

## VERY THICK SAND OVER SANDY CLAY LOAM

**General Description:** *Thick to very thick reddish brown soft sand to loamy sand with a paler coloured subsurface layer, over a red and brown light sandy clay loam to sandy clay loam, calcareous with depth*

**Landform:** Alluvial plains of the Bremer River.

**Substrate:** Silty medium textured alluvium.

**Vegetation:**



**Type Site:** Site No.: CH163

1:50,000 sheet:	6727-3 (Alexandrina)	Hundred:	Strathalbyn
Annual rainfall:	395 mm	Sampling date:	28/11/06
Landform:	Slope of very low levee of Bremer River, 0.5% slope.		
Surface:	Soft with no stones.		

**Soil Description:**

<i>Depth (cm)</i>	<i>Description</i>
0-15	Dark reddish soft single grain loamy sand. Gradual to:
15-40	Reddish brown soft single grain light loamy sand. Diffuse to:
40-80	Yellowish red soft single grain light loamy sand. Diffuse to:
80-115	Yellowish red soft single grain light loamy sand. Gradual to:
115-160	Yellowish red, strong brown and yellowish brown friable light sandy clay loam with weak subangular blocky structure. Gradual to:
160-180	Strong brown firm slightly calcareous fine sandy light clay with moderate subangular blocky structure and 10-20% carbonate nodules (2-20 mm).



**Classification:** Sodic, Calcic, Red Kandosol; very thick, non-gravelly, sandy / clay loamy, very deep

## Summary of Properties

**Drainage:** Well drained. No part of the profile is likely to remain wet for more than a day or so following heavy or prolonged rainfall.

**Fertility:** Inherent fertility is low, due to topsoil sandiness. Organic matter levels are high for a sandy soil, so nutrient retention capacity is reasonable. Of the nutrient elements tested, phosphorus levels are marginal, others are adequate.

**pH:** Neutral to slightly alkaline at the surface, alkaline with depth

**Rooting depth:** 160 cm in sampling pit.

### Barriers to root growth:

**Physical:** The subsoil at 115 cm impedes root growth to a minor extent, but there are no physical barriers above this.

**Chemical:** There are no chemical barriers.

**Water holding capacity:** (Estimates for potential root zone of grape vines)

Total available: 150 mm

Readily available: 90 mm

**Seedling emergence:** Satisfactory.

**Workability:** The soft sandy surface is easily worked over a range of moisture conditions.

### Erosion Potential

**Water:** Low.

**Wind:** Moderately low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC 1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	Cl mg/kg	SO <sub>4</sub> -S mg/kg	Boron mg/kg	React Fe mg/kg	Trace Elements mg/kg (EDTA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				Est. ESP
													Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-15	7.8	7.0	0	0.121	1.11	1.67	25	207	87	6.6	1.2	342	3.61	79	50.4	3.98	8.6	5.57	2.06	0.65	0.32	7.6
15-40	8.0	7.0	0	0.066	0.92	0.34	12	167	48	5.1	0.5	517	1.23	99	41.6	0.20	4.3	2.69	0.97	0.38	0.28	8.8
40-80	8.1	7.1	0	0.061	0.9	0.18	6	119	52	4.0	0.4	458	0.82	26	23.3	0.05	3.3	1.88	0.72	0.49	0.24	14.7
80-115	8.3	7.3	0	0.089	1.36	0.11	2	125	79	5.0	0.4	439	0.95	16	13.9	0.17	3.7	2.10	0.84	0.45	0.28	12.3
115-160	8.5	7.5	0	0.125	1.38	0.17	2	247	91	8.6	1.0	500	1.59	27	28.8	0.22	10.8	5.87	3.17	1.15	0.56	10.7
160-180	9.0	7.9	5.3	0.246	2.01	0.33	9	226	158	25.1	1.2	511	2.7	18	33.1	0.32	18.5	9.48	5.79	2.66	0.56	14.4

**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.