

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T520 **Observation ID:** 1
Agency Name: QLD Department of Primary Industries

Site Information

Desc. By:	M.G. Cannon	Locality:	
Date Desc.:	06/12/91	Elevation:	353 metres
Map Ref.:	Sheet No. : 8157 GPS	Rainfall:	No Data
Northing/Long.:	7783612 AMG zone: 55	Runoff:	Rapid
Easting/Lat.:	404309 Datum: AGD66	Drainage:	Imperfectly drained

Geology

ExposureType:	No Data	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	TI	Substrate Material:	Undisturbed soil core, 1.3 m deep, Ferricrete

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:	270 degrees

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Haplic Mesotrophic Brown Kandosol Thin Non-gravelly Loamy Clay-loamy Very deep	Principal Profile Form:	Gn2.32
ASC Confidence:	Great Soil Group:	Yellow earth

Analytical data are incomplete but reasonable confidence.

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

Vegetation: Low Strata - Tussock grass, 0.26-0.5m, Sparse. *Species includes - Cenchrus ciliaris, Heteropogon contortus, Cyperus species
Mid Strata - Tree, 1.01-3m, Mid-dense. *Species includes - Acacia species

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

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11	0 - 0.07 m	Dark grey (10YR4/1-Moist); ; Sandy loam; Massive grade of structure; Earthy fabric; Dry; Firm consistence; , Calcareous, , , , Gypseous, , ; Field pH 6.5 (Raupach, 0.05); Common, fine (1-2mm) roots; Clear, Wavy change to -
A21j	0.07 - 0.19 m	Brown (10YR5/3-Moist); ; Sandy loam (Heavy); Massive grade of structure; Earthy fabric; Dry; Very weak consistence; , Calcareous, , , , Gypseous, , ; Field pH 6.5 (Raupach, 0.15); Few, very fine (0-1mm) roots; Gradual, Wavy change to -
B1	0.19 - 0.31 m	Brownish yellow (10YR6/6-Moist); ; Sandy clay loam; Massive grade of structure; Earthy fabric; Dry; Very weak consistence; , Calcareous, , , , Gypseous, , ; Field pH 6 (Raupach, 0.25); Few, very fine (0-1mm) roots; Gradual, Wavy change to -
B21	0.31 - 0.67 m	Brownish yellow (10YR6/8-Moist); ; Clay loam, sandy; Massive grade of structure; Earthy fabric; Dry; Weak consistence; , Calcareous, , , , Gypseous, , ; Field pH 6 (Raupach, 0.5); Few, very fine (0-1mm) roots; Clear, Wavy change to -
B22c	0.67 - 1 m	Yellowish brown (10YR5/4-Moist); ; Clay loam, sandy; Massive grade of structure; Earthy fabric; Dry; Loose consistence; Very many (50 - 100 %), Ferruginous, Coarse (6 - 20 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 7 (Raupach, 0.85); Few, very fine (0-1mm) roots; Clear, Wavy change to -
B22c	1 - 1.3 m	Yellowish brown (10YR5/4-Moist); ; Clay loam, sandy; Massive grade of structure; Earthy fabric; Dry; Loose consistence; Very many (50 - 100 %), Ferruginous, Coarse (6 - 20 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 8 (Raupach, 1.2); Few, very fine (0-1mm) roots; Clear, Wavy change to -
C1	1.3 - 1.52 m	Light olive brown (2.5Y5/4-Moist); ; Sandy clay loam; Massive grade of structure; Earthy fabric; Dry; Very many (50 - 100 %), Ferruginous, , Nodules; , Calcareous, , , , Gypseous, , ; Ferricrete, Uncemented, Broken, Massive; Field pH 8 (Raupach, 1.4); Few, fine (1-2mm) roots; Clear, Wavy change to -

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C2 1.52 - 2 m Brown (7.5YR4/4-Moist); Substrate influence, 10YR62, 20-50% , 15-30mm, Prominent;
Substrate influence, 20-50% ; Sandy clay loam; Massive grade of structure; Earthy fabric; Dry;
Very many (50 - 100 %), Ferruginous, , Nodules; , Calcareous, , ; , Gypseous, , ; Ferricrete,
Weakly cemented, Continuous, Concretionary; Field pH 8 (Raupach, 1.9);

Morphological Notes

Observation Notes

C1 AND C2 MAY BE PAN OR FERRICRETE./OTHER GRASSES UNIDENTIFIED & FLANNELWEED. DLR1026:

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.07	6.01A	0.02A	1.4B	0.45	0.45	0.06		0.8I		7.50
0.07 - 0.19	5.77A	0.01A	1.71J	0.71	0.1					
0.19 - 0.31	5.53A	0.01A								
0.31 - 0.67	5.86A	0.01A	1.31J	0.96	0.02	0.02		3.8D		0.53
0.67 - 1	6.62A	0.01A						2.2I		0.91
1 - 1.3	6.45A	0.01A	1.06J	1.13	0.02	0.02				
1.3 - 1.52	7.02A	0.01A								
1.52 - 2	7.17A	0.02A	0.78J	1.25	0.02	0.04		1.8I		2.22

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.07		0.7B		0.016A	0.02A	0.203A			49A	32	3	16
0.07 - 0.19												
0.19 - 0.31												
0.31 - 0.67									35A	27	3	34
0.67 - 1												
1 - 1.3									37A	27	4	31
1.3 - 1.52												
1.52 - 2									47A	22	6	25

[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 (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
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
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