Project Name: **Regional**
Project Code: **REG** **Site ID:** **T66** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	G.G. Murtha	**Locality:**	15.2KM north of Innisfail on Bruce Highway:
Date Desc.:	17/04/68	**Elevation:**	91 metres
Map Ref.:	Sheet No. : 7963 1:100000	**Rainfall:**	3556
Northing/Long.:	145.456944444444	**Runoff:**	Moderately rapid
Easting/Lat.:	-17.4519444444444	**Drainage:**	Well drained

Geology

ExposureType:	Undisturbed soil core	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	Pzb	**Substrate Material:**	Auger boring, Metamorphic rock (unidentified)

Land Form

Rel/Slope Class:	Undulating rises 9-30m 3-10%	**Pattern Type:**	Rises
Morph. Type:	Mid-slope	**Relief:**	30 metres
Elem. Type:	Hillslope	**Slope Category:**	Moderately inclined
Slope:	7 %	**Aspect:**	315 degrees

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: Uf4.22
Great Soil Group: Red podzolic soil

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.1 m	Brown (7.5YR4/4-Moist); , 0-0% ; , 0-0% ; Clay loam; Strong grade of structure, 2-5 mm, Subangular blocky; Moist; Very weak consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Field pH 4.5 (pH meter); Many, very fine (0-1mm) roots; Clear change to -
A3	0.1 - 0.2 m	Strong brown (7.5YR5/6-Moist); , 0-0% ; , 0-0% ; Clay loam; Strong grade of structure, 2-5 mm, Subangular blocky; Moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Many, very fine (0-1mm) roots; Gradual change to -
B1	0.2 - 0.3 m	Yellowish red (5YR5/6-Moist); , 0-0% ; , 0-0% ; Clay loam (Heavy); Moderate grade of structure, 5-10 mm, Angular blocky; Moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Few, medium (2-5mm) roots; Diffuse change to -
B1	0.3 - 0.4 m	Yellowish red (5YR5/6-Moist); , 0-0% ; , 0-0% ; Clay loam; Moderate grade of structure, 5-10 mm, Angular blocky; Moist; Weak consistence; 0-2%, Quartz, coarse fragments; Diffuse change to -
B2	0.4 - 0.6 m	Yellowish red (5YR5/6-Moist); , 0-0% ; , 0-0% ; Light medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Moist; Weak consistence; 0-2%, Quartz, coarse fragments;
B2	0.6 - 0.75 m	Yellowish red (5YR5/6-Moist); , 0-0% ; , 0-0% ; Light medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Moist; Weak consistence; 0-2%, Quartz, coarse fragments; Diffuse change to -
BC	0.75 - 0.9 m	Yellowish red (5YR5/6-Moist); , 5YR66, 2-10% , Faint; , 2-10% , Faint; Light clay; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Weak consistence; Field pH 4.2 (pH meter);
BC	0.9 - 1.2 m	Yellowish red (5YR5/6-Moist); , 5YR66, 2-10% , Faint; , 2-10% , Faint; Light clay; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Moist; Weak consistence; Diffuse change to -
B	1.2 - 1.5 m	Red (2.5YR5/6-Moist); ; Clay loam; Weak grade of structure, Angular blocky; Moist; Weak consistence; 0-2%, Schist, coarse fragments; Field pH 4.2 (pH meter);

Morphological Notes

Observation Notes

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>75CM PATCHES OF WEATHERED PARENT MATERIAL & FINE MICA FLAKES INCREASING DOWN PROFILE 120-150CM MOTTLED WEATHERED PARENT MATERIAL:

Site Notes

NTH INNISFAIL

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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	4.8A	0.062A	0.4B	0.7	0.18	0.25	2.88F		4.4F	
0.1 - 0.2	4.5A	0.059A	0.3B	0.3	0.11	0.22				
0.2 - 0.3	4.8A	0.067A		0.3	0.08	0.23	2.9F			
0.3 - 0.4	5.1A	0.017A								
0.4 - 0.6	5A	0.014A	0.1B	0.3	0.08	0.21	2.76F		3.5F	
0.6 - 0.75	5A	0.014A								
0.75 - 0.9	5A	0.014A	0.1B	0.2	0.11	0.22	4.04F		4.7F	
0.9 - 1.2	5A	0.014A								
1.2 - 1.5	5.1A	0.014A								

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		4.3D	16A 10B	0.043A	0.376A	1.14A			3D	30	11	47
0.1 - 0.2		2.6D	22A 4B	0.034A	0.229A	1.19A			6D	31	12	47
0.2 - 0.3		0.1D	16A 3B	0.037A	0.14A	1.42A			4D	34	14	45
0.3 - 0.4												
0.4 - 0.6		0.4D	6.4A 1B	0.034A	0.038A	1.69A			3D	30	28	39
0.6 - 0.75												
0.75 - 0.9		0.2D	7A 1B	0.047A	0.016A	2.03A			5D	24	40	33
0.9 - 1.2			3.5A 1B	0.05A		1.92A			3D	29	36	29
1.2 - 1.5			2.1A 1B	0.054A		1.83A			0D	40	36	24

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 - 0.4										
0.4 - 0.6										
0.6 - 0.75										
0.75 - 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
15_NR_K	Exch. basic cations (K++) - meq per 100g of soil - Not recorded
15_NR_MG	Exch. basic cations (Mg++) - meq per 100g of soil - Not recorded
15_NR_NA	Exch. basic cations (Na++) - meq per 100g of soil - Not recorded
15A2_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_K	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_MG	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_NA	Exchangeable bases- 1M ammonium chloride at pH 7.0, 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
2_LOI	Loss on Ignition (%)
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
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_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