

## HIGHLY CALCAREOUS SALINE SANDY LOAM

(Magnesia soil)

**General Description:** *Highly calcareous loam becoming more clayey and calcareous with depth, grading to more than 50% fine or rubbly carbonate in a sandy clay loam matrix - saline throughout*

**Landform:** Flat plains.

**Substrate:** Very highly calcareous coarse to medium grained Woorinen Formation deposits.

**Vegetation:**

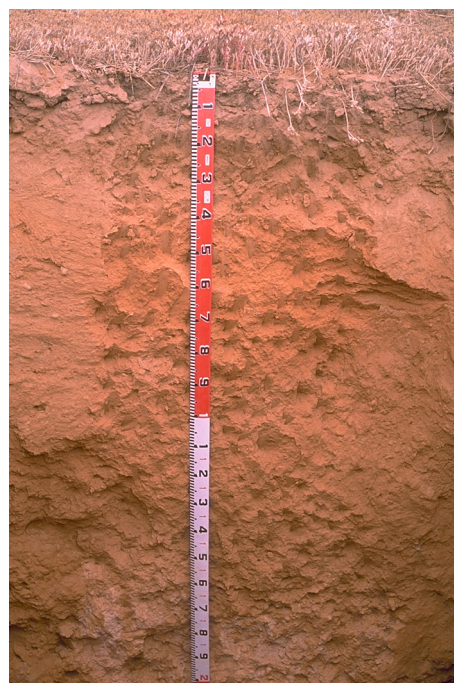


<b>Type Site:</b>	Site No.:	EF017	1:50,000 mapsheet:	5533-1 (Charra)
	Hundred:	Horn	Easting:	342500
	Section:	10	Northing:	6457550
	Sampling date:	1992	Annual rainfall:	315 mm average

Flat, 0-1% slope. Scalded surface with no stones.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Dark brown firm massive very highly calcareous fine sandy loam. Clear to:
10-30	Brown friable massive very highly calcareous light sandy clay loam. Clear to:
30-65	Yellowish red friable massive very highly calcareous light sandy clay loam with 2-10% carbonate nodules. Gradual to:
65-95	Yellowish red soft massive very highly calcareous sandy clay loam with 2-10% carbonate nodules. Gradual to:
95-125	Strong brown soft massive very highly calcareous light sandy clay loam with 2-10% carbonate nodules. Gradual to:
125-165	As for 95-125 cm. Diffuse to:
165-220	Reddish yellow soft very highly calcareous light sandy clay loam with 20-50% carbonate nodules.



**Classification:** Hypervescent, Regolithic, Hypercalcic Calcarosol; thick, non-gravelly, loamy/clay loamy, deep



## Summary of Properties

<b>Drainage:</b>	Well drained. Soil never remains wet for more than a few days.
<b>Fertility:</b>	Inherent fertility is moderately low, as indicated by the exchangeable cation data. Clay and organic matter levels are moderate, but very high carbonate levels tie up nutrients, although none appears to be deficient at the sampling site (possibly due to low removal from a low productivity site).
<b>pH:</b>	Alkaline throughout.
<b>Rooting depth:</b>	Little root growth.
<b>Barriers to root growth:</b>	
<b>Physical:</b>	There are no physical barriers.
<b>Chemical:</b>	High salinity and extreme sodicity from the surface severely restrict plant growth.
<b>Waterholding capacity:</b>	Not applicable.
<b>Seedling emergence:</b>	Poor due to high salinity / sodicity.
<b>Workability:</b>	Easily worked.
<b>Erosion Potential:</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	Moderate.

## 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	
0-10	8.9	8.3	31.5	3.09	36.7	1.4	34	914	-	14.2	0.3	2	16.7	0.6	13.1	7.4	2.2	6.53	3.13	50
10-30	9.1	8.3	39.8	1.59	15.4	1.1	6	550	-	17.7	0.3	1	3.5	0.3	12.4	7.3	2.6	5.70	2.03	46
30-65	8.9	8.4	53.4	3.12	31.0	0.7	<4	388	-	33.7	0.2	1	1.1	0.2	8.5	4.6	4.0	4.57	1.48	54
65-95	9.1	8.5	55.3	2.72	30.8	0.7	8	413	-	34.3	0.1	1	0.6	0.2	8.4	3.0	4.6	4.80	1.53	57
95-125	9.2	8.5	61.0	2.28	26.3	0.5	<4	426	-	24.2	0.2	1	0.5	0.3	7.5	2.1	4.1	4.50	1.39	60
125-165	9.3	8.5	66.7	1.71	19.3	0.4	<4	373	-	17.3	0.2	2	0.7	0.2	6.9	2.3	3.0	4.03	1.20	58
165-220	9.2	8.4	73.6	1.79	19.6	0.1	<4	344	-	12.2	0.2	1	0.7	0.2	6.3	2.5	2.8	3.86	1.11	61

**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](#)

