Project Name: RR
Project Code: RR **Site ID:** B567 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	G.D. Hubble	**Locality:**	
Date Desc.:	24/10/66	**Elevation:**	9 metres
Map Ref.:	Sheet No. : 9348 1:100000	**Rainfall:**	1105
Northing/Long.:	152.433333333333	**Runoff:**	Very slow
Easting/Lat.:	-24.8166666666667	**Drainage:**	Poorly drained

Geology

ExposureType:	Soil pit	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	Czub	**Substrate Material:**	Auger boring, 1.1 m deep,Basalt

Land Form

Rel/Slope Class:	Gently undulating plains <9m 1-3%	**Pattern Type:**	Plain
Morph. Type:	No Data	**Relief:**	2 metres
Elem. Type:	Plain	**Slope Category:**	No Data
Slope:	0 %	**Aspect:**	No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:
Haplic Epipedal Black Vertosol
ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Gn3.92
Great Soil Group: Prairie soil

Site Disturbance: Complete clearing. Pasture, native or improved, but never cultivated

Vegetation:
Tall Strata - Sod grass, <0.25m, Closed or dense. *Species includes - Dichanthium sericeum

Surface Coarse Fragments: 20-50%, coarse gravelly, 20-60mm, ,

Profile Morphology

A11	0 - 0.05 m	Very dark greyish brown (10YR3/2-Moist); ; Light clay; Strong grade of structure, Granular; Many (>5 per 100mm2) macropores, Moist; Firm consistence; 0-2%, Basalt, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Field pH 6.2 (pH meter); Many, fine (1-2mm) roots;
A12	0.05 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); ; Light clay; Strong grade of structure, 10-20 mm, Angular blocky; 2-5 mm, Angular blocky; Many (>5 per 100mm2) macropores, Moist; Firm consistence; 0-2%, Basalt, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Field pH 6 (pH meter); Many, fine (1-2mm) roots; Gradual change to -
A12	0.1 - 0.2 m	Very dark greyish brown (10YR3/2-Moist); ; Light medium clay; Strong grade of structure, 20-50 mm, Angular blocky; 2-5 mm, Angular blocky; Moist; Firm consistence; 0-2%, Basalt, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Field pH 6.4 (pH meter); Common, fine (1-2mm) roots;
A12	0.2 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; Light medium clay; Strong grade of structure, 20-50 mm, Angular blocky; 5-10 mm, Angular blocky; Moist; Firm consistence; 0-2%, Basalt, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Field pH 6.5 (pH meter); Common, very fine (0-1mm) roots; Gradual change to -
B2	0.25 - 0.3 m	Dark greyish brown (10YR4/2-Moist); , 5YR34, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Light medium clay; Strong grade of structure, 20-50 mm, Angular blocky; 10-20 mm, Angular blocky; Moist; Firm consistence; 0-2%, Basalt, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Field pH 6.6 (pH meter); Few, fine (1-2mm) roots;
B2	0.3 - 0.6 m	Dark greyish brown (10YR4/2-Moist); , 5YR34, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Light medium clay; Strong grade of structure, 20-50 mm, Angular blocky; 10-20 mm, Angular blocky; Moist; Firm consistence; 0-2%, Basalt, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Field pH 6.5 (pH meter); Diffuse change to -
B3	0.6 - 0.8 m	Dark greyish brown (2.5Y4/3-Moist); , 10YR56, 20-50% , 5-15mm, Distinct; , 5YR48, 20-50% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; 5-10 mm, Angular blocky; Moist; Firm consistence; Moderately plastic; 10-20%, Basalt, coarse fragments; Common (10 - 20 %), Ferromanganiferous, , Nodules; Field pH 6.8 (pH meter);

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B3	0.8 - 0.9 m	Dark greyish brown (2.5Y4/3-Moist); , 10YR56, 20-50% , 5-15mm, Distinct; , 5YR48, 20-50% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; 5-10 mm, Angular blocky; Moist; Moderately plastic; 10-20%, Basalt, coarse fragments; Common (10 - 20 %), Ferromanganiferous, , Nodules; Field pH 7.6 (pH meter); Diffuse change to -
BC	0.9 - 1.12 m	Grey (2.5Y5/1-Moist); , 10YR56, 20-50% , Distinct; , 10YR68, 20-50% , Distinct; Heavy clay; Moist; Very plastic; 10-20%, Basalt, coarse fragments; Field pH 8 (pH meter);
C	1.12 - 1.2 m	; Field pH 8 (pH meter);

Morphological Notes

C Mottled G;GB;YB;light clay as matrix between BA boulders.

