

## LOAM OVER RED CLAY

**General Description:** *Hard setting loamy surface soil over a well structured red clay, calcareous with depth, grading to highly weathered rock*

**Landform:** Lower slopes and pediments of undulating rises and low hills

**Substrate:** Highly weathered fine grained basement rock (siltstone, slate etc)

**Vegetation:**

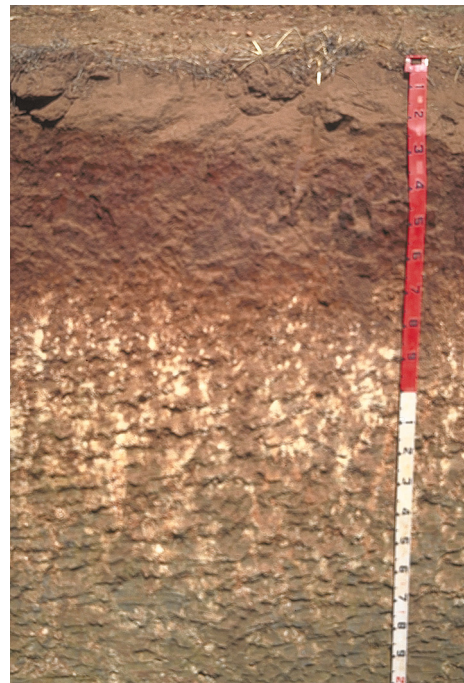


<b>Type Site:</b>	Site No.:	CL023	1:50,000 sheet:	6729-3 (Truro)
	Hundred:	Moorooroo	Easting:	324600
	Section:	295	Northing:	6184650
	Sampling date:	21/3/95	Annual rainfall:	510 mm average

Lower slope of gently undulating rise, 3% slope. Firm surface with about 10% surface quartz stones.

### Soil Description:

Depth (cm)	Description
0-15	Dark brown hard massive loam. Abrupt to:
15-55	Firm red medium clay with moderate coarse prismatic structure. Clear to:
55-100	Red highly calcareous medium clay with moderate coarse prismatic structure. Gradual to:
100-140	Red, dark grey and yellow highly calcareous clay loam with weak subangular blocky structure, and 10-20% slate fragments. Gradual to:
140-180	Olive, red and yellow moderately calcareous clay loam (highly weathered slate with soft carbonate). Gradual to:
180-220	Grey and red moderately calcareous silty clay loam (highly weathered slate).



**Classification:** Haplic, Hypercalcic, Red Chromosol; medium, gravelly, loamy / clayey, very deep



## Summary of Properties

**Drainage:** Well drained. Soil is unlikely to remain wet for more than a day or so following heavy or prolonged rainfall.

**Fertility:** Natural fertility is high as indicated by the exchangeable cation data. Nutrient retention capacity in the surface soil relies on adequate organic matter - organic carbon levels are good. Levels of measured nutrient elements are satisfactory.

**pH:** Neutral on the surface becoming alkaline with depth.

**Rooting depth:** 140 cm, but few roots below 100 cm.

### Barriers to root growth:

**Physical:** Coarse aggregates cause uneven root distribution in clay.

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

**Waterholding capacity:** Approximately 120 mm in the rootzone - not limiting.

**Seedling emergence:** Possible surface sealing, leading to patchy emergence.

**Workability:** Occasional temporary waterlogging after rain. Tendency to shatter when dry and puddle when wet.

### Erosion Potential:

**Water:** Moderately low.

**Wind:** Low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> 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	
Paddock	7.3	6.7	0.0	0.08	0.5	1.7	40	364	9	1.4	-	-	-	-	9.4	6.49	0.99	0.08	0.97	0.9
0-15	7.2	6.7	0.0	0.08	0.5	1.3	31	259	8	1.1	-	-	-	-	7.3	6.39	0.88	0.10	0.73	1.3
15-55	7.4	6.6	0.0	0.05	0.1	0.7	<4	322	19	4.2	-	-	-	-	28.5	16.90	4.73	0.42	1.33	1.4
55-100	8.4	7.9	35.1	0.13	0.2	0.1	<4	278	16	3.4	-	-	-	-	18.4	12.33	4.80	0.33	0.89	1.7
100-140	8.9	8.1	16.7	0.14	0.3	0.2	<4	444	15	2.3	-	-	-	-	15.2	8.01	7.45	0.57	0.66	3.7
140-180	9.1	8.2	13.9	0.02	0.3	0.1	<4	428	14	2.0	-	-	-	-	15.2	6.84	8.38	0.97	0.63	6.3
180-220	9.2	8.4	4.9	0.19	0.4	0.3	<4	280	12	1.6	-	-	-	-	14.6	5.34	8.40	1.32	0.49	9.0

**Note:** Paddock sample bulked from cores (0-10 cm) taken 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.

**Further information:** [DEWNR Soil and Land Program](#)

