Project Name: **Preliminary Assessment and Survey of Land Degradation in the Dalrypmle Shire, QLD**
Project Code: **DLR** **Site ID:** **T551** **Observation ID:** **1**
Agency Name: **QLD Department of Primary Industries**

Site Information

Desc. By:	M.G. Cannon	**Locality:**	
Date Desc.:	03/03/92	**Elevation:**	249 metres
Map Ref.:	Sheet No. : 8156 GPS	**Rainfall:**	No Data
Northing/Long.:	7717941 AMG zone: 55	**Runoff:**	Slow
Easting/Lat.:	438878 Datum: AGD66	**Drainage:**	Imperfectly drained

Geology

ExposureType:	No Data	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	Qo	**Substrate Material:**	No Data

Land Form

Rel/Slope Class:	Gently undulating plains <9m 1-3%	**Pattern Type:**	Plain
Morph. Type:	Upper-slope	**Relief:**	No Data
Elem. Type:	Plain	**Slope Category:**	Very gently sloped
Slope:	1 %	**Aspect:**	No Data

Surface Soil Condition (dry): Cracking, Self-mulching

Erosion:

Soil Classification

Australian Soil Classification:
Epicalcareous Self-Mulching Grey Vertosol Slightly gravelly Fine Medium fine Very deep

Mapping Unit: N/A
Principal Profile Form: Ug5.21

ASC Confidence:
All necessary analytical data are available.

Great Soil Group: Grey clay

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

Vegetation: Low Strata - Tussock grass, 0.51-1m, Sparse. *Species includes - Cenchrus ciliaris
Mid Strata - , , . *Species includes - None recorded
Tall Strata - , , . *Species includes - None Recorded

Surface Coarse Fragments: 2-10%, coarse gravelly, 20-60mm, subrounded, Limestone

Profile Morphology

A11	0 - 0.03 m	Dark greyish brown (10YR4/2-Moist); ; Light medium clay; Strong grade of structure, <2 mm, Granular; Smooth-ped fabric; Moderately moist; Very weak consistence; Common (10 - 20 %), Calcareous, Fine (0 - 2 mm), Concretions; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 9.5 (Raupach, 0.01); Few, fine (1-2mm) roots; Clear, Wavy change to -
A12	0.03 - 0.15 m	Dark greyish brown (10YR4/2-Moist); ; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 9.5 (Raupach, 0.1); Few, fine (1-2mm) roots; Gradual, Wavy change to -
B1	0.15 - 0.35 m	Dark greyish brown (10YR4/2-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Subangular blocky; Strong grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 9.5 (Raupach, 0.25); Few, fine (1-2mm) roots; Diffuse, Wavy change to -
B21	0.35 - 0.65 m	Dark greyish brown (2.5Y4/2-Moist); ; Medium heavy clay; Strong grade of structure, 10-20 mm, Lenticular; Strong grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Moderately moist; Very strong consistence; Few cutans, <10% of ped faces or walls coated, distinct; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Soil matrix is Moderately calcareous; Field pH 9.5 (Raupach, 0.5); Diffuse, Wavy change to -
B22	0.65 - 0.95 m	Dark greyish brown (2.5Y4/2-Moist); ; Medium heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Moderately moist; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Soil matrix is Moderately calcareous; Field pH 9.5 (Raupach, 0.8); Diffuse, Wavy change to -

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B23	0.95 - 1.25 m	Dark greyish brown (2.5Y4/3-Moist); ; Medium heavy clay; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very strong consistence; 0-2%, medium gravelly, 6-20mm, subrounded platy, Limestone, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Soil matrix is Slightly calcareous; Field pH 9.5 (Raupach, 1.1); Diffuse, Wavy
B24k	1.25 - 1.5 m	Greyish brown (2.5Y5/3-Moist); , 2.5Y73; Medium heavy clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Soil matrix is Slightly calcareous; Field pH 9.5 (Raupach, 1.4); Gradual, Wavy
BC	1.5 - 1.9 m	Pale yellow (2.5Y7/3-Moist); ; Light clay; Massive grade of structure; Smooth-ped fabric; Moderately moist; Weak consistence; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Soft segregations; Very many (50 - 100 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Soil matrix is Slightly calcareous; Field pH 9.5 (Raupach, 1.7);

Morphological Notes

Observation Notes

DLR1057

Site Notes

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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 - 0.03	8.64A	0.14A	50B	17	3.2	0.25		6.5I		3.85
			30.8J	11.9	1.29	0.19				2.92
0.03 - 0.15	8.33A	0.4A	45B	20	1.4	0.07		46.7I		0.15
			28.7J	16.1	0.4	0.24				0.51
0.15 - 0.35	8.86A	0.14A						5.9I		
0.35 - 0.65	9.08A	0.2A	40B	29	1	2.6		49D		5.31
			22.5J	21.6	0.14	1.24		47.3I		5.50
										2.53
										2.62
0.65 - 0.95	9.06A	0.4A						18.3I		
0.95 - 1.25	8.69A	0.96A	18.7J	22.7	0.15	2.66		47.3I		5.62
1.25 - 1.5	8.56A	1.05A								
1.5 - 1.9	8.49A	0.96A	12.1J	17.5	0.27	1.49		32.2I		4.63

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 - 0.03	4.7A	1.7B		0.028A	0.09A	0.705A			9A	18	16	58
0.03 - 0.15	6.3A	1.5B		0.021A	0.06A	0.622A			8A	15	18	59
0.15 - 0.35												
0.35 - 0.65	5.3A	1.1B		0.018A	0.02A	0.634A			6A	14	17	63
0.65 - 0.95												
0.95 - 1.25									3A	13	14	71
1.25 - 1.5												
1.5 - 1.9									1A	4	15	80

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 - 0.03									
0.03 - 0.15									
0.15 - 0.35									
0.35 - 0.65									
0.65 - 0.95									
0.95 - 1.25									
1.25 - 1.5									
1.5 - 1.9									

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
10B	Extractable sulfur(mg/kg) - Phosphate extractable sulfur
12A1_CU	DTPA - extractable copper, zinc, manganese and iron
12A1_FE	DTPA - extractable copper, zinc, manganese and iron
12A1_MN	DTPA - extractable copper, zinc, manganese and iron
12A1_ZN	DTPA - extractable copper, zinc, manganese and iron
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
15D2_CEC	CEC - 1M ammonium acetate at pH 7.0, pretreatment for soluble salts; automatic extractor
15F1_CA	Exchangeable bases by 0.01M silver-thiourea (AgTU)+, no pretreatment for soluble salts
15F1_K	Exchangeable bases by 0.01m (AgTU)+, no pretreatment for soluble salts
15F1_MG	Exchangeable bases by 0.01m (AgTU)+, no pretreatment for soluble salts
15F1_NA	Exchangeable bases by 0.01m (AgTU)+, no pretreatment for soluble salts
15F3	CEC by 0.01M silver-thiourea (AgTU)+
15N1	Exchangeable sodium percentage (ESP)
17A1	Total potassium - X-ray fluorescence
19A1	Carbonates - rapid titration
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
5A1	Chloride - 1:5 soil/water extract, potentiometric titration
6B2	Total organic carbon - high frequency induction furnace, volumetric
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9A1	Total phosphorus - X-ray fluorescence
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