

Project Name: Regional
Project Code: REG **Site ID:** T382 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.D. Laffan	Locality:	
Date Desc.:	08/12/83	Elevation:	760 metres
Map Ref.:	Sheet No. : 8063 1:100000	Rainfall:	1800
Northing/Long.:	145.694444444445	Runoff:	No Data
Easting/Lat.:	-17.175	Drainage:	Well drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	PGM	Substrate Material:	Granite

Land Form

Rel/Slope Class:	Steep low hills 30-90m 32-56%	Pattern Type:	No Data
Morph. Type:	Upper-slope	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	No Data
Slope:	50 %	Aspect:	0 degrees

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	N/A
Melacic Mesotrophic Brown Dermosol		Principal Profile Form:	Gn3.74
ASC Confidence:		Great Soil Group:	Yellow podzolic soil
All necessary analytical data are available.			

Site Disturbance: Limited clearing, for example selective logging

Vegetation:

Surface Coarse Fragments: 2-10%, coarse gravelly, 20-60mm, subangular, Sand

Profile Morphology

A1	0 - 0.1 m	Very dark brown (10YR2/2-Moist); Mottles; Mottles; Coarse sandy clay loam; Moderate grade of structure, 2-5 mm, Polyhedral; Smooth-ped fabric; Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Field pH 5 (pH meter); Many, coarse (>5mm) roots;
A1	0.1 - 0.16 m	Very dark brown (10YR2/2-Moist); Mottles; Mottles; Coarse sandy clay loam; Moderate grade of structure, 2-5 mm, Polyhedral; Smooth-ped fabric; Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Field pH 5 (pH meter); Many, coarse (>5mm) roots; Gradual, Wavy change to -
AB	0.16 - 0.2 m	Very dark greyish brown (10YR3/2-Moist); Mottles; Mottles; Coarse sandy medium clay; Moderate grade of structure, 2-5 mm, Polyhedral; Smooth-ped fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 4.5 (pH meter); Common, medium (2-5mm) roots;
AB	0.2 - 0.3 m	Very dark greyish brown (10YR3/2-Moist); Mottles; Mottles; Coarse sandy medium clay; Moderate grade of structure, 2-5 mm, Polyhedral; Smooth-ped fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 4.5 (pH meter); Common, medium (2-5mm) roots;
AB	0.3 - 0.4 m	Very dark greyish brown (10YR3/2-Moist); Mottles; Mottles; Coarse sandy medium clay; Moderate grade of structure, 2-5 mm, Polyhedral; Smooth-ped fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 4.5 (pH meter); Common, medium (2-5mm) roots; Gradual, Wavy change to -
B1	0.4 - 0.6 m	Yellowish brown (10YR5/6-Moist); Mottles; Mottles; Coarse sandy medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Common, medium (2-5mm) roots; Diffuse change to -

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B2	0.6 - 0.9 m	Yellowish brown (10YR5/6-Moist); Mottles, 2.5YR58, 0-2% , 5-15mm, Distinct; Mottles, 0-2% , 5-15mm, Distinct; Sandy medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, angular, reoriented, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Common, medium (2-5mm) roots;
B2	0.9 - 1.2 m	Yellowish brown (10YR5/6-Moist); Mottles, 2.5YR58, 0-2% , 5-15mm, Distinct; Mottles, 0-2% , 5-15mm, Distinct; Sandy medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, angular, reoriented, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Common, medium (2-5mm) roots; Diffuse change to -
BC	1.2 - 1.5 m	Light yellowish brown (2.5Y6/4-Moist); Mottles; Mottles; Sandy clay loam; Massive grade of structure; Smooth-ped fabric; Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, distinct; Common, fine (1-2mm) roots;

Morphological Notes

Observation Notes

RAINFOREST 2A+13C:PARENT MATERIAL STRONGLY W'D GRANITE:60-120CM PSEUDO MOTTELS:

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.1	3.7D 4.7A	0.09A	3.3H	0.6	0.26	0.02	2.08F	4A 15C	0.50 0.13
0.1 - 0.16	4.6A	0.076A							
0.16 - 0.2	4.7A	0.057A							
0.2 - 0.3	3.9D 4.9A	0.044A	1.13H	0.3	0.14	0.03	2.72F	3.6A	0.83
0.3 - 0.4	5A	0.034A							
0.4 - 0.6	4.1D 5.1A	0.025A	0.99H	0.34	0.1	0.03	2.76F	3.7A 8C	0.81 0.38
0.6 - 0.9	4.1D 5.2A	0.02A	0.68H	0.29	0.07	0.05	2.45F	3A 7C	1.67 0.71
0.9 - 1.2	4D 5.1A	0.015A	0.41H	0.19	0.1	0.03	2.46F	2.6A 5C	1.15 0.60
1.2 - 1.5	4.1D 5.2A	0.014A							

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
m	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	FS	Silt Clay
0 - 0.1		5.28C	20B	0.018A	0.33A	1.59A		46	55A	7	12 27
0.1 - 0.16		3.56C									
0.16 - 0.2											
0.2 - 0.3		2.26C	7B					16	38A	9	13 39
0.3 - 0.4											
0.4 - 0.6		1.42C		0.005A		1.83A		8	27A	11	14 48
0.6 - 0.9		0.58C						3	28A	14	14 44
0.9 - 1.2				0.004A		1.5A		4	32A	18	16 33
1.2 - 1.5								2	38A	21	15 26

[illegible]

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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_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
4C1	pH of 1:5 soil/1M potassium chloride extract - direct
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
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 (%)