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 mapsheet:	7029-3 (Loxton)
Hundred:	Gordon	Easting:	464260
Section:	396	Northing:	6192340
Sampling date:	24/06/1993	Annual rainfall:	260 mm average

Flat between gentle low rises. Soft surface, no stone. Vineyard.

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.

Waterholding capacity: Approximately 130 mm total available, and 70 mm readily available waterholding capacity in rootzone.

Seedling emergence: No limitation to establishment of cover crops.

Workability: Good.

Erosion Potential:

Water: Low.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H_2O	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.

Further information: DEWNR Soil and Land Program