DEEP SILTY LOAM

General Description: *Very thick brown loamy sand to silty loam, often showing depositional layering, grading to soft brown fine sand overlying older alluvial sediments. These are young alluvial soils, often still being laid down*

Landform: Alluvial flats and levees, adjacent to the current channels of the Angas and Bremer Rivers

Substrate: Fine sand overlying variable older alluvial sediments

Vegetation: Red gum / blue gum woodland

Type Site:

Site No.:	CH054		
1:50,000 sheet:	6727-3 (Alexandrina)	Hundred:	Strathalbyn
Annual rainfall:	395 mm	Sampling date:	18/08/93
Landform:	Alluvial flat near the Bremer River, 0% slope		
Surface:	Firm with no stones		

Soil Description:

Depth (cm)	*Description*
0-10	Dark brown massive light silty loam. Clear to:
10-50	Dark brown massive fine sandy loam. Gradual to:
50-85	Very dark brown massive fine sandy loam. Clear to:
85-150	Light brown with brown mottles massive soft loamy sand. Clear to:
Older alluvium	
150-200	Very dark grey and dark yellowish brown mottled medium heavy clay with strong blocky structure.

The soil is micaceous throughout.

Classification: Basic, Regolithic, Brown-Orthic Tenosol; very thick, non-gravelly, loamy, very deep

Summary of Properties

Drainage The soil is rapidly drained. It is never wet for more than a few hours, unless a perched water table forms on the clay layer at 150 cm.

Fertility The soil has a moderate to low level of natural fertility (as indicated by the exchangeable cation data), with adequate phosphorus and good organic carbon levels.

pH Neutral at the surface grading to 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.

Chemical: There are no apparent chemical barriers to root growth.

Water holding capacity 100-150 mm above the deep clay layer. These fine sandy and silty soils may have relatively low capacities where underlain by sandy sediments at shallow depth.

Seedling emergence Good, although the surface soil has a tendency to set down hard.

Workability Good, provided that organic matter levels are maintained in the surface.

Erosion Potential

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	$CaCO_3$ %	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	7.1	6.9	0	0.29	1.85	1.9	30	552	-	2.3	10.0	48	27.5	17.1	11.0	12.22	3.71	0.67	1.08	6.1
0-10	7.0	6.7	0	0.18	1.07	2.0	48	483	-	2.1	7.6	62	24.6	22.9	11.5	10.68	3.48	0.72	0.86	6.3
10-50	7.1	6.6	0	0.12	1.08	0.5	8	350	-	0.9	1.5	13	9.2	3.0	5.7	3.83	2.16	0.47	0.50	8.2
50-85	7.1	6.5	0	0.11	0.78	0.6	4	432	-	1.2	1.2	14	9.0	0.2	10.6	6.58	3.99	0.70	0.70	6.6
85-150	7.4	6.7	<0.1	0.04	0.42	0.1	<4	165	-	0.3	0.2	3	0.9	0.1	2.1	0.80	0.70	0.26	0.16	n.a
150-200	7.8	6.9	<0.1	0.14	0.66	1.1	18	651	-	3.0	2.8	29	9.5	1.3	28.1	15.11	8.93	2.39	1.49	8.5

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.