THICK LOAMY SAND OVER CLAY

General Description: Very thick dense loamy sand to sandy loam with a conspicuously bleached A2 layer over a brown coarsely structured heavy clay

Landform: Level plain.

Substrate: Tertiary clay.

Vegetation:

Type Site:

Site No.: SE011 1:50,000 mapsheet: 7022-1 (Nangwarry)

Hundred: Mingbool Easting: 495200 Section: 398 Northing: 5832000

Sampling date: 10/02/1993 Annual rainfall: 725 mm average

Plain with 0% slope. Firm surface with no stones.

Soil Description:

Depth (cm) Description

0-12 Dark brown friable loamy fine sand with single

grain structure. Diffuse to:

12-40 Brown friable fine sand with single grain

structure. Diffuse to:

40-68 Brownish yellow (bleached dry) fine sand with

single grain structure and minor ironstone

concretions. Diffuse to:

68-75 Light grey soft fine sand with single grain

structure and over 50% ironstone concretions (6-

20 mm). Sharp to:

75-115 Brown, light yellowish brown and reddish brown

mottled heavy clay with coarse prismatic

structure.

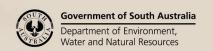
Brown, light yellowish brown and reddish brown

mottled heavy clay with coarse

prismatic structure.



Classification: Bleached-Vertic, Eutrophic, Brown Chromosol; very thick, non-gravelly, sandy/clayey, deep





Summary of Properties

Drainage: Imperfectly drained. Water perches on the heavy clay subsoil, saturating part of the

profile for several weeks at a time following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderately low, as indicated by the exchangeable cation data. Low

clay content in the topsoil restricts nutrient retention capacity which is largely reliant on organic matter. There is large capacity in the subsoil. There are no apparent

nutrient deficiencies at the sampling site.

pH: Strongly acidic at the surface, slightly acidic to neutral in the subsoil.

Rooting depth: Some roots to 145 cm in pit, but most are confined to the upper 12 cm.

Barriers to root growth:

Physical: The coarsely structured heavy clay subsoil restricts root growth to the surfaces of

aggregates. The bleached subsurface soil can set hard and dense at low water content,

limiting root growth.

Chemical: There are no limitations other than low nutrient availability / storage capacity in the

bleached A2 layer.

Waterholding capacity: Approximately 85 mm in the rootzone.

Seedling emergence: Fair to good, depending to the degree of compaction of the surface soil.

Workability: Firm surface is easily worked.

Erosion Potential:

Water: Low.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	EC1:5 dS/m	ECe dS/m	Org.C	Avail. P mg/kg	Avail. K mg/kg	mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn	(),8	Ca	Mg	Na	K	
Paddock	5.1	4.5	0	0.09	0.64	1.6	40	130	-	0.5	0.5	270	5.7	1.1	10.1	2.96	0.44	0.06	0.31	0.6
0-12	4.9	4.5	0	0.13	1.51	1.5	42	170	-	0.5	0.3	170	6.6	0.8	8.0	2.37	0.30	0.03	0.31	0.4
12-40	4.7	4.1	0	0.03	0.28	0.33	29	63	-	0.3	0.2	140	0.7	0.1	3.8	0.58	0.11	0.00	0.09	na
40-68	4.7	4.2	0	0.02	0.09	0.09	9.8	39	-	0.2	0.1	70	0.6	0.1	2.6	0.19	0.04	0.02	0.05	na
68-75	5.1	4.3	0	0.02	0.06	0.07	6.7	39	-	0.4	0.2	35	3.6	0.2	3.5	0.69	0.23	0.04	0.08	na
75-115	6.5	6.0	0	0.05	0.11	0.11	<2.0	260	-	2.5	0.1	7	1.1	<0.1	20.2	8.59	5.39	0.36	0.79	1.8
115-145	7.0	6.3	0	0.05	0.13	0.06	<2.0	120	-	3.0	0.2	4	0.1	0.1	20.4	8.31	5.75	0.67	0.34	3.3

Note: Paddock sample bulked from 20 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



