Project Name: **Regional**
Project Code: **REG** **Site ID:** **T64** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	G.G. Murtha	**Locality:**	45M west of Palmerston Highway at South Johnstone turnoff:in virgin rainforest:
Date Desc.:	16/04/68	**Elevation:**	120 metres
Map Ref.:	Sheet No. : 8062 1:100000	**Rainfall:**	3556
Northing/Long.:	145.945833333333	**Runoff:**	Moderately rapid
Easting/Lat.:	-17.5638888888889	**Drainage:**	Rapidly drained

Geology

ExposureType:	Undisturbed soil core	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	Cza	**Substrate Material:**	Basalt

Land Form

Rel/Slope Class:	Undulating low hills 30-90m 3-10%	**Pattern Type:**	Low hills
Morph. Type:	Mid-slope	**Relief:**	46 metres
Elem. Type:	Hillslope	**Slope Category:**	Gently inclined
Slope:	0 %	**Aspect:**	No Data

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Dystrophic Red Ferrosol
ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Gn3.11
Great Soil Group: Krasnozem

Site Disturbance: Limited clearing, for example selective logging

Vegetation:

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.1 m	Dark reddish brown (2.5YR3/4-Moist); ; Clay loam; Strong grade of structure, 2-5 mm, Granular; Moist; Weak consistence; Many, fine (1-2mm) roots; Gradual change to -
A3	0.1 - 0.2 m	Dark red (2.5YR3/6-Moist); ; Clay loam (Heavy); Moderate grade of structure, 2-5 mm, Subangular blocky; Moist; Weak consistence; Many, fine (1-2mm) roots; Gradual change to -
B1	0.2 - 0.3 m	Dark red (2.5YR3/6-Moist); ; Clay loam (Heavy); Weak grade of structure, Angular blocky; Moist; Weak consistence; Many, fine (1-2mm) roots; Diffuse change to -
B1	0.3 - 0.6 m	Dark red (2.5YR3/6-Moist); ; Light clay; Weak grade of structure, Angular blocky; Moist; Weak consistence; FewDiffuse change to -
B21	0.6 - 0.9 m	Dark red (2.5YR3/6-Moist); ; Light clay; Moderate grade of structure, <2 mm, Polyhedral; Smooth-ped fabric; Moist; Weak consistence; Diffuse change to -
B22	0.9 - 1.2 m	Dark red (2.5YR3/8-Moist); ; Light medium clay; Strong grade of structure, <2 mm, Polyhedral; Smooth-ped fabric; Moist; Firm consistence; Diffuse change to -
B23	1.2 - 1.5 m	Dark red (2.5YR3/6-Moist); ; Medium clay; Strong grade of structure, <2 mm, Polyhedral; Smooth-ped fabric; Moist; Firm consistence; Diffuse change to -
B24	1.5 - 1.8 m	Reddish brown (2.5YR4/4-Moist); ; Medium clay; Strong grade of structure, <2 mm, Polyhedral; Smooth-ped fabric; Moist; Firm consistence; Diffuse change to -
B24	1.8 - 2 m	Reddish brown (2.5YR4/4-Moist); ; Medium clay; Strong grade of structure, <2 mm, Polyhedral; Smooth-ped fabric; Moist; Firm consistence;

Morphological Notes

Observation Notes

3060CM TRACE SOFT WEATHERED BASALT:

Site Notes

PALMERSTON H`W

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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	5.7A	0.044A	3.1B	2.2	0.52	0.27	0.52F	14.9A	6.6F	1.81
0.1 - 0.2	5.4A	0.029A	0.3B	0.7	0.31	0.22	0.4F	9.9A	1.9F	2.22
0.2 - 0.3	5.2A	0.02A	0.2B	0.3	0.11	0.2		4A		5.00
0.3 - 0.6	5.2A	0.038A	0.2B	0.4	0.21	0.26	0.12F	4.6A	1.2F	5.65
0.6 - 0.9	5A	0.02A						4.3A		
0.9 - 1.2	5.1A	0.02A	0.2B	0.3	0.09	0.25	0.52F	8.4A	1.4F	2.98
1.2 - 1.5	5A	0.023A								
1.5 - 1.8	4.9A	0.029A	0.2B	0.5	0.1	0.33	2.84F		4F	
1.8 - 2	4.9A	0.02A								

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		4.85D	16A	0.162A	0.415A	0.025A		0	2D	2	13	75
			10.3B									
0.1 - 0.2		2.58D	5A	0.137A	0.245A	0.021A		0	2D	2	13	81
			3.8B									
0.2 - 0.3		1.79D	3.8B		0.13A							
0.3 - 0.6		1.03D	4A	0.12A	0.08A	0.05A		0	2D	2	14	77
			3.9B									
0.6 - 0.9												
0.9 - 1.2		0.51D	2.7B	0.136A	0.038A	0.017A		0	1D	3	22	65
1.2 - 1.5												
1.5 - 1.8		0.26D	7.4B	0.124A	0.018A	0.046A			1D	4	31	57
1.8 - 2												

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 - 0.6										
0.6 - 0.9										
0.9 - 1.2										
1.2 - 1.5										
1.5 - 1.8										
1.8 - 2										

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
13C1_FE	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15A2_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_CEC	Exchangeable bases- 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 (%)
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)
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