Project Name: **Regional**
Project Code: **REG** **Site ID:** **T442** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: M.G. Cannon
Date Desc.: 23/09/85
Map Ref.: Sheet No. : 8062 1:100000
Northing/Long.: 145.845833333333
Easting/Lat.: -17.9041666666667
Locality: 1.2KM down Scougall Road off Tully Cardstone Road:
Elevation: No Data
Rainfall: 3500
Runoff: Slow
Drainage: Well drained

Geology

ExposureType: Undisturbed soil core
Geol. Ref.: Qa
Conf. Sub. is Parent. Mat.: No Data
Substrate Material: Unconsolidated material (unidentified)

Land Form

Rel/Slope Class: Level plain <9m <1%
Morph. Type: Flat
Elem. Type: Plain
Slope: <1 %
Pattern Type: Alluvial plain
Relief: No Data
Slope Category: Level
Aspect: No Data

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Dystrophic Red Dermosol
ASC Confidence:
All necessary analytical data are available.
Mapping Unit: N/A
Principal Profile Form: Gn3.11
Great Soil Group: No suitable group

Site Disturbance: Limited clearing, for example selective logging

Vegetation:

Tall Strata - Tree, 12.01-20m, Closed or dense. *Species includes - Acacia species, Acacia mangium

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.12 m	Dark brown (7.5YR3/2-Moist); ; Clay loam; Moderate grade of structure, 2-5 mm, Cast; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Common, fine (1-2mm) roots; Diffuse change to -
A12	0.12 - 0.25 m	Dark reddish brown (2.5YR3/3-Moist); ; Clay loam (Light); Weak grade of structure, 2-5 mm, Subangular blocky; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Common, very fine (0-1mm) roots; Gradual change to -
A3	0.25 - 0.38 m	Reddish brown (2.5YR4/4-Moist); , 2.5YR33, 10-20% , 15-30mm, Distinct; , 10-20% , 15-30mm, Distinct; Clay loam; Weak grade of structure, 2-5 mm, Subangular blocky; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Few, very fine (0-1mm) roots; Diffuse change to -
B1	0.38 - 0.5 m	Dark red (2.5YR3/6-Moist); ; Light clay; Weak grade of structure, 5-10 mm, Subangular blocky; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Few, very fine (0-1mm) roots; Gradual change to -
B21	0.5 - 0.8 m	Red (2.5YR4/8-Moist); ; Light medium clay; Moderate grade of structure, 2-5 mm, Subangular blocky; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Few, very fine (0-1mm) roots; Diffuse change to -
B22	0.8 - 1.1 m	Red (2.5YR4/8-Moist); ; Light medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Few, very fine (0-1mm) roots; Diffuse change to -
B23	1.1 - 1.4 m	Red (2.5YR5/8-Moist); , 10YR78, 0-2% , 0-5mm, Faint; , 0-2% , 0-5mm, Faint; Medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules;
	1.4 - 1.6 m	Red (2.5YR5/8-Moist); , 10YR78, 2-10% , 0-5mm, Faint; , 2-10% , 0-5mm, Faint; Medium clay; Weak grade of structure, 10-20 mm, Prismatic; Strong grade of structure, 5-10 mm, Subangular blocky; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, 10-20%, medium gravelly, 6-20mm, rounded, dispersed, Clay, coarse fragments; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Diffuse change to -

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B24	1.6 - 1.8 m	Red (2.5YR5/8-Moist); , 10YR78, 2-10% , 0-5mm, Distinct; , 2-10% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 10-20 mm, Prismatic; Strong grade of structure, 5-10 mm, Subangular blocky; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, 10-20%, medium gravelly, 6-20mm, rounded, dispersed, Clay, coarse fragments;

Morphological Notes

Observation Notes

Site Notes

CARDSTONE RD

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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	4.45A	0.177A	0.23H	0.54	0.08	0.12	2.91F	3A	3.9F	4.00
								13C		0.92
0.12 - 0.25	4.88A	0.053A								
0.25 - 0.38	5.09A	0.027A	<0.02H	0.07	0.02	0.03	1.25F	2.3A	1.4F	1.30
								6C		0.50
0.38 - 0.5	5.1A	0.022A								
0.5 - 0.8	5.04A	0.022A	<0.02H	0.2	<0.02	0.02	0.19F	1.7A	0.5F	1.18
								3C		0.67
0.8 - 1.1	4.97A	0.023A								
1.1 - 1.4	4.95A	0.021A	<0.02H	0.14	<0.02	0.03	0.19F	1.1A	0.4F	2.73
								2C		1.50
1.4 - 1.6	5.05A	0.018A								
1.6 - 1.8	4.96A	0.018A	<0.02H	0.12	<0.02	0.03	1.85F	1A	2F	3.00
								3C		1.00

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		5.25C	7A	0.044A	0.27A	0.17A		2	16D	21	14	49
			10B									
0.12 - 0.25								0	16D	22	12	50
0.25 - 0.38		2C	5B	0.032A	0.07A	0.15A		0	16D	22	12	50
0.38 - 0.5								0	14D	22	11	53
0.5 - 0.8		0.58C	1A	0.023A	0.01A	0.18A		0	12D	20	10	58
			5B									
0.8 - 1.1								0	10D	19	14	58
1.1 - 1.4		0.29C	4B	0.02A		0.25A		0	12D	20	10	58
1.4 - 1.6								0	8D	22	19	51
1.6 - 1.8			5A	0.017A		0.37A		0	7D	23	21	49
			5B									

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 - 0.38										
0.38 - 0.5										
0.5 - 0.8										
0.8 - 1.1										
1.1 - 1.4										
1.4 - 1.6										
1.6 - 1.8										

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
12_HF_CU	Total element - Cu(mg/kg) - HF/HClO4 Digest
12_HF_FE	Total element - Fe(%) - HF/HClO4 Digest
12_HF_MN	Total element - Mn(mg/kg) - HF/HClO4 Digest
12_HF_ZN	Total element - Zn(mg/kg) - HF/HClO4 Digest
13C1_AL	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
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_C	Exchange acidity (hydrogen and aluminium) - meq per 100g of soil - By 1M KCl exch. acidity by titration to pH 8.4
15J1	Effective CEC
17A1	Total potassium - X-ray fluorescence
2A1	Air-dry moisture content
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
5A2	Chloride - 1:5 soil/water extract, automated colour
6B3	Total organic carbon - high frequency induction furnace, infrared
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9A1	Total phosphorus - X-ray fluorescence
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_GRAV	Gravel (%)
P10_PB_C	Clay (%) - Plummet balance
P10_PB_CS	Coarse sand (%) - Plummet balance
P10_PB_FS	Fine sand (%) - Plummet balance
P10_PB_Z	Silt (%) - Plummet balance