:** Inherent fertility is high, as indicated by the exchangeable cation data. Even by agricultural land standards, concentrations of all measured nutrient elements are satisfactory.
- pH:** Alkaline at the surface, strongly alkaline with depth.
- Rooting depth:** 80 cm in pit, but few roots below 50 cm.
- Barriers to root growth:**
- Physical:** The hard consistence of the substrate clay (beginning at 50 cm) impedes root growth and prevents optimum densities.
 - Chemical:** High pH, salinity, and presumably sodicity, from 50 cm restrict root growth, and prevent it from 80 cm.
- Waterholding capacity:** Approximately 85 mm in the potential rootzone.
- Seedling emergence:** Satisfactory.
- Erosion Potential:**
- Water:** Low
 - Wind:** Moderately 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 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	
0-5	8.5	7.5	7.5	0.17	1.18	1.45	31	784	4.2	1.7	1.0	10.0	45.2	1.1	22.3	16.1	3.78	0.28	2.12	1.3
5-25	8.9	8.0	16	0.17	2.14	0.57	12	432	3.3	0.9	0.9	2.0	9.4	0.5	20.9	15.5	2.90	1.41	1.11	6.8
25-40	9.5	8.6	74	-	7.99	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40-60	9.7	8.7	69	-	11.65	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60-130	8.9	8.5	20	-	18.08	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.

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

