

**Project Name:** Regional  
**Project Code:** REG **Site ID:** T396 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

**Site Information**

<b>Desc. By:</b>	M.D. Laffan	<b>Locality:</b>	Profile core:north west of Atherton Rifle Range:
<b>Date Desc.:</b>	09/10/84	<b>Elevation:</b>	790 metres
<b>Map Ref.:</b>	Sheet No. : 7963 1:100000	<b>Rainfall:</b>	1400
<b>Northing/Long.:</b>	145.452777777778	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	-17.2683333333333	<b>Drainage:</b>	Imperfectly drained

**Geology**

<b>ExposureType:</b>	Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	PH	<b>Substrate Material:</b>	Undisturbed soil core, Rhyolite

**Land Form**

<b>Rel/Slope Class:</b>	Gently undulating plains <9m 1-3%	<b>Pattern Type:</b>	Alluvial fan
<b>Morph. Type:</b>	No Data	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Fan	<b>Slope Category:</b>	No Data
<b>Slope:</b>	0 %	<b>Aspect:</b>	No Data

**Surface Soil Condition (dry):** Firm

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b>	N/A
Magnesian Dermosolic Redoxic Hydrosol	<b>Principal Profile Form:</b>	Gn3.74
<b>ASC Confidence:</b>	<b>Great Soil Group:</b>	Xanthozem
All necessary analytical data are available.		

**Site Disturbance:** Limited clearing, for example selective logging

**Vegetation:**

Tall Strata - Tree, 12.01-20m, Mid-dense. \*Species includes - None Recorded

**Surface Coarse Fragments:** 0-2%, cobbly, 60-200mm, angular, Sand

**Profile Morphology**

A1	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); ; Silty loam; Weak grade of structure, 10-20 mm, Polyhedral; Moderate grade of structure, 5-10 mm, Polyhedral; Smooth-ped fabric; Moderately moist; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Field pH 6 (pH meter); Common, very fine (0-1mm) roots; Clear, Wavy change to -
A2	0.1 - 0.2 m	Dark yellowish brown (10YR4/4-Moist); ; Clay loam, fine sandy; Weak grade of structure, 10-20 mm, Polyhedral; Weak grade of structure, 5-10 mm, Polyhedral; Smooth-ped fabric; Moderately moist; 0-2%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Field pH 5.8 (pH meter); Common, very fine (0-1mm) roots; Clear, Wavy change to -
B1	0.2 - 0.3 m	Yellowish brown (10YR5/6-Moist); ; Clay loam (Heavy); Weak grade of structure, 10-20 mm, Polyhedral; Weak grade of structure, 5-10 mm, Polyhedral; Smooth-ped fabric; Dry; 0-2%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
B21	0.3 - 0.5 m	Brownish yellow (10YR6/6-Moist); ; Clay loam (Heavy); Weak grade of structure, 10-20 mm, Polyhedral; Weak grade of structure, 5-10 mm, Polyhedral; Smooth-ped fabric; Dry; 0-2%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
B22	0.5 - 0.6 m	Yellowish brown (10YR5/8-Moist); , 2.5YR46, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Silty light clay (Heavy); Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;
B22	0.6 - 0.7 m	Yellowish brown (10YR5/8-Moist); , 2.5YR46, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Silty light clay (Heavy); Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -

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B23	0.7 - 0.9 m	Yellowish brown (10YR5/6-Moist); , 2.5YR46, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Light clay; Strong grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Moderately moist; 2-10%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Wavy change to -
B1g	0.9 - 1.2 m	Yellowish brown (10YR5/4-Moist); , 2.5YR46, 10-20% , 0-5mm, Distinct; , 10YR61, 10-20% , 0-5mm, Distinct; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Moderately moist; 0-2%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Wavy change to -
B2g	1.2 - 1.5 m	Light grey (10YR7/1-Moist); , 5YR58, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Heavy clay; Strong grade of structure, 50-100 mm, Prismatic; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Moderately moist; 0-2%, fine gravelly, 2-6mm, subangular, reoriented, Sand, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Wavy change to -
B3g	1.5 - 1.8 m	Light grey (10YR7/1-Moist); ; Strong grade of structure, 50-100 mm, Prismatic; Smooth-ped fabric; Moderately moist; Common cutans, 10-50% of ped faces or walls coated, distinct;

**Morphological Notes**

**Observation Notes**

SCLERPHYLL WOODLAND 16C:

**Site Notes**

ATHERTON

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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	4.2D 5.4A	0.02A	0.03H	0.74	0.21	0.09	2.45F	2.9A 12C	3.10 0.75
0.1 - 0.2	5.5A	0.015A							
0.2 - 0.3	4.2D 5.6A	0.008A	<0.02H	0.37	0.13	0.06	1.73F	1.9A 6C	3.16 1.00
0.3 - 0.5	4.2D 5.7A	0.009A	<0.02H	0.67	0.13	0.06	1.34F	2A 5C	3.00 1.20
0.5 - 0.6	5.7A	0.013A							
0.6 - 0.7	5.7A	0.017A							
0.7 - 0.9	4.2D 5.7A	0.016A	<0.02H	3.1	0.27	0.13	1.16F	3.5A 8C	3.71 1.63
0.9 - 1.2	5.8A	0.015A							
1.2 - 1.5	4.1D 5.8A	0.023A	<0.02H	6.66	0.38	0.23	1.09F	6.2A 10C	3.71 2.30

Depth m	CaCO3	Organic	Avail.	Total	Total	Total	Bulk Density Mg/m3	Particle		Size	Analysis	
	%	C %	P mg/kg	P %	N %	K %		GV	CS	FS %	Silt	Clay
0 - 0.1		2.21C	3B	0.012A	0.1A	0.51A		24	15A	37	28	21
0.1 - 0.2												
0.2 - 0.3		0.67C	1B					2	13A	37	26	25
0.3 - 0.5		0.36C		0.014A		0.46A		2	18A	33	24	25
0.5 - 0.6												
0.6 - 0.7												
0.7 - 0.9				0.011A		0.53A		1	10A	23	21	46
0.9 - 1.2								1	8A	19	16	57
1.2 - 1.5		0.07C		0.001A		1.4A		3	8A	16	16	60

[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/HClO <sub>4</sub> Digest
12_HF_FE	Total element - Fe(%) - HF/HClO <sub>4</sub> Digest
12_HF_MN	Total element - Mn(mg/kg) - HF/HClO <sub>4</sub> Digest
12_HF_ZN	Total element - Zn(mg/kg) - HF/HClO <sub>4</sub> 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 (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) by compulsive exchange, no pretreatment for soluble salts
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
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 H <sub>2</sub> SO <sub>4</sub> (BSES)
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 (%)