Project Name: Hardsetting Soils

Project Code: HS Site ID: CP294 Observation ID: 1

Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By: C.J. Chartres Locality: Southeastern corner of 'Lake Plain', several

kilometres East of 'The Rock'.

Date Desc.: 01/01/92 Elevation: No Data Sheet No.: 8327 1:100000 Map Ref.: Rainfall: No Data Northing/Long.: 6095400 AMG zone: 55 Runoff: No Data Easting/Lat.: 514350 Datum: AGD66 Drainage: No Data

Geology

ExposureType: Undisturbed soil core Conf. Sub. is Parent. Mat.: No Data Geol. Ref.: No Data Substrate Material: No Data

**Land Form** 

Rel/Slope Class:No DataPattern Type:No DataMorph. Type:Lower-slopeRelief:No DataElem. Type:HillslopeSlope Category:No DataSlope:%Aspect:45 degrees

Surface Soil Condition (dry): Cracking

**Erosion:** 

Soil Classification

Australian Soil Classification:Mapping Unit:N/AN/APrincipal Profile Form:N/AASC Confidence:Great Soil Group:N/A

Confidence level not specified

Site Disturbance:

Vegetation:

**Surface Coarse Fragments:** 

**Profile Morphology** 

A1	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Weak grade of structure, 5-10 mm, Subangular blocky; Weak consistence; Many
B21w	0.1 - 0.4 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Weak grade of structure, 10-20 mm, Angular blocky; Firm consistence; Many
B22w	0.4 - 0.7 m	Dark grey (10YR4/1-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Weak grade of structure, 10-20 mm, Angular blocky; Firm consistence; Common
B23w	0.7 - 1 m	Grey (10YR5/1-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Weak grade of structure, 10-20 mm, Angular blocky; Firm consistence; Common
B24w	1 - 1.6 m	Grey (5Y6/1-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Weak grade of structure, 10-20 mm, Angular blocky; Firm consistence; Few
BC1	1.6 - 2 m	Grey (5Y6/1-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Firm consistence;
BC2	2 - 2.5 m	Light olive grey (5Y6/2-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Firm consistence;
BC3	2.5 - 3 m	Light olive grey (5Y6/2-Moist); , 7.5YR56, 20-50% , 5-15mm, Prominent; Medium clay; Massive grade of structure; Firm consistence;

### **Morphological Notes**

A1 Very dense root mat in 0-10 cm.
B21w American system, horizon is Bw1.
B22w American system, horizon is Bw2.
B23w American system, horizon is Bw3.
B24w American system, horizon is Bw4.

### **Observation Notes**

Soil Taxonomy, Xeric Endoaquert, very fine. Surface cracks are about 5 cm wide and they form polygons about 1 m across.

## **Site Notes**

The paddock was formerly a swamp. It was surface-drained about 1984 (?)

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# **Laboratory Test Results:**

Laboratory Test Results.											
рН	1:5 EC						CEC		ECEC	I	ESP
	dS/m	Ca	wig	N.							%
6.14A	0.06A	7.6E	3.5	1.5	0.01						
7.17A	0.04A	12.9E	6.9	1.5	0.12						
7.59A	0.06A	14.8E	9.4	1.9	0.38						
8.12A	0.07A	15E	12.9	2.3	1.2						
8.36A	0.09A	13.4E	14.1	2.3	1.6						
8.6A	0.11A										
8.66A	0.15A										
8.7A	0.17A										
CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Pa GV	rticle CS	Size FS	Analysis Silt	
%	%	mg/kg	%	%	%	Mg/m3			%		-
										_	44
									_		59
								. –	_		68
	0.19C								-	-	74
								10	14	11	71
COLE		Grav	/imetric/Vo	lumetric V	Vater Con	tents		Ks	at	K unsa	t
	Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar 15 I	Bar				
			g/s	g - m3/m	3			mm	/h	mm/h	
	6.14A 7.17A 7.59A 8.12A 8.36A 8.66A 8.7A CaCO3	pH 1:5 EC dS/m  6.14A 0.06A 7.17A 0.04A 7.59A 0.06A 8.12A 0.07A 8.36A 0.19A 8.66A 0.11A 8.66A 0.15A 8.7A 0.17A  CaCO3 Organic C % %  1.49C 0.44C 0.4C 0.19C  COLE	pH         1:5 EC         Exclusion           dS/m         Ca         Exclusion           6.14A         0.06A         7.6E           7.17A         0.04A         12.9E           7.59A         0.06A         14.8E           8.12A         0.07A         15E           8.36A         0.09A         13.4E           8.6A         0.11A         8.66A           8.7A         0.17A         Avail.           C         P         mg/kg           1.49C         0.44C         0.4C           0.4C         0.19C         Cole	PH 1:5 EC Ca	pH         1:5 EC dS/m         Exchangeable Cations Mg         Calmy         K           6.14A         0.06A         7.6E         3.5         1.5           7.17A         0.04A         12.9E         6.9         1.5           7.59A         0.06A         14.8E         9.4         1.9           8.12A         0.07A         15E         12.9         2.3           8.36A         0.01A         13.4E         14.1         2.3           8.6A         0.11A         8.6A         0.17A         Total         Total           CaCO3         Organic         Avail.         Total         Total         Total           C         P         P         N         %           1.49C         0.44C         0.4C         0.4C         0.4C           0.19C         0.19C         O.5 Bar         0.1 Bar         0.5 Bar	PH	PH	PH	PH	PH	PH

1 - 1.6 1.6 - 2 2 - 2.5 2.5 - 3

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#### **Laboratory Analyses Completed for this profile**

13A1\_AL Oxalate-extractable aluminium
13A1\_FE Oxalate-extractable iron
13A1\_MN Oxalate-extractable manganese
13A1\_SI Oxalate-extractable silicon

15C1\_CA Exchangeable bases (Ca2+,Mg2+,Na+,K+) - alcoholic 1M ammonium chloride at pH 8.5, pretreatment

for soluble salts

15C1\_K Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble

salts

15C1\_MG Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble

salts

15C1\_NA Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble

salts

15I4 CEC measurement - titration of ammonium and chloride ions

3A1 EC of 1:5 soil/water extract 4A1 pH of 1:5 soil/water suspension

6B3 Total organic carbon - high frequency induction furnace, infrared

P10\_PB\_C
P10\_PB\_CS
P10\_PB\_CS
P10\_PB\_FS
P10\_PB\_Z
Clay (%) - Plummet balance
Coarse sand (%) - Plummet balance
Fine sand (%) - Plummet balance
Silt (%) - Plummet balance