

# DEEP RED SAND

**General Description:** *Variable thickness, but always more than 80 cm, loose red sand over buried sandy duplex soils or alluvium*

**Landform:** Low irregular sand rises superimposed on alluvial plains of the Angas-Bremer system.

**Substrate:** Buried loamy sand over red sandy clay loam soil.

**Vegetation:**



**Type Site:** Site No.: CH133  
 1:50,000 sheet: 6627-2 (Milang) Hundred: Bremer  
 Annual rainfall: 400 mm Sampling date: 06/12/04  
 Landform: Midslope of low sand hill, 1% slope  
 Surface: Loose with no stones

**Soil Description:**

<i>Depth (cm)</i>	<i>Description</i>
0-15	Reddish brown soft single grain sand. Gradual to:
15-50	Reddish yellow soft single grain sand. Diffuse to:
50-100	Reddish yellow soft single grain sand. Abrupt to:
<hr/>	
Buried soil	
100-120	Yellowish red soft single grain sand. Clear to:
120-145	Yellowish red soft single grain sand. Abrupt to:
145-155	Reddish brown friable sandy clay loam with weak coarse subangular blocky structure.



**Classification:** Basic, Arenic, Red-Orthic Tenosol; medium, non-gravelly, sandy / sandy / deep. Overlies:

Mesonatric, Red Sodosol; thick, non-gravelly, sandy / clay loamy

## Summary of Properties

- Drainage:** Rapidly drained. The soil never remains wet for more than an hour or so following heavy or prolonged rainfall. Deep drainage is good.
- Fertility:** Inherent fertility is low, as indicated by the exchangeable cation data and low clay content. At sampling site, concentrations of phosphorus, sulphur, copper and zinc are all low.
- pH:** Alkaline at surface (possibly residue of former lime application or road dust), neutral to slightly alkaline with depth.
- Rooting depth:** Roots to at least 155 cm, but few below 145 cm.
- Barriers to root growth:**
- Physical:** There are no physical barriers.
- Chemical:** Low nutrient availability is the only likely chemical barrier.
- Water holding capacity:** (Estimates for potential root zone of grape vines)
- Total available: 110 mm
- Readily available: 70 mm
- Seedling emergence:** Satisfactory unless surface is water repellent.
- Workability:** The soil is easily worked over a wide range of moisture conditions. However, excessive cultivation of sandy surface will lead to wind erosion.

## Erosion Potential

- Water:** Low.
- Wind:** Moderate.

## 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	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	8.7	7.6	0	0.069	0.79	0.09	7	182	31	3.1	0.4	0.45	501	62.0	0.09	3.4	2.24	0.48	0.24	0.44	na
15-50	7.5	6.8	0	0.024	0.29	<0.05	8	109	10	1.6	0.3	0.20	25	47.2	0.08	1.7	0.98	0.42	0.08	0.24	na
50-100	7.6	6.7	0	0.025	0.40	<0.05	7	114	13	2.2	0.4	0.29	18	41.5	<.05	1.8	0.85	0.61	0.10	0.26	na
100-120	6.9	5.8	0	0.056	0.58	0.13	3	135	44	6.2	0.3	0.64	33	124	0.25	2.3	0.97	0.78	0.28	0.26	na
120-145	7.8	6.8	0	0.083	1.12	0.25	3	114	56	8.1	0.3	0.71	34	205	0.12	3.2	1.32	1.24	0.43	0.21	na
145-155	7.5	6.6	0	0.088	1.20	0.11	3	205	70	12.9	0.9	1.62	35	184	0.44	8.4	3.34	2.94	1.62	0.50	19.3

**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. Where sum of cations is less than 3-4 cmol(+)/kg, calculated ESP is meaningless.