

SHALLOW CALCAREOUS SANDY LOAM

General Description: *Calcareous sandy loam to light sandy clay loam overlying rubbly calcrete within 50 cm of the surface*

- Landform:** Stony rises on very gently undulating plains or dunefields
- Substrate:** Highly calcareous medium grained sediments capped by calcrete and overlying Tertiary sand.
- Vegetation:** Mallee



Type Site: Site No.: MM005

1:50,000 sheet:	6928-3 (Halidon)	Hundred:	Wilson
Annual rainfall:	315 mm	Sampling date:	11/09/91
Landform:	Stony ridge on a very gently undulating plain		
Surface:	Soft with 2-10% calcrete stones		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-9	Reddish brown moderately calcareous sandy loam with 10-20% calcrete rubble. Abrupt to:
9-32	Rubbly calcrete with reddish brown highly calcareous light sandy clay loam between the rubble fragments. Gradual to:
32-60	Orange very highly calcareous sandy clay loam with more than 50% calcrete rubble. Diffuse to:
60-85	Orange very highly calcareous sandy clay loam with 10-20% ironstone fragments. Diffuse to:
85-100	Yellowish brown very highly calcareous sandy clay loam. Diffuse to:
100-135	Yellowish brown sandy clay loam with minor fine calcareous and ferruginous segregations. Diffuse to:
135-170	Light sandy clay loam as above. Diffuse to:
170-200	Yellowish brown sandy loam.



Classification: Epihypersodic, Regolithic, Lithocalcic Calcarosol; thin, gravelly, loamy/clay loamy, moderate

Summary of Properties

Drainage	Well drained. The soil is never saturated for more than a few days.
Fertility	Inherent fertility is moderate, as indicated by the exchangeable cation data. Copper and zinc appear to be deficient at the sampling site. Organic carbon levels are very low - improvement will augment nutrient retention capacity.
pH	Alkaline at the surface, strongly alkaline with depth.
Rooting depth	85 cm in pit.
Barriers to root growth	
Physical:	Boulder calcrete restricts root development.
Chemical:	High pH, sodicity and boron concentrations all affect root growth.
Water holding capacity	Approximately 65 mm.
Seedling emergence:	Slight limitation due to surface stone
Workability:	Easily worked, but stones abrade implements.
Erosion Potential	
Water:	Low.
Wind:	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	
Paddock	8.8	8.0	4	0.22	1.24	0.2	30	450	3.5	0.15	3.9	5.8	0.32	9.4	7.33	1.59	0.21	1.05	2.2
0-9	8.8	7.9	4	0.13	0.51	0.2	55	440	5.3	0.18	3.6	6.1	0.48	10.9	8.34	1.55	0.12	1.05	1.1
9-32	9.3	8.3	12	0.32	2.20	0.2	16	500	8.1	0.22	4.2	3.9	0.30	11.2	6.69	2.75	0.80	1.30	7.1
32-60	9.9	8.6	31	0.54	3.45	<0.1	8	540	13	0.36	2.2	2.4	0.16	9.3	2.71	3.98	2.37	1.40	25.5
60-85	10.1	8.7	36	0.73	3.01	0.4	3	600	16	0.34	2.2	1.2	0.21	8.1	1.28	3.44	3.81	1.47	47.0
85-100	10.0	8.6	17	0.81	4.47	0.3	3	640	19	0.14	3.1	0.70	0.20	8.2	1.46	2.99	3.93	1.15	47.9
100-135	10.0	8.5	8	0.75	3.50	0.2	<2	600	20	0.23	3.6	0.64	0.10	8.0	1.04	3.06	4.42	1.07	55.3
135-170	9.7	8.4	6	0.72	3.86	0.2	2	550	14	0.069	3.8	0.30	0.17	8.2	0.72	2.89	4.50	0.91	54.9
170-200	7.5	6.5	2	0.59	4.79	0.1	<2	460	1.9	0.094	3.7	0.06	0.14	8.2	0.34	2.41	4.66	0.82	56.8

Note: Paddock sample bulked from cores (0-10 cm) taken around the pit.

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.