

GRADATIONAL RED SANDY CLAY LOAM

General Description: *Sandy loam to sandy clay loam grading to a well structured red clay, calcareous from about 50 cm*

Landform: Undulating rises.

Substrate: Clayey outwash sediments (Pooraka Formation).

Vegetation:



Type Site: Site No.: EE210

1:50,000 sheet: 6130-1 (Rudall) Hundred: Yadnarie
Annual rainfall: 350 mm Sampling date: 17/09/01
Landform: Lower slope of undulating rise, 1% slope
Surface: Firm with no stones

Soil Description:

Depth (cm)	Description
0-15	Dark reddish brown light sandy clay loam with weak granular structure. Clear to:
15-25	Yellowish red massive sandy clay loam. Clear to:
25-50	Red light medium clay with moderate subangular blocky structure. Gradual to:
50-100	Yellowish red very highly calcareous light medium clay with moderate subangular blocky structure. Diffuse to:
100-130	Yellowish red highly calcareous light clay with moderate subangular blocky structure.



Classification: Sodic, Calcic, Red Dermosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

- Drainage:** Well drained. The soil is unlikely to remain wet for more than a couple of days following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is moderately high, as indicated by the exchangeable cation data. Concentrations of all tested elements are satisfactory, and organic carbon levels are adequate for this environment.
- pH:** Neutral at the surface, strongly alkaline with depth.
- Rooting depth:** 100 cm in pit, but few roots below 50 cm.
- Barriers to root growth:**
- Physical:** There are no apparent physical limitations.
 - Chemical:** High pH / sodicity and salinity from 50 cm restricts deeper root growth.
- Water holding capacity:** Approximately 100 mm in the potential root zone.
- Seedling emergence:** Good to fair. Surface soil tends to seal if excessively worked.
- Workability:** Good to fair. Loss of aggregation due to poor tillage practice or over-grazing leads to reduced opportunities for effective working.

Erosion Potential

- Water:** Low to moderately low. Uncontrolled run on from upslope could cause rilling on lower slopes.
- Wind:** Only a problem in most years if excessively grazed or cultivated.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC 1:5 dS/m	Org.C %	NO ₃ mg/kg	Avail. P mg/kg	Avail. K mg/kg	SO ₄ -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	
0-15	7.2	6.5	nd	0.07	1.19	6	47	695	6.7	1.0	0.89	14.3	1.95	14.0	10.7	6.89	1.78	0.30	1.70	2.8
15-25	8.7	8.1	nd	0.24	0.83	6	7	270	50.2	1.5	1.14	4.3	0.54	2.92	17.0	11.5	3.51	1.29	0.67	7.6
25-50	9.2	8.5	nd	0.71	0.62	9	5	231	77.6	4.6	3.32	8.2	0.84	2.50	30.9	11.6	10.8	7.95	0.58	25.7
50-100	9.5	8.7	nd	1.37	0.37	7	5	298	172	10.1	2.41	5.2	0.32	1.45	33.2	10.2	10.7	11.6	0.78	34.9
100-130	9.4	8.7	nd	1.46	0.29	6	4	300	170	10.4	1.28	4.7	0.27	1.11	29.4	8.77	9.05	10.8	0.78	36.7

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.