

GRADATIONAL RED SANDY LOAM

General Description: *Thick loamy sand to sandy loam overlying a massive red brown light sandy clay loam to sandy clay with minor carbonate nodules, grading to variable silty or sandy alluvium*

Landform: Alluvial flats of the Angas - Bremer flood plains

Substrate: Sandy to silty, occasionally clayey alluvium

Vegetation: Blue gum woodland



Type Site: Site No.: CH055

1:50,000 sheet:	6727-3 (Alexandrina)	Hundred:	Strathalbyn
Annual rainfall:	395 mm	Sampling date:	18/08/93
Landform:	Very low rise on alluvial plain, 1% slope		
Surface:	Hard setting with no stones		

Soil Description:

Depth (cm)	Description
0-12	Dark reddish brown fine sandy loam with moderate granular structure. Clear to:
12-35	Dark reddish brown fine sandy loam with weak coarse blocky structure. Diffuse to:
35-100	Dark reddish brown fine sandy clay loam with weak coarse blocky structure. Clear to:

Buried soil	---
100-140	Red massive loamy sand. Clear to:
140-175	Yellowish red massive fine sandy clay loam. Clear to:
175-200	Yellowish red soft massive loamy sand.



Classification: Sodic, Eutrophic, Red Kandosol; thick, non-gravelly, loamy / clay loamy, deep

Summary of Properties

Drainage	The soil is well drained and is never wet for more than a day or so.
Fertility	The soil has moderate natural fertility, although the high pH may induce some trace element deficiencies. Phosphorus and organic carbon levels are high.
pH	Neutral at the surface grading to strongly alkaline with depth.
Rooting depth	More than 200 cm in the pit.
Barriers to root growth	
Physical:	There are no apparent physical barriers to root growth as the soil is not excessively hard.
Chemical:	There are no apparent chemical barriers to root growth.
Water holding capacity	150 - 200 mm in the root zone.
Seedling emergence	Good, provided that organic carbon levels are maintained above 2%, as the soil tends to set hard.
Workability	Good.
Erosion Potential	
Water:	Low.
Wind:	Low to moderately low. The fine sandy surface will easily pulverize and blow if excessively worked.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CaCO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ -S 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	
Row	7.2	7.2	0	0.27	1.80	2.0	39	663	-	2.6	4.3	30	24.2	6.1	9.6	6.95	2.47	0.50	1.38	5.2
0-12	7.7	7.4	0.5	0.17	0.91	2.7	84	615	-	2.9	2.1	20	13.5	5.3	11.9	9.68	2.65	0.42	1.40	3.5
12-35	8.4	7.9	0.1	0.18	1.46	0.6	18	398	-	1.8	1.3	8	7.8	1.5	6.6	4.35	1.68	0.82	0.73	18.9
35-100	8.7	8.1	<0.1	0.21	2.02	0.4	11	341	-	1.2	0.9	6	4.9	0.3	6.2	3.53	1.61	1.21	0.69	19.5
100-140	8.7	7.6	<0.1	0.05	0.86	0.1	6	167	-	0.7	0.2	3	1.6	0.1	3.3	1.36	0.95	0.63	0.27	19.1
140-175	8.8	7.7	<0.1	0.10	0.76	0.1	7	298	-	1.2	0.6	5	2.0	0.2	6.5	2.72	2.49	1.47	0.61	22.6
175-200	9.0	8.0	<0.1	0.09	0.87	<0.1	<4	210	-	0.6	0.9	3	2.4	0.1	3.6	1.35	0.97	0.98	0.33	27.2

Note: Row sample bulked from 20 cores (0-10 cm) taken from along the vine rows 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.