

HIGHLY CALCAREOUS LOAMY SAND (Shallow Haslam soil)

General Description: *Highly calcareous loamy sand over calcrete at moderate depth*

Landform: Gently undulating rises.

Substrate: Ripon Calcrete.

Vegetation: Mallee / saltbush



Type Site: Site No.: EF019

1:50,000 sheet: 5533-1 (Charra)

Hundred: Bartlett

Annual rainfall: 310 mm

Sampling date: 22/01/92

Landform: Midslope of undulating rise

Surface: Loose with no stones

Soil Description:

Depth (cm)	Description
0-14	Dark brown soft highly calcareous loamy sand. Gradual to:
14-35	Reddish yellow soft very highly calcareous sand with 2-10% carbonate nodules. Gradual to:
35-80	Yellowish brown soft very highly calcareous loamy sand with 2-10% carbonate nodules. Clear to:
80-	Sheet calcrete.



Classification: Supravescent, Regolithic, Hypercalcic Calcarosol; medium, non-gravelly, sandy / sandy, moderate

Summary of Properties

Drainage	Rapidly drained. Soil never remains wet for more than a few hours.
Fertility	Inherent fertility is low as indicated by the exchangeable cation data, low clay content and high carbonate levels. Phosphorus applications are needed regularly, and concentrations are high at the sampling site. Deficiencies of zinc, copper and manganese can be induced by the carbonate. Zinc and copper may be marginally deficient at the site. Organic carbon levels are high.
pH	Alkaline throughout.
Rooting depth	80 cm in pit.
Barriers to root growth	
Physical:	The calcrete is a permanent barrier to deeper root growth.
Chemical:	There are no chemical barriers other than low nutrient retention capacity.
Water holding capacity	Approximately 70 mm in the root zone.
Seedling emergence:	Satisfactory.
Workability:	Soft / loose surface is easily worked.
Erosion Potential	
Water:	Low.
Wind:	Moderate.

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	SO ₄ 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	
0-14	8.4	7.7	76	0.2	1.1	2.0	35	280	-	3.2	0.18	4.4	3.8	0.41	7.6	8.1	2.0	0.33	0.73	4
14-35	8.8	7.9	80	0.3	2.5	0.7	2	180	-	3.2	0.14	1.3	1.3	0.26	4.7	4.7	2.3	0.85	0.55	18
35-80	9.2	8.1	83	0.7	7.7	0.3	<2	270	-	6.7	0.15	0.12	0.47	0.12	3.6	2.0	2.3	1.96	0.82	54
80+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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