

## SILTY LOAM OVER RED BROWN CLAY

**General Description:** *Hard massive silty loam clearly overlying a red or brown, often mottled coarsely structured dispersive clay, weakly calcareous with depth.*

**Landform:** Alluvial flats and terraces.

**Substrate:** Medium to fine textured alluvium, often containing a mildly saline water table

**Vegetation:**



<b>Type Site:</b>	Site No.:	CL903	1:50,000 mapsheet:	6629-2 (Kapunda)
	Hundred:	Kapunda	Easting:	312850
	Section:	1253	Northing:	6207850
	Sampling date:	06/03/91	Annual rainfall:	480 mm average

Terrace of River Light. Hard setting surface with no stones. Watertable (5000 mg/l) at 130 cm.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-28	Brown hard massive silty loam. Clear to:
28-40	Reddish brown hard medium clay with moderate coarse angular blocky structure. Gradual to:
40-140	Yellowish red firm moderately calcareous light clay with weak coarse subangular blocky structure.



**Classification:** Calcic, Red Sodosol; medium, non-gravelly, silty / clayey, deep



## Summary of Properties

- Drainage:** Moderately well to imperfectly drained. The soil may remain wet for a week or two following heavy or prolonged rainfall. This is due to a combination of perching of water on the dispersive clay subsoil, and impeded deep drainage caused by shallow water tables.
- Fertility:** Inherent fertility is moderate. Surface clay content of about 20% and organic carbon concentrations of less than 1% are too low for optimum nutrient retention capacity.
- pH:** Acidic at the surface, strongly alkaline with depth.
- Rooting depth:** 70 cm in pit, but few roots below 40 cm.
- Barriers to root growth:**
- Physical:** The coarsely structured clayey subsoil restricts root density and elongation, but does not prevent root growth.
  - Chemical:** High boron concentrations, high pH, probably high sodicity and the effects of the moderately saline water table combine to limit root growth.
- Waterholding capacity:** Approximately 65 mm in the rootzone.
- Seedling emergence:** Fair. Hard setting surface tends to seal over, preventing full seedling emergence.
- Workability:** Fair. The surface soil tends to shatter if worked too dry, and puddle if worked too wet.
- Erosion Potential:**
- Water:** Low.
  - Wind:** 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	SO <sub>4</sub> 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	
0-28	5.9	5.0	0	0.07	-	0.85	31	260	-	-	0.8	56	23.0	1.2	-	-	-	-	-	-
28-40	9.0	7.9	1	0.21	-	0.30	3	540	-	28	1.0	8.8	4.4	0.9	-	-	-	-	-	-
40-140	9.5	8.4	5	0.70	-	0.10	1	500	-	14	0.8	5.7	1.9	0.1	-	-	-	-	-	-

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

