Project Name: **Regional**
Project Code: **REG** **Site ID:** **T208** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: G.G. Murtha
Locality: Tully Heads Road 2.4KM east of Lower Tully Hotel 40M south of road:
Date Desc.: 17/10/73
Elevation: 5 metres
Map Ref.: Sheet No. : 8162 1:100000
Rainfall: 3000
Northing/Long.: 146.033333333333
Runoff: Very slow
Easting/Lat.: -18
Drainage: Very poorly drained

Geology

ExposureType: Soil pit
Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: QA
Substrate Material: Unconsolidated material (unidentified)

Land Form

Rel/Slope Class: Level plain <9m <1%
Pattern Type: Alluvial plain
Morph. Type: Closed Depression
Relief: No Data
Elem. Type: Swamp
Slope Category: Level
Slope: 0 %
Aspect: 0 degrees

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification:
Dystrophic Mottled Redoxic Hydrosol
ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Dy5.21
Great Soil Group: Humic gley

Site Disturbance: No effective disturbance. Natural

Vegetation:

Low Strata - Sedge, 0.51-1m, Closed or dense. *Species includes - None recorded
Mid Strata - Tree, 3.01-6m, Very sparse. *Species includes - Acacia mangium, Panicum species
Tall Strata - Tree, 20.01-35m, Mid-dense. *Species includes - None Recorded

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.1 m	Very dark grey (10YR3/1-Moist); ; Clay loam (Sapric); Strong grade of structure, 5-10 mm, Angular blocky; Wet; Slightly plastic; Normal plasticity; Gradual change to -
A2	0.1 - 0.2 m	Dark grey (10YR4/1-Moist); ; Clay loam; Strong grade of structure, 5-10 mm, Angular blocky; Wet; Slightly plastic; Normal plasticity; Clear change to -
B21	0.2 - 0.3 m	Light brownish grey (2.5Y6/2-Moist); , 10YR56, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Heavy clay; Strong grade of structure, 20-50 mm, Prismatic; Strong grade of structure, 5-10 mm, Angular blocky; Wet; Very plastic; Normal plasticity;
B21	0.3 - 0.45 m	Light brownish grey (2.5Y6/2-Moist); , 10YR56, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Wet; Very plastic; Normal plasticity;
B22	0.45 - 0.6 m	Strong brown (7.5YR5/8-Moist); , 2.5Y71, 20-50% , 0-5mm, Prominent; , 20-50% , 0-5mm, Prominent; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Wet; Very plastic; Normal plasticity; Diffuse change to -
B22	0.6 - 0.9 m	Strong brown (7.5YR5/8-Moist); , 2.5Y71, 20-50% , 0-5mm, Prominent; , 20-50% , 0-5mm, Prominent; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Wet; Very plastic; Normal plasticity;
B3	0.9 - 1.2 m	Light brownish grey (2.5Y6/2-Moist); ; Sandy medium clay; Wet; Very plastic; Normal plasticity; Clear change to -
	1.2 - 1.5 m	Greyish brown (10YR5/2-Moist); , 10YR58, 2-10% , 5-15mm, Prominent; , 2-10% , 5-15mm, Prominent; Heavy clay; Very plastic; Normal plasticity;

Morphological Notes

Observation Notes

2CM A0 LEAF LITTER:MANY PROMINENT YB ROOT CHANNELS IN A AND B21 HORIZON

Site Notes

LOWER TULLY

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations Ca	Mg	K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.1	4.3A	0.133A	0.99H	0.82	0.3	0.22	6.3F	4.7A	8.6F	4.68
								27.6C		0.80
0.1 - 0.2	4.5A	0.074A	0.62H	0.73	0.21	0.17	5F	4.6A	6.7F	3.70
								20C		0.85
0.2 - 0.3	4.6A	0.059A	0.35H	0.7	0.07	0.16	4.9F	4.7A	6.2F	3.40
								11.4C		1.40
0.3 - 0.45	4.6A	<0.05A	0.3H	0.68	0.07	0.16	4.6F	5.1A	5.8F	3.14
0.45 - 0.6	4.6A	<0.05A								
0.6 - 0.9	4.7A	<0.05A	0.6H	0.71	0.09	0.18		3.7A		4.86
								8.8C		2.05
0.9 - 1.2	4.7A	<0.05A	0.15H	0.42	0.11	0.12	3.6F	3.7A	4.4F	3.24
1.2 - 1.5	4.7A	<0.05A								

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 - 0.1		7D	63B	0.11A	0.61A	1.27A		0	6A	12	31	52
0.1 - 0.2		3.3D			0.29A			0	6A	13	34	47
0.2 - 0.3		1.2D		0.03A	0.12A	1.44A		0	8A	11	39	42
0.3 - 0.45												
0.45 - 0.6		0.39D										
0.6 - 0.9				0.037A		1.38A		0	3A	9	41	47
0.9 - 1.2												
1.2 - 1.5												

Depth	COLE	Gravimetric/Volumetric Water Contents Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	K sat	K unsat
m		g/g - m3/m3							mm/h	mm/h
0 - 0.1										
0.1 - 0.2										
0.2 - 0.3										
0.3 - 0.45										
0.45 - 0.6										
0.6 - 0.9										
0.9 - 1.2										
1.2 - 1.5										

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
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
6A1_UC	Organic carbon (%) - Uncorrected Walkley and Black method
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9A1	Total phosphorus - X-ray fluorescence
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)
MIN_EC	Exchange Capacity - Minerology
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 (%)
XRD_C_Ch2	Chloritized 2:1 minerals - X-Ray Diffraction
XRD_C_Gb	Gibbsite - X-Ray Diffraction
XRD_C_Il	Illite - X-Ray Diffraction
XRD_C_K2O	K2O - X-Ray Diffraction or Clay Fraction (air dry)
XRD_C_Ka	Kaolin - X-Ray Diffraction