

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T533 **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.: 7731648 AMG zone: 55	Runoff: Slow
Easting/Lat.: 404189 Datum: AGD66	Drainage: Imperfectly drained

Geology

Exposure Type: No Data	Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: Qa	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: 130 degrees

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Hypercalcic Subnatric Brown Sodosol Medium Non-gravelly	Principal Profile Form: Db1.23
Clay-loamy Clayey Very deep	
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 - Chloris species, Sporobolus species, Cyperus

Mid Strata - Tree, 1.01-3m, Mid-dense. *Species includes - Eremophila mitchellii, Acacia harpophylla

Tall Strata - Tree, 6.01-12m, Mid-dense. *Species includes - Acacia cambagei, Lysiphillum carronii, Acacia harpophylla

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.08 m	Very dark grey (10YR3/1-Moist); ; Fine sandy clay loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Dry; Firm consistence; , Calcareous, , , , Gypseous, , ; Field pH 6 (Raupach, 0.05); Common, very fine (0-1mm) roots; Clear, Wavy change to -
A2j	0.08 - 0.15 m	Brown (10YR5/3-Moist); ; Fine sandy clay loam; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Dry; Very weak consistence; 10-20%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 8 (Raupach, 0.1); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
B21	0.15 - 0.36 m	Dark yellowish brown (10YR4/4-Moist); ; Medium clay; Moderate grade of structure, 50-100 mm, Columnar; Strong grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; 10-20%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Manganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 8.5 (Raupach, 0.25); Few, very fine (0-1mm) roots; Gradual, Wavy change to -
B22	0.36 - 0.66 m	Dark yellowish brown (10YR4/6-Moist); ; Light medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Strong grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; 10-20%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; , Gypseous, , ; Field pH 9.5 (Raupach, 0.5); Few, very fine (0-1mm) roots; Diffuse, Wavy change to -
B22	0.66 - 1 m	Brown (7.5YR5/4-Moist); ; Light medium clay; Strong grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; 10-20%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Manganiferous, Medium (2 -6 mm), Soft segregations; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; , Gypseous, , ; Field pH 9.5 (Raupach, 0.9); Few, very fine (0-1mm) roots; Diffuse, Wavy change to -

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B23	1 - 1.3 m	Pale brown (10YR6/3-Moist); ; Light clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Dry; Very firm consistence; 10-20%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; , Gypseous, , ; Field pH 8.5 (Raupach, 1.2); Diffuse, Wavy change to -
B24k	1.3 - 1.6 m	Light brownish grey (10YR6/2-Moist); ; Coarse sandy light clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Dry; Firm consistence; 10-20%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 8.5 (Raupach, 1.5); Diffuse, Wavy change to -
B24k	1.6 - 1.8 m	Light brownish grey (10YR6/2-Moist); ; Light medium clay; Smooth-ped fabric; Dry; Firm consistence; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 8.5 (Raupach, 1.8);

Morphological Notes

Observation Notes

<1 CM OF PLATY SANDY SURFACE WASH. B HORIZON DOES NOT DISPERSE IN WATERDLR1039.

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 - 0.08	5.63A	0.07A	4.1B	2.1	0.81	0.23		7.9I		2.91
0.08 - 0.15	6.5A	0.04A	3.87J	1.8	0.21	0.05				0.63
0.15 - 0.36	7.84A	0.03A	7.06J	4.18	0.02	0.71		13.3D		5.34
0.36 - 0.66	9.19A	0.08A	8.3B	5.2	0.43	2.9		13.6I		5.22
0.66 - 1	9.44A	0.68A	9.14J	4.62	0.04	1.64		16.9I		9.70
1 - 1.3	9.16A	0.57A								
1.3 - 1.6	9.44A	0.68A								
1.6 - 1.86	9.36A	0.61A	9.11J	5.39	0.03	1.94		18.1I		10.72

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle	Size	Analysis		
m	%	C	P	P	N	K	Density	GV	CS	FS	Silt	Clay
		%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.08		1B		0.03A	0.06A	1.4A			20A	39	20	21
0.08 - 0.15												
0.15 - 0.36		0.5B							16A	29	15	40
0.36 - 0.66												
0.66 - 1									16A	33	13	38
1 - 1.3												
1.3 - 1.6												
1.6 - 1.86									19A	34	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
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