Project Name: **Regional**
Project Code: **REG** **Site ID:** **T447** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: R.F. Isbell
Date Desc.: 03/04/86
Map Ref.: Sheet No. : 8157 1:100000
Northing/Long.: 146.580555555556
Easting/Lat.: -20.2069444444445
Locality: Cardigan experiment site paddock:
Elevation: 200 metres
Rainfall: 0
Runoff: Moderately rapid
Drainage: Well drained

Geology

ExposureType: Soil pit
Geol. Ref.: O-Dr
Conf. Sub. is Parent. Mat.: No Data
Substrate Material: Granodiorite

Land Form

Rel/Slope Class: Undulating plains <9m 3-10%
Morph. Type: Mid-slope
Elem. Type: Hillslope
Slope: 2 %
Pattern Type: Rises
Relief: 10 metres
Slope Category: Very gently sloped
Aspect: 180 degrees

Surface Soil Condition (dry): Hardsetting

Erosion: Minor (sheet)

Soil Classification

Australian Soil Classification:
Vertic Eutrophic Red Chromosol
ASC Confidence:
All necessary analytical data are available.
Mapping Unit: N/A
Principal Profile Form: Dr2.12
Great Soil Group: Non-calcic brown soil

Site Disturbance: Limited clearing, for example selective logging

Vegetation: Low Strata - Tussock grass, 0.51-1m, Mid-dense. *Species includes - None recorded

Tall Strata - Tree, 6.01-12m, Very sparse. *Species includes - Eucalyptus drepanophylla

Surface Coarse Fragments: 2-10%, coarse gravelly, 20-60mm, angular, Quartz

Profile Morphology

A	0 - 0.12 m	Dark brown (7.5YR3/3-Moist); ; Sandy clay loam (Light); Weak grade of structure, 10-20 mm, Angular blocky; Common, fine (1-2mm) roots; Clear, Smooth change to -
B1	0.12 - 0.25 m	Dark red (2.5YR3/5-Moist); ; Sandy medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Common, fine (1-2mm) roots; Clear, Smooth change to -
B21	0.25 - 0.5 m	Dark red (2.5YR3/6-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Common, fine (1-2mm) roots; Gradual change to -
B22	0.5 - 0.75 m	Dark red (2.5YR3/6-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Few (2 - 10 %), Other, Medium (2 -6 mm), Laminae; Few, fine (1-2mm) roots; Gradual change to -
B23	0.75 - 1 m	Dark red (2.5YR3/6-Moist); ; Medium clay; Moderate grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 20-50 mm, Angular blocky; Many (20 - 50 %), Other, Medium (2 -6 mm), Laminae; Few, fine (1-2mm) roots; Clear change to -
BC	1 - 1.1 m	Yellowish red (5YR4/6-Moist); ; Coarse sandy clay loam; Moderate grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 20-50 mm, Angular blocky; Very many (50 - 100 %), Other, Medium (2 -6 mm), Laminae; Few, fine (1-2mm) roots; Gradual change to -
C	1.1 - 1.2 m	; Coarse sandy clay loam; Massive grade of structure;

Morphological Notes

C Weathered granodiorite:mix of red white and yellow:

Observation Notes

LAYERS 5 AND 6 HAVE STRONG SLICKENSIDE DEVELOPMENT SEGNS. ARE MICA FLAKES

Site Notes

CARDIGAN

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.12	6.6A	0.05A	5.93H	2.08	0.38	0.03	7.6C	5A		0.60
								8.4C		0.36
0.12 - 0.25	7A	0.03A								
0.25 - 0.5	6.8A	0.05A	8.57H	3.67	0.56	0.07	5.4C	11A		0.64
								12.9C		0.54
0.5 - 0.75	7.1A	0.03A								
0.75 - 1	7.4A	0.04A	10.8H	3.68	0.22	0.18	6.8C	13A		1.38
								14.9C		1.21
1 - 1.1	7.8A	0.04A								
1.1 - 1.2	7.9A	0.03A								

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis				
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.12		0.75C	9A					2	44A	31	10	15
			4B									
0.12 - 0.25			7A					3	45A	26	5	24
			4B									
0.25 - 0.5			7A					1	25A	13	3	59
			<3B									
0.5 - 0.75								1	23A	8	4	65
0.75 - 1								2	31A	13	6	50
1 - 1.1								2	33A	22	10	35
1.1 - 1.2			7A					3	44A	27	9	20
			99B									

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.12									
0.12 - 0.25									
0.25 - 0.5									
0.5 - 0.75									
0.75 - 1									
1 - 1.1									
1.1 - 1.2									

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Laboratory Analyses Completed for this profile

13C1_FE	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15A2_CEC	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15D1_CEC	CEC - 1M ammonium acetate at pH 7.0, pretreatment for soluble salts; manual leach
15E1_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble
15E1_K	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_MG	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_NA	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15G_H	Hydrogen Cation - meq per 100g of soil - 1M KCl Exch. acidity By titration to pH 8.4
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
9B_9C	Available P (mg/kg) - Bicarbonate P - 0.5M NaHCO3 extractable
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)
9H1	Phosphate retention
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_CS	Coarse sand (%) - Coventry and Fett pipette method
P10_CF_FS	Fine sand (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method
P10_GRAV	Gravel (%)