Project Name: **Preliminary Assessment and Survey of Land Degradation in the Dalrypmle Shire, QLD**
Project Code: **DLR** **Site ID:** **T549** **Observation ID:** **1**
Agency Name: **QLD Department of Primary Industries**

Site Information

Desc. By:	M.G. Cannon	**Locality:**	
Date Desc.:	03/03/92	**Elevation:**	250 metres
Map Ref.:	Sheet No. : 8156 GPS	**Rainfall:**	No Data
Northing/Long.:	7719580 AMG zone: 55	**Runoff:**	Slow
Easting/Lat.:	439164 Datum: AGD66	**Drainage:**	Imperfectly drained

Geology

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

Land Form

Rel/Slope Class:	Level plain <9m <1%	**Pattern Type:**	Alluvial plain
Morph. Type:	Flat	**Relief:**	No Data
Elem. Type:	Plain	**Slope Category:**	Level
Slope:	1 %	**Aspect:**	No Data

Surface Soil Condition (dry): Cracking, Hardsetting

Erosion: 1 m1 m;

Soil Classification

Australian Soil Classification:
Endocalcareous Crusty Black Vertosol Slightly gravelly Fine Medium fine Very deep

Mapping Unit: N/A
Principal Profile Form: Ug5.15

ASC Confidence:
All necessary analytical data are available.

Great Soil Group: Brown clay

Site Disturbance: Limited clearing, for example selective logging

Vegetation: Low Strata - Tussock grass, 0.26-0.5m, Sparse. *Species includes - Chrysopogon fallax, Dichanthium species, Aristida species Mid Strata - Shrub, 0.51-1m, Isolated plants. *Species includes - Atalaya hemiglauca, Lysiphillum carronii

Tall Strata - Tree, 6.01-12m, Isolated plants. *Species includes - Owenia acidula, Terminalia oblongata, Lysiphillum carronii

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

Profile Morphology

A11	0 - 0.02 m	Dark greyish brown (10YR4/2-Moist); ; Light clay; Moderate grade of structure, <2 mm, Platy; Smooth-ped fabric; Dry; Firm consistence; Field pH 6.5 (Raupach, 0); Abrupt, Wavy change to -
A12	0.02 - 0.18 m	Very dark greyish brown (10YR3/2-Moist); ; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Dry; Very firm consistence; 10-20%, fine gravelly, 2-6mm, subrounded, dispersed, Quartzite, coarse fragments; Field pH 7 (Raupach, 0.1); Gradual, Wavy change to -
B21	0.18 - 0.43 m	Very dark greyish brown (2.5Y3/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Strong grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Nodules; Field pH 6.5 (Raupach, 0.3); Gradual, Wavy change to -
B22	0.43 - 0.7 m	Dark greyish brown (2.5Y4/3-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Nodules; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Field pH 8 (Raupach, 0.55); Gradual, Wavy change to -
B22	0.7 - 1 m	Dark greyish brown (2.5Y4/3-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Field pH 8.5 (Raupach, 0.9); Diffuse, Wavy change to -
B23	1 - 1.3 m	Olive brown (2.5Y4/4-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Field pH 8.5 (Raupach, 1.1); Gradual, Wavy change to -

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B24	1.3 - 1.7 m	Light olive brown (2.5Y5/4-Moist); ; Medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Field pH 8.5 (Raupach, 1.5);

Morphological Notes

Observation Notes

DLR1055; LOWER B HORIZON DISPERSES ; SURFACE CRUST 2 - 3 mm.; ALSO BRACHYACHNE TENELLA; SPOROBOLIS SPP;
BASSIA TETRACUSPIS (DOGBURR). TUNNELL EROSION COMMON.

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 - 0.02	6.96A	0.06A	12B	6	1.5	0.31		20.1I		1.54
			10.9J	5.09	0.52	0.14				0.70
0.02 - 0.18	7.07A	0.05A	13B	5.9	0.78	0.6		20.7I		2.90
			11.9J	5.46	0.22	0.28				1.35
0.18 - 0.43	7.43A	0.03A								
0.43 - 0.7	9.18A	0.07A	18B	8	0.28	2.2				
0.7 - 1	9.01A	0.33A	11.7J	7.5	0.02	1.47		21.4D		6.87
								25.3I		5.81
1 - 1.3	8.67A	0.61A								
1.3 - 1.7	8.69A	0.01A	11.6J	8.94	0.06	3.05		20.8I		14.66

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 - 0.02	0.1A	1.8B		0.036A	0.11A	0.284A			14A	37	17	33
0.02 - 0.18		1.2B		0.027A	0.05A	0.215A			13A	31	17	39
0.18 - 0.43												
0.43 - 0.7												
0.7 - 1									11A	26	16	48
1 - 1.3												
1.3 - 1.7									8A	24	16	51

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 - 0.02										
0.02 - 0.18										
0.18 - 0.43										
0.43 - 0.7										
0.7 - 1										
1 - 1.3										
1.3 - 1.7										

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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