

SANDY LOAM OVER RED SANDY CLAY ON CALCRETE

General Description: *Soft red sandy loam grading to a weakly structured red sandy clay loam to sandy clay, calcareous with depth over rubbly or sheet calcrete within 100 cm*

Landform: Flats in a gently undulating landscape

Substrate: Calcrete capped Tertiary clayey sand to sandy clay

Vegetation: Mallee



Type Site: Site No.: MR001

1:50,000 sheet: 7029-3 (Loxton)

Hundred: Gordon

Annual rainfall: 275 mm

Sampling date: 24/06/93

Landform: Flat between gentle low rises

Surface: Soft with no stones

Soil Description:

Depth (cm)	Description
0-10	Soft red massive sandy loam. Sharp to:
10-20	Soft dark reddish brown massive light sandy clay loam. Abrupt to:
20-55	Soft red slightly calcareous massive light sandy clay loam. Gradual to:
55-70	Friable red slightly calcareous weakly structured sandy light clay. Gradual to:
70-95	Friable red slightly calcareous weakly structured light clay. Sharp to:
95-96	Calcrete.



Classification: Haplic, Petrocalcic, Red Kandosol; thick, non-gravelly, loamy / clayey, moderate

Summary of Properties

Drainage	Well drained. The soil is unlikely to remain wet for more than a day or so following heavy or prolonged rainfall, or irrigation.
Fertility	Moderate natural fertility as indicated by the exchangeable cation data. All measured nutrient elements are well supplied, although the calcium : magnesium ratio is higher than desirable. Organic carbon levels are high.
pH	Neutral to slightly alkaline at the surface, alkaline at depth.
Rooting depth	Roots to the calcrete (95 cm) in the pit, but few roots below 55 cm.
Barriers to root growth	
Physical:	There are no physical barriers above the calcrete, which is a major barrier, although at this depth is not limiting.
Chemical:	There are no apparent chemical barriers to root growth.
Water holding capacity	Approximately 130 mm total available, and 70 mm readily available water holding capacity in root zone.
Seedling emergence:	No limitation to establishment of cover crops.
Workability:	Good.
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	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	7.6	7.3	0.1	0.12	1.02	1.5	125	377	1.5	12.9	9	15.7	5.5	12.8	9.9	1.4	0.36	1.21	2.8
10-20	7.8	7.5	0.2	0.13	1.15	0.8	119	305	1.5	4.0	7	8.3	3.3	10.3	8.7	1.5	0.35	0.93	3.4
20-55	7.5	7.1	<0.1	0.09	1.22	0.3	20	208	1.2	0.7	3	4.1	0.3	8.9	6.6	1.0	0.36	0.66	4.0
55-70	7.6	7.3	<0.1	0.25	1.92	0.3	5	218	1.4	0.6	4	3.2	0.2	15.3	12.1	2.0	0.68	0.79	4.4
70-95	8.0	7.8	0.5	0.36	2.32	0.2	<4	287	1.1	0.6	2	2.4	0.2	17.8	14.3	3.3	0.86	1.11	4.8
95-96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.