

# DEEP WEAKLY CALCAREOUS SANDY LOAM

**General Description:** *Slightly to moderately calcareous sandy loam becoming gradually more clayey and calcareous with depth*

**Landform:** Gently undulating rises.

**Substrate:** Coarse textured alluvial sediments (Pooraka Formation), mantled by windblown carbonates.

**Vegetation:**



**Type Site:** Site No.: EE203

1:50,000 sheet: 6130-1 (Rudall)      Hundred: Yadnarie  
 Annual rainfall: 350 mm      Sampling date: 17/09/01  
 Landform: Midslope of a gently undulating rise, 1% slope  
 Surface: Soft with minor quartz gravel (6-20 mm)

## Soil Description:

Depth (cm)	Description
0-12	Reddish brown soft massive slightly calcareous sandy loam. Gradual to:
12-25	Red friable slightly calcareous sandy clay loam with weak coarse subangular blocky structure and minor quartzite gravel (6-20 mm). Gradual to:
25-40	Yellowish red friable massive highly calcareous sandy clay loam. Gradual to:
40-70	Yellowish red friable massive very highly calcareous sandy loam. Gradual to:
70-130	Yellowish red friable massive very highly calcareous sandy loam with 2-10% fine carbonate segregations.



**Classification:** Endohypersodic, Regolithic, Calcic Calcarosol; very thick, non-gravelly, loamy / clay loamy, deep

## Summary of Properties

**Drainage:** Rapidly drained. Soil rarely remains saturated for more than a few hours following heavy or prolonged rainfall.

**Fertility:** Inherent fertility is moderate, as indicated by the exchangeable cation data. At the type site. Concentrations of all tested nutrient elements are adequate, although organic carbon and associated nitrogen reserves are low.

**pH:** Slightly alkaline at the surface, strongly alkaline with depth.

**Rooting depth:** 130 cm in pit (continuing).

### Barriers to root growth:

**Physical:** There are no apparent physical barriers, although subsurface compaction is likely if soil is over-grazed or over-worked.

**Chemical:** There are no apparent chemical barriers shallower than 70 cm. From 70 cm, high sodicity / pH restrict root growth.

**Water holding capacity:** Approximately 130 mm in the root zone

**Seedling emergence:** Satisfactory provided that the surface is not allowed to seal over.

**Workability:** Good.

### Erosion Potential

**Water:** Moderately low due to the low gradient.

**Wind:** Moderately low. Soil will blow if left bare.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC 1:5 dS/m	Org.C %	NO <sub>3</sub> mg/kg	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				Sum of cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Zn	Mn		Ca	Mg	Na	K	
0-12	7.4	6.5	nd	0.06	0.98	5	32	438	4.4	1.7	0.36	4.3	0.77	3.62	11.2	8.13	1.77	0.20	1.08	1.8
12-25	8.6	8.2	nd	0.08	0.32	2	6	260	1.8	1.7	0.50	-	0.25	0.51	14.4	11.4	2.14	0.15	0.66	1.0
25-40	8.9	8.4	nd	0.09	0.28	2	3	128	5.1	1.2	0.52	-	0.14	0.96	14.1	11.0	2.54	0.23	0.32	1.6
40-70	8.8	8.4	nd	0.12	0.25	3	1	121	1.8	1.2	0.37	-	0.19	0.71	13.4	9.10	3.66	0.34	0.29	2.5
70-130	9.9	8.9	nd	0.35	0.17	3	1	175	5.8	2.8	0.40	-	0.33	1.12	12.4	6.23	2.84	2.93	0.42	23.6

**Note:** Sum of cations in neutral to alkaline soils is an approximation of cation exchange capacity (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 sum of cations.