Project Name: **Preliminary Assessment and Survey of Land Degradation in the Dalrypmle Shire, QLD**
Project Code: **DLR** **Site ID:** **T532** **Observation ID:** **1**
Agency Name: **QLD Department of Primary Industries**

Site Information

Desc. By:	M.G. Cannon	**Locality:**	
Date Desc.:	11/12/91	**Elevation:**	300 metres
Map Ref.:	Sheet No. : 8157 GPS	**Rainfall:**	No Data
Northing/Long.:	7743118 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	404647 Datum: AGD66	**Drainage:**	No Data

Geology

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

Land Form

Rel/Slope Class:	Level plain <9m <1%	**Pattern Type:**	Plain
Morph. Type:	Flat	**Relief:**	No Data
Elem. Type:	Plain	**Slope Category:**	Level
Slope:	1 %	**Aspect:**	0 degrees

Surface Soil Condition (dry): Hardsetting, Cracking

Erosion: 4 m4 m;

Soil Classification

Australian Soil Classification:
Vertic Hypercalcic Grey Dermosol Medium Non-gravelly Clay-loamy Clayey Very deep

Mapping Unit: N/A
Principal Profile Form: Ug5.28

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, 0.26-0.5m, Sparse. *Species includes - Dichanthium species, Bothriochloa ewartiana,

Aristida species Mid Strata - Tree, 1.01-3m, Sparse. *Species includes - Eucalyptus brownii

Tall Strata - Tree, 6.01-12m, Sparse. *Species includes - Eucalyptus brownii

Surface Coarse Fragments: 0-2%, medium gravelly, 6-20mm, rounded, Quartz

Profile Morphology

A11	0 - 0.01 m	Dark greyish brown (10YR4/2-Moist); ; Light medium clay; Weak grade of structure, 10-20 mm, Platy; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Dry; Strong consistence; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Field pH 8.5 (Raupach, 0.01); Abrupt, Wavy change to -
A12	0.01 - 0.16 m	Brown (10YR4/3-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 9 (Raupach, 0.1); Clear, Wavy change to -
A13	0.16 - 0.46 m	Greyish brown (2.5Y5/2-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 9.5 (Raupach, 0.3); Diffuse, Wavy change to -
B21k	0.46 - 0.76 m	Greyish brown (2.5Y5/2-Moist); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 9.5 (Raupach, 0.6); Diffuse, Wavy change to -
B21k	0.76 - 1.06 m	Greyish brown (2.5Y5/3-Moist); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Nodules; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 9.5 (Raupach, 0.9); Diffuse, Wavy change to -

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B22	1.06 - 1.36 m	Light brownish grey (2.5Y6/3-Moist); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Nodules; , Gypseous, , ; Field pH 9.5 (Raupach, 1.2); Diffuse, Wavy change to -
B23	1.36 - 1.66 m	Light brownish grey (2.5Y6/2-Moist); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Prismatic; Strong grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Field pH 9.5 (Raupach, 1.5); Diffuse,
B23	1.66 - 1.96 m	Light brownish grey (2.5Y6/2-Moist); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Prismatic; Strong grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Field pH 8.5 (Raupach, 1.9);

Morphological Notes

Observation Notes

DLR1038; GRASS ON MOUND - EHRYSOPOGON FALLAX & SPOROBOLIS SPECIES.

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 - 0.01	8.29A	0.06A	18B	7.6	0.21	0.22		21.2I		1.04
			13.6J	6.68	0.07	0.05				0.24
0.01 - 0.16	8.89A	0.08A	21B	8.1	0.14	0.48		23.9I		2.01
			16.4J	7.58	0.02	0.23				0.96
0.16 - 0.46	9.48A	0.13A	29B	12	0.12	2.1				
0.46 - 0.76	9.52A	0.2A	28B	13	0.04	3.1		26.1I		11.88
			15.3J	9.99	0.02	0.79				3.03
0.76 - 1.06	8.88A	0.77A								
1.06 - 1.36	8.88A	0.77A	13.4J	14.8	0.02	1.49		31.4I		4.75
1.36 - 1.66	8.84A	0.78A								
1.66 - 1.96	7.39A	0.79A	8.74J	13.3	0.02	1.52		27.5I		5.53

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 - 0.01	0.3A	0.7B		0.014A	0.04A	0.031A			22A	35	16	27
0.01 - 0.16	0.7A	0.7B		0.014A	0.04A	0.01A			22A	32	16	31
0.16 - 0.46												
0.46 - 0.76				0.011A		0.027A			19A	28	17	36
0.76 - 1.06												
1.06 - 1.36									13A	24	20	42
1.36 - 1.66												
1.66 - 1.96									9A	26	21	44

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 - 0.01									
0.01 - 0.16									
0.16 - 0.46									
0.46 - 0.76									
0.76 - 1.06									
1.06 - 1.36									
1.36 - 1.66									
1.66 - 1.96									

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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
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