

## SHALLOW CALCAREOUS SANDY LOAM

**General Description:** *Calcareous loamy sand to light sandy clay loam with variable rubble, shallow over calcrete*

**Landform:** Undulating to rolling rises and low hills partly covered by sandhills.

**Substrate:** Calcreted calcarenite (Bridgewater Formation).

**Vegetation:** Mallee

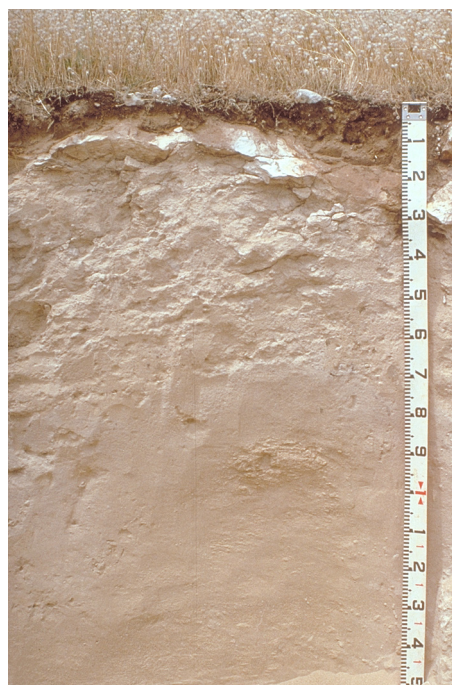


<b>Type Site:</b>	Site No.:	MM095	1:50,000 mapsheet:	6726-2 (Magrath Flat)
	Hundred:	Glyde	Easting:	364000
	Section:	44	Northing:	6022000
	Sampling date:	1992	Annual rainfall:	510 mm average

Upper slope of undulating low hill, 9% slope. Soft surface with 10-20% calcrete stone (200-600 mm)

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Dark brown calcareous soft loamy sand. Abrupt to:
10-35	Laminar calcrete. Clear to:
35-70	Very pale brown massive firm very highly calcareous shelly loamy sand. Diffuse to:
70-120	Very pale brown massive soft very highly calcareous shelly loamy sand. Diffuse to:
120-160	Very pale brown massive soft very highly calcareous shelly loamy sand.



**Classification:** Ceteric, Petrocalcic, Supracalcic Calcarosol; medium, moderately gravelly, sandy / sandy, very shallow



## Summary of Properties

- Drainage:** Well drained. Soil never remains saturated for more than a few days.
- Fertility:** Inherent fertility is low, as indicated by the exchangeable cation data. Regular phosphorus applications are required (phosphate fixing soil), and nitrogen levels depend on legume content of pastures. Occasional copper and zinc deficiencies can be expected, and manganese may be needed on cereal and lupin crops. Organic carbon levels are high at sampling site.
- pH:** Alkaline at the surface, strongly alkaline with depth.
- Rooting depth:** 70 cm in pit.
- Barriers to root growth:**
- Physical:** The calcrete impedes root development.
  - Chemical:** Very low nutrient availability below calcrete restricts root growth.
- Waterholding capacity:** 10 mm in rootzone.
- Seedling emergence:** Satisfactory, but reduced where stone cover is heavy.
- Workability:** Soft surface is easily worked, but stones interfere with and abrade equipment.
- Erosion Potential:**
- Water:** Moderately low.
  - Wind:** Low to moderately low,

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	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	7.9	7.3	2	0.07	0.41	1.3	26	76	0.68	0.22	-	1.4	0.9	5.4	6.19	0.57	0.06	0.18	1.1
0-10	8.3	7.5	4	0.10	0.63	1.5	44	83	<0.40	0.21	-	1.6	1	5.1	7.10	0.56	0.10	0.21	2.0
10-35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35-70	9.5	8.1	44	0.06	0.35	<0.1	<2	48	0.50	<0.05	-	0.4	0.1	0.9	1.35	0.13	0.07	0.09	na
70-120	9.3	8.1	41	0.06	0.37	<0.1	<2	41	0.61	<0.05	-	0.43	<0.06	1.0	1.15	0.15	0.10	0.07	na
120-160	9.3	8.1	38	0.07	0.36	<0.1	<2	41	<0.40	<0.05	-	0.37	<0.06	1.2	0.29	0.21	0.10	0.07	na

- 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.

**Further information:** [DEWNR Soil and Land Program](#)

