Project Name: DD
Project Code: DD **Site ID:** B191 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	C.H. Thompson	**Locality:**	
Date Desc.:	23/10/53	**Elevation:**	457 metres
Map Ref.:	Sheet No. : 9242 1:100000	**Rainfall:**	660
Northing/Long.:	151.570277777778	**Runoff:**	Moderately rapid
Easting/Lat.:	-27.7475	**Drainage:**	Moderately well drained

Geology

ExposureType:	Soil pit	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	Jw	**Substrate Material:**	Soil pit, 0.94 m deep,Porous, Mudstone

Land Form

Rel/Slope Class:	Rolling low hills 30-90m 10-32%	**Pattern Type:**	Low hills
Morph. Type:	No Data	**Relief:**	30 metres
Elem. Type:	Pediment	**Slope Category:**	No Data
Slope:	5.25 %	**Aspect:**	No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

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

Mapping Unit: N/A
Principal Profile Form: Ug5.14
Great Soil Group: Black earth

Site Disturbance: No effective disturbance other than grazing by hoofed animals

Vegetation: Low Strata - Tussock grass, , . *Species includes - Bothriochloa decipiens, Aristida species
Tall Strata - Tree, 6.01-12m, Mid-dense. *Species includes - Eucalyptus populnea, Acacia harpophylla

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

AB	0 - 0.05 m	Dark grey (10YR4/1-Dry); ; Medium clay; Strong grade of structure, <2 mm, Granular; Dry; Very weak consistence; 2-10%, fine gravelly, 2-6mm, Detrital sedimentary rock (unidentified), coarse fragments; Field pH 7.7 (pH meter); Clear change to -
B2	0.05 - 0.33 m	Black (10YR2/1-Moist); ; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moderately moist; Very firm consistence; 2-10%, medium gravelly, 6-20mm, Detrital sedimentary rock (unidentified), coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.2 (pH meter); Gradual change to -
B2	0.34 - 0.64 m	Black (10YR2/1-Moist); ; Heavy clay; Moderate grade of structure, Lenticular; Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, Detrital sedimentary rock (unidentified), coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.6 (pH meter); Gradual change to -
B2	0.64 - 0.76 m	Black (10YR2/1-Moist); ; Heavy clay; Moderate grade of structure, Lenticular; Moist; Firm consistence; 2-10%, medium gravelly, 6-20mm, Detrital sedimentary rock (unidentified), coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.4 (pH meter); Gradual change to -
B3	0.79 - 0.94 m	Black (10YR2/1-Moist); , 2.5Y42; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, Detrital sedimentary rock (unidentified), coarse fragments; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Very few (0 - 2 %), Gypseous, , Crystals; Field pH 7.9 (pH meter); Gradual change to -
C	0.94 - 1.22 m	Greyish brown (2.5Y5/2-Moist); , 2.5Y64; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Moist; Firm consistence; 2-10%, Mudstone, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Gypseous, , Crystals; Field pH 8.8 (pH meter); Gradual change to -
D	1.22 - 1.52 m	Brownish yellow (10YR6/6-Moist); , 10YR63; Medium clay; Massive grade of structure; Moist; Weak consistence; Field pH 9.1 (pH meter);

Morphological Notes

Observation Notes

0-5CM GRANULAR GRADING TO BLOCK STRUCTURE;D HORIZON WEATHERED MUDSTONE

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Site Notes

DARLING DOWNS

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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	7.7H	0.13B	29.3K	6	2.4	0	2.9D		40.6E	
0.05 - 0.33	8.2H	0.05B		6						
0.34 - 0.64	8.6H	0.23B	24.8K	11.8	0.53	7.6			44.7E	
0.64 - 0.76	8.4H	0.52B		11.8						
0.79 - 0.94	7.9H	0.46B								
0.94 - 1.22	8.8H	0.4B								
1.22 - 1.52	9.1H	0.2B								

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	0.77C	5.67E			0.43B			3	9C	21	20	43
0.05 - 0.33		1.48E	11C	0.023F			1.40	6				
0.34 - 0.64	0.32C	1.08E		0.021F			1.30		8C	19	16	56
0.64 - 0.76		0.76E										
0.79 - 0.94		0.21E		0.016F								
0.94 - 1.22	1.38C	0.1E		0.022F				5	1C	18	32	48
1.22 - 1.52	0.25C	0.07E	41C	0.021F					<1C	16	40	43

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										
0.05 - 0.33								0.3C		
0.34 - 0.64								0.39C		
0.64 - 0.76										
0.79 - 0.94										
0.94 - 1.22										
1.22 - 1.52										

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Laboratory Analyses Completed for this profile

15_NR	Sum of Ex. cations + Ex. acidity - Not recorded
15_NR_CA	Exch. basic cations (Ca++) - meq per 100g of soil - Not recorded
15_NR_H	Hydrogen Cation - meq per 100g of soil - Not recorded
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
19B_NR	Calcium Carbonate (CaCO3) - Not recorded
2_LOI	Loss on Ignition (%)
2A1	Air-dry moisture content
3_NR	Electrical conductivity or soluble salts - Not recorded
4_NR	pH of soil - Not recorded
5_NR	Water soluble Chloride - Cl(%) - Not recordede
6Z	Organic carbon (%) - Not recorded
7_NR	Total nitrogen (%) - Not recorded
9_NR	Available P (mg/kg) - Not recorded
9A_NR	Total element - P(%) - Not recorded
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
P3A_NR	Bulk density - Not recorded
P3B_VL_15	15 BAR Moisture m3/m3 - Volumetric using pressure plate