

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T542 **Observation ID:** 1
Agency Name: QLD Department of Primary Industries

Site Information

Desc. By: M.G. Cannon	Locality:
Date Desc.: 12/12/91	Elevation: 230 metres
Map Ref.: Sheet No. : 8156 GPS	Rainfall: No Data
Northing/Long.: 7704852 AMG zone: 55	Runoff: No runoff
Easting/Lat.: 419030 Datum: AGD66	Drainage: Poorly drained

Geology

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

Surface Soil Condition (dry): Hardsetting, Cracking

Erosion: 1 m1 m;

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Sodic Eutrophic Grey Dermosol Medium Slightly gravelly	Principal Profile Form: Ug5.24
Clayey Clayey Very deep	
ASC Confidence:	Great Soil Group: Grey clay

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 - Dichanthium sericeum, Panicum species, Dicanthium
fecundum Mid Strata - , , . *Species includes - None recorded

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

Surface Coarse Fragments: 2-10%, fine gravelly, 2-6mm, subangular, Quartz

Profile Morphology

A11	0 - 0.01 m	Dark brown (10YR3/3-Moist); ; Light medium clay; Weak grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Dry; Weak consistence; , Calcareous, , , , Gypseous, , ; Field pH 6 (Raupach, 0.01); Common, fine (1-2mm) roots; Abrupt, Wavy change to -
A12	0.01 - 0.08 m	Dark grey (10YR4/1-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Dry; Strong consistence; 10-20%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 6.5 (Raupach, 0.05); Common, fine (1-2mm) roots; Clear, Wavy change to -
A13	0.08 - 0.28 m	Dark grey (10YR4/1-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; 10-20%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 7 (Raupach, 0.2); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
B21	0.28 - 0.52 m	Dark grey (10YR4/1-Moist); ; Medium heavy clay; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; , Calcareous, , , , Gypseous, , ; Field pH 8 (Raupach, 0.4); Few, very fine (0-1mm) roots; Diffuse, Wavy change to -
B22k	0.52 - 0.82 m	Yellowish brown (10YR5/4-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Field pH 8.5 (Raupach, 0.7); Diffuse, Wavy change to -

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B23	0.82 - 1.15 m	Yellowish brown (10YR5/4-Moist); ; Medium clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; , Gypseous, , ; Field pH 8 (Raupach, 1.1); Diffuse, Wavy change to -
B24	1.15 - 1.35 m	Yellowish brown (10YR5/4-Moist); ; Medium clay; Moderate grade of structure, 50-100 mm, Prismatic; Moderate grade of structure, 10-20 mm, Prismatic; Smooth-ped fabric; Moderately moist; Firm consistence; 10-20%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 5.8 (Raupach, 1.3);
B24	1.35 - 1.65 m	Yellowish brown (10YR5/4-Moist); ; Medium clay; Moderate grade of structure, 50-100 mm, Prismatic; Moderate grade of structure, 10-20 mm, Prismatic; Smooth-ped fabric; Moderately moist; Strong consistence; 10-20%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 5.8 (Raupach, 1.6);

Morphological Notes

Observation Notes

DLR1048

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				%
0.01 - 0.08	6.91A	0.08A	5.4B	8.6	0.32	1.2		16.4I		7.32
0.08 - 0.28	7.37A	0.17A	5.24J	7.95	0.07	0.59				3.60
0.28 - 0.52	8.1A	0.4A	9.1B	11	0.19	4.4		20.8D		21.15
			7.76J	9.1	0.02	1.19		20.9I		21.05
										5.72
										5.69
0.52 - 0.82	8.53A	0.57A								
0.82 - 1.15	8.36A	0.45A	5.62J	7.24	0.02	1.19		17.5I		6.80
1.15 - 1.35	7.2A	0.43A								
1.35 - 1.65	5.46A	0.43A	3.26J	5.04	0.02	0.99		15I		6.60

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			%		
0.01 - 0.08	0.1A	0.6B		0.016A	0.03A	0.23A			26A	25	13	35
0.08 - 0.28												
0.28 - 0.52		0.6B		0.013A	0.03A	0.228A			21A	23	14	42
0.52 - 0.82												
0.82 - 1.15									23A	24	16	37
1.15 - 1.35												
1.35 - 1.65									30A	23	14	33

[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
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