

SANDY LOAM OVER BROWN CLAY

General Description: *Sandy loam to loamy sand with a bleached A2 layer, over a brown mottled clay with variable ironstone gravel*

Landform: Level alluvial plains.

Substrate: Alluvial clay with sandy lenses.

Vegetation:



Type Site:	Site No.:	CK015	1:50,000 mapsheet:	6326-2 (Seddon)
	Hundred:	Seddon	Easting:	705150
	Section:	18	Northing:	6024400
	Sampling date:	24/5/95	Annual rainfall:	575 mm average

Flat on level plain. Firm surface with no stones.

Soil Description:

Depth (cm)	Description
0-7	Very dark grey soft massive light sandy loam. Abrupt to:
7-22	Light grey loose loamy fine sand. Abrupt to:
22-32	Dark yellowish brown and light olive brown firm medium clay with fine angular blocky structure. Clear to:
32-54	Yellowish brown and greenish grey mottled firm massive medium clay. Clear to:
54-65	Yellowish brown and greenish grey mottled firm massive medium clay with more than 50% ironstone nodules (6-20 mm). Clear to:
54-105	Yellowish brown and greenish grey mottled hard massive medium clay. Clear to:
105-170	Greenish grey and yellowish brown hard massive medium clay with red sandy loam lenses.



Classification: Ferric, Mottled-Mesonatric, Brown Sodosol; medium, non-gravelly, loamy / clayey, deep



Summary of Properties

Drainage:	Imperfectly drained. Water perches on the clayey subsoil for up to several weeks following heavy or prolonged rainfall.
Fertility:	Natural fertility is usually low in ironstone soils due to the predominance of kaolin clay. Surface nutrient retention capacity is mainly due to high organic matter levels. High iron content causes phosphate fixation, but sufficient has been applied at the sampling site that levels are adequate. Potassium and copper levels are marginal.
pH:	Acidic throughout.
Rooting depth:	Approximately 105 cm in pit, but few roots below 32 cm.
Barriers to root growth:	
Physical:	The hard clayey subsoil restricts root growth.
Chemical:	Marginal salinity throughout, acidity, phosphate fixation capacity and low nutrient retention in the bleached subsurface layer combine to reduce root growth potential.
Waterholding capacity:	Approximately 80 mm in rootzone. Moisture extraction made more difficult by the elevated salinity. Ironstone gravel reduces the soil volume roots can explore for water.
Seedling emergence:	Good.
Workability:	Good.
Erosion Potential:	
Water:	Low.
Wind:	Moderately 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	SO ₄ mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)			CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP	Ext Al mg/kg	React Fe mg/kg	
											Cu	Mn	Zn		Ca	Mg	Na	K				
Paddock	5.3	4.8	0	1.1	6.0	2.6	27	77	39	3.8	0.30	7.7	2.7	5.5	1.67	0.82	0.45	0.10	8.2	1.9	890	
											*0.8	-	*3.2									
0-7	5.2	4.7	<1	0.67	3.4	3.8	25	57	12	2.6	-	-	-	6.8	3.29	1.43	0.59	0.10	8.7	2.4	810	
7-22	5.2	4.7	0	0.41	4.0	0.4	9	48	11	2.0	-	-	-	1.2	0.56	0.30	0.23	0.09	-	2.1	260	
22-32	5.9	5.6	<1	1.6	6.0	0.8	2	450	48	2.0	-	-	-	12.0	4.18	4.71	2.49	1.25	20.8	<1	1630	
32-54	6.2	6.0	<1	1.3	6.8	0.1	2	340	53	0.9	-	-	-	8.0	2.26	3.10	1.58	0.76	19.8	<1	430	
54-65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65-105	6.4	6.2	1	1.7	5.7	0.2	2	760	93	2.1	-	-	-	16.9	4.35	6.87	4.09	1.77	24.2	<1	620	
105-170	8.6	8.1	2	1.1	6.4	0.1	2	360	34	3.1	-	-	-	8.0	2.66	3.15	2.34	0.60	29.3	<1	240	

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

* EDTA trace element analyses for paddock sample.

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](#)