Observation Notes

0-5CM POROUS GRANULAR STRUCTURE.

Site Notes

BUNDABERG

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m	Cmol (+)/kg							%
0 - 0.05	6.2A	0.05A	6.3B	6.2	0.4	0.85	8.8D			
0.05 - 0.1	6A	0.05A	5.3B	5.8	0.2	0.8	8.8D			
0.1 - 0.2	6.4A	0.03A								
0.2 - 0.25	6.5A	0.04A	6.9B	10.3	0.15	0.7	3.3D			
0.25 - 0.3	6.6A	0.03A	6.2B	10.2	0.05	0.54	2.6D			
0.3 - 0.6	6.5A	0.05A	5.6B	10.2	0.05	0.78	0.82D			
0.6 - 0.8	6.8A	0.08A	4.3B	11	0.05	1.81	0D			
0.8 - 0.9	7.6A	0.11A								
0.9 - 1.12	8A	0.21A	8.4B	18.7	0.05	4.3	0D			
1.12 - 1.2	8A	0.22A								

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 - 0.05		3.84A	37A 11B	0.18A	0.25B	0.11A	1.25	3	23C	15	16	39
0.05 - 0.1		3.78A	14A 4.8B	0.14A	0.21B	0.11A		1	19C	16	16	44
0.1 - 0.2		2.97A	19A 2.3B				1.44					
0.2 - 0.25		2.44A	11A 2.6B	0.11A	0.14B	0.08A		4	17C	15	15	46
0.25 - 0.3		1.78A	15A 2.8B	0.11A	0.12B	0.08A	1.49	3	15C	14	14	50
0.3 - 0.6		1.51A	19A 2.9B	0.1A	0.083B	0.07A		3	16C	13	14	52
0.6 - 0.8		0.81A		0.11A	0.047B	0.07A	1.51	17	19C	12	13	58
0.8 - 0.9												
0.9 - 1.12				0.12A	0.018B	0.3A		18	16C	13	14	55
1.12 - 1.2												

Depth	COLE	Gravimetric/Volumetric Water Contents							K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar		
m		g/g - m3/m3							mm/h	mm/h
0 - 0.05				0.41F				0.28H		
0.05 - 0.1										
0.1 - 0.2				0.41F				0.3H		
0.2 - 0.25										
0.25 - 0.3				0.38F				0.29H		
0.3 - 0.6										
0.6 - 0.8				0.38F				0.3H		
0.8 - 0.9										
0.9 - 1.12										
1.12 - 1.2										

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
15_NR_H	Hydrogen Cation - 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
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	Organic carbon - Walkley and Black
7_NR	Total nitrogen (%) - Not recorded
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_NR_C	Clay (%) - Not recorded
P10_NR_CS	Coarse sand (%) - Not recorded
P10_NR_FS	Fine sand (%) - Not recorded
P10_NR_Z	Silt (%) - Not recorded
P3A1	Bulk density - g/cm3
P3B3VLe004	0.04 BAR Moisture m3/m3 - Volumetric using undisturbed 60mm diameter and 34mm height core on suction plate
P3B3VLe01	0.1 BAR Moisture m3/m3 - Volumetric using undisturbed 60mm diameter and 34mm height core on suction plate
P3B3VLe03	0.3 BAR Moisture m3/m3 - Volumetric using undisturbed 60mm diameter and 34mm height core on suction plate
P3B3VLe06	0.6 BAR Moisture m3/m3 - Volumetric using undisturbed 60mm diameter and 34mm height core on pressure plate
P3B3VLe15	15 BAR Moisture m3/m3 - Volumetric using undisturbed 60mm diameter and 34mm height core on pressure plate
P3B3VLe2	2 BAR Moisture m3/m3 - Volumetric using undisturbed 60mm diameter and 34mm height core on pressure plate
P3B3VLe7	7 BAR Moisture m3/m3 - Volumetric using undisturbed 60mm diameter and 34mm height core on pressure plate