

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T531 **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.:	7743084 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	404647 Datum: AGD66	Drainage:	Poorly drained

Geology

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

Land Form

Rel/Slope Class:	Undulating low hills 30-90m 3-10%	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:	Haplic Crusty Grey Vertosol Non-gravelly Fine Medium fine 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 - Elytrophorus spicatus
 Mid Strata - , , . *Species includes - None recorded
 Tall Strata - , , . *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.02 m	Dark grey (10YR4/1-Moist); ; Light medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 7 (Raupach, 0.01); Common, fine (1-2mm) roots; Clear, Wavy change to -
A12	0.02 - 0.18 m	Dark grey (2.5Y4/1-Moist); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 7.5 (Raupach, 0.1); Few, fine (1-2mm) roots; Gradual, Wavy change to -
A13	0.18 - 0.46 m	Dark grey (2.5Y4/1-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; Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 8 (Raupach, 0.3); Few, very fine (0-1mm) roots; Clear, Wavy change to -
B21	0.46 - 0.8 m	Grey (10YR5/1-Moist); ; Medium heavy clay; Moderate grade of structure, 100-200 mm, Lenticular; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very strong consistence; 0-2%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; , Calcareous, , , , Gypseous, , ; Field pH 5.5 (Raupach, 0.7); Few, very fine (0-1mm) roots; Gradual, Wavy change to -
B22	0.8 - 1.1 m	Grey (10YR5/1-Moist); ; Medium heavy clay; Massive grade of structure; Rough-ped fabric; Moderately moist; Very strong consistence; , Calcareous, , , , Gypseous, , ; Field pH 5 (Raupach, 1); Few, very fine (0-1mm) roots; Gradual, Wavy change to -
B23	1.1 - 1.5 m	Grey (10YR5/1-Moist); Mottles, 10YR62, 20-50% , 5-15mm, Distinct; Mottles, 20-50% ; Medium heavy clay; Massive grade of structure; Rough-ped fabric; Moderately moist; Very strong consistence; , Calcareous, , , , Gypseous, , ; Field pH 4.5 (Raupach, 1.4); Few, very fine (0-1mm) roots; Gradual, Wavy change to -

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B24 1.5 - 1.9 m Light brownish grey (10YR6/2-Moist); Mottles, 10YR51, 2-10% , 5-15mm, Distinct; Mottles, 2-10% ; Medium heavy clay; Massive grade of structure; Rough-ped fabric; Moderately moist; Very strong consistence; , Calcareous, , ; , Gypseous, , ; Field pH 4.5 (Raupach, 1.8); Few, fine (1-2mm) roots;

Morphological Notes

Observation Notes

DLR1037; GRASS IN DEPRESSION - ELYTROPHORUS SPICATUS.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations		Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity	%
0 - 0.02	6.44A	0.06A	7.4B	11	0.24	0.5		2.45
			7.17J	10.2	0.08	0.23		1.13
0.02 - 0.18	6.74A	0.04A	9.3B	11	0.13	0.66	23.4I	2.82
			9.15J	11.1	0.02	0.31		1.32
0.18 - 0.46	7.1A	0.11A	10B	12	0.12	1.4		
0.46 - 0.8	5.71A	0.45A	7.41J	9.67	0.02	0.7	21.6I	3.24
0.8 - 1.1	4.76A	0.58A						
1.1 - 1.5	4.56A	0.64A						
1.5 - 1.9	4.44A	0.73A	6.63J	10.5	0.02	0.8	22.6I	3.54

Depth m	CaCO3 %	Organic C %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle		Size FS %	Analysis	
								GV	CS		Silt	Clay
0 - 0.02		1B		0.017A	0.03A	0.031A			18A	25	22	35
0.02 - 0.18		0.6B		0.013A	0.02A	0.04A			17A	22	22	39
0.18 - 0.46												
0.46 - 0.8									12A	21	26	41
0.8 - 1.1												
1.1 - 1.5												
1.5 - 1.9									9A	17	26	49

[illegible]

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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 (Ca ²⁺ ,Mg ²⁺ ,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
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