

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T535 **Observation ID:** 1
Agency Name: QLD Department of Primary Industries

Site Information

Desc. By: M.G. Cannon	Locality:
Date Desc.: 11/12/91	Elevation: 260 metres
Map Ref.: Sheet No. : 8156 GPS	Rainfall: No Data
Northing/Long.: 7729582 AMG zone: 55	Runoff: Slow
Easting/Lat.: 408892 Datum: AGD66	Drainage: Poorly drained

Geology

Exposure Type: 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: Alluvial plain
Morph. Type: Flat	Relief: No Data
Elem. Type: Plain	Slope Category: Level
Slope: <1 %	Aspect: No Data

Surface Soil Condition (dry): Hardsetting, Cracking

Erosion: 1 m2 m;

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Eutrophic Subnatic Brown Sodosol Thick Non-gravelly Clay-loamy Clayey Very deep	Principal Profile Form: Dy2.43
ASC Confidence:	Great Soil Group: Solodic soil

All necessary analytical data are available.

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

Vegetation: Low Strata - Tussock grass, 0.26-0.5m, Sparse. *Species includes - Chrysopogon fallax, Sporobolus species, Aristida species Mid Strata - Tree, 1.01-3m, Mid-dense. *Species includes - Eucalyptus brownii, Eremophila mitchellii

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

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

Profile Morphology

A11	0 - 0.07 m	Dark brown (10YR3/3-Moist); ; Clay loam (Light); Massive grade of structure; Earthy fabric; Dry; Very weak consistence; , Calcareous, , , , Gypseous, , , Field pH 6 (Raupach, 0.05); Common, fine (1-2mm) roots; Clear, Wavy change to -
A21j	0.07 - 0.33 m	Yellowish brown (10YR5/4-Moist); ; Clay loam; Weak grade of structure, 10-20 mm, Subangular blocky; Weak grade of structure, 2-5 mm, Subangular blocky; Earthy fabric; Dry; Very weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , , Field pH 5.5 (Raupach, 0.2); Common, very fine (0-1mm) roots; Gradual, Wavy change to -
A22e	0.33 - 0.47 m	Yellowish brown (10YR5/4-Moist); ; Clay loam; Massive grade of structure; Earthy fabric; Dry; Firm consistence; 20-50%, medium gravelly, 6-20mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , , Field pH 6 (Raupach, 0.4); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
B21	0.47 - 0.72 m	Light olive brown (2.5Y5/4-Moist); Mottles, 2.5Y6/8, 2-10% , 5-15mm, Faint; Mottles, 2-10% ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Dry; Strong consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Manganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , , Field pH 7 (Raupach, 0.6); Few, very fine (0-1mm) roots; Gradual, Wavy change to -
B22k	0.72 - 1.05 m	Light yellowish brown (2.5Y6/4-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Dry; Very firm consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Manganiferous, Medium (2 -6 mm), Nodules; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , , Soil matrix is Moderately calcareous; Field pH 9.5 (Raupach, 0.9); Few, fine (1-2mm) roots; Diffuse

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B23	1.05 - 1.45 m	Light yellowish brown (2.5Y6/4-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; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Soft segregations; , Calcareous, , , , Gypseous, , , Field pH 8.5 (Raupach, 1.3); Few, very fine (0-1mm) roots; Diffuse change to -
B24	1.45 - 1.85 m	Grey (10YR6/1-Moist); Mottles, 2.5YR46, 20-50% , 15-30mm, Prominent; Mottles, 7.5YR54, 20-50% ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , , Field pH 5.8 (Raupach, 1.8); Few, very fine (0-1mm)

Morphological Notes

Observation Notes

DLR1041;B21 DISPERSES IN WATER./OTHER GRASSES - DICANTHIUM SPECIES.

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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	5.9A	0.04A	1.5B 1.02J	1.4 1.12	0.72 0.26	0.06 0.03		4.7I		1.28 0.64
0.07 - 0.33	5.55A	0.02A								
0.33 - 0.47	6.96A	0.02A	1.1B	2.1	0.25	0.51				
0.47 - 0.72	7.67A	0.1A	2.3B 2.03J	6.4 5.47	0.22 0.02	2.4 0.74		9.7D 9.6I		24.74 25.00 7.63 7.71
0.72 - 1.05	9.45A	0.41A								
1.05 - 1.45	8.46A	0.45A								
1.45 - 1.85	5.41A	0.38A	0.7J	4.77	0.02	1.08		8.3I		13.0I

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			0.04A				32A	38	12	18
0.07 - 0.33												
0.33 - 0.47												
0.47 - 0.72				0.012A		0.121A			23A	26	12	39
0.72 - 1.05												
1.05 - 1.45												
1.45 - 1.85									21A	33	14	31

[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
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
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