FINE SANDY LOAM OVER BROWN CLAY

General Description: Brown fine sandy clay loam grading to paler fine sandy clay loam on

well structured medium brown clay becoming mottled with depth.

Landform: Gently undulating plain with

small swamps.

Substrate: Mottled clays and marls of

the Padthaway Formation.

Vegetation: -



Type Site: Site No.: SE086 1:50,000 mapsheet: 7022-4 (Kalangadoo)

Hundred: Grey Easting: 469640 Section: 14 Northing: 5846170

Sampling date: 29/09/2004 Annual rainfall: 730 mm average

Plain.

Soil Description:

Depth (cm) Description

0-20 Dark reddish brown massive light fine sandy clay

loam. Gradual change to:

20-50 Reddish brown single grain loamy fine sand.

Abrupt change to:

As above, with a few (2-10%) ironstone gravels,

6-20 mm size. Roots common. Sharp break to:

Brown medium clay with moderate medium size

polyhedral structure. Very few (<2%) ironstone

gravels. Clear break to:

75-120 Dark yellowish brown mottled reddish brown

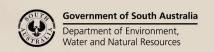
medium to heavy clay with moderate medium size

lenticular structure and a few manganiferous

veins.



Classification: Haplic, Eutrophic, Brown Chromosol; thick, non-gravelly, clay loamy / clayey, deep





Summary of Properties

Drainage: Moderately well to imperfectly drained. There is some short term perching of water

on top of the clay. The deep subsoil clay tends to become moderately waterlogged for

periods of up to several weeks at a time.

Fertility: Inherent fertility is moderate as indicated by the sum of cations. Phosphate levels are

adequate for pasture, but for intensive crops such as potatoes, they are low. Potassium status is high. Sulphur is low in the surface, but adequate below 50 cm. Trace copper

and zinc are low, whilst manganese is high.

pH: Moderately acidic in the surface, becoming slightly acidic below 50 cm.

Rooting depth: 120 cm, with most roots in the 0-75 cm depth range.

Barriers to root growth:

Physical: There are no physical barriers

Chemical: There are no chemical barriers. The clayey subsoil presents only a minor impediment

to root growth.

Waterholding capacity: Approximately 140 mm.

Seedling emergence: Satisfactory.

Workability: The surface is readily worked over a range of moisture conditions.

Erosion Potential:

Water: Low

Wind: Low, but some susceptibility if organic matter in surface is not managed

conservatively.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	EC 1:5 dS/m	ECe dS/m	%	Avail.	K		SO ₄ -S mg/kg		Trace Elements mg/kg (EDTA)				cations	Exchangeable Cations cmol(+)/kg				Est. ESP
							mg/kg	mg/kg				Cu	Fe	Zn	Mn	cmol (+)/kg	Ca	Mg	Na	K	
0-20	6.0	5.1	0	0.05	0.33	1.8	34	296	4	4.5	0.4	0.5	261	0.7	96.8	7.1	5.2	1.0	0.1	0.8	1.0
20-50	6.2	4.9	0	0.02	0.19	0.6	8	127	4	5.3	0.4	0.3	95	0.1	102	3.5	2.5	0.6	0.1	0.3	2.3
50-60	6.6	5.4	0	0.03	0.36	0.5	6	192	9	10.9	0.7	0.3	77	0.1	62.2	6.2	3.9	1.7	0.2	0.5	2.6
60-75	6.8	5.8	0	0.05	0.19	0.6	4	385	11	10.3	0.4	0.2	45	0.1	25.4	13.0	7.2	4.5	0.4	1.0	2.7
75-120	6.7	5.9	0	0.07	0.57	0.5	4	279	39	14.6	0.6	0.3	56	0.2	23.1	12.2	6.4	4.7	0.4	0.7	3.1

Note: Sum of cations, in a neutral to alkaline soil, approximates the CEC (cation exchange capacity), 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 (in this case, estimated by the sum of cations).

Further information: <u>DEWNR Soil and Land Program</u>



