

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T514 **Observation ID:** 1
Agency Name: QLD Department of Primary Industries

Site Information

Desc. By: M.G. Cannon	Locality:
Date Desc.: 04/12/91	Elevation: 275 metres
Map Ref.: Sheet No. : 8258 GPS	Rainfall: No Data
Northing/Long.: 7790272 AMG zone: 55	Runoff: Slow
Easting/Lat.: 456521 Datum: AGD66	Drainage: Imperfectly drained

Geology

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

Land Form

Rel/Slope Class: Level plain <9m <1%	Pattern Type: Plain
Morph. Type: Lower-slope	Relief: No Data
Elem. Type: Drainage depression	Slope Category: Level
Slope: 1 %	Aspect: 260 degrees

Surface Soil Condition (dry): Cracking, Self-mulching

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Epicalcareous Self-Mulching Black Vertosol Non-gravelly	Principal Profile Form: Ug5.15
Medium fine Medium fine Very deep	
ASC Confidence:	Great Soil Group: Black earth

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, Mid-dense. *Species includes - Bothriochloa pertusa, Bothriochloa ewartiana

Mid Strata - , , . *Species includes - None recorded

Tall Strata - Tree, 3.01-6m, Isolated plants. *Species includes - Eucalyptus erythrophloia

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.1 m	Black (10YR2/1-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Subangular blocky; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Concretions; , Gypseous, , ; Field pH 7 (Raupach, 0.05); Common, fine (1-2mm) roots; Gradual, Wavy change to -
B21	0.1 - 0.36 m	Black (10YR2/1-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 0.25); Few, very fine (0-1mm) roots; Diffuse, Wavy change to -
B22	0.36 - 0.7 m	Black (10YR2/1-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Lenticular; Strong grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Strong consistence; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Many cutans, >50% of ped faces or walls coated, prominent; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 0.5); Few, very fine (0-1mm) roots; Diffuse, Wavy change to -
B23	0.7 - 1 m	Very dark grey (10YR3/1-Moist); ; Heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; 2-10%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; Many cutans, >50% of ped faces or walls coated, prominent; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 0.85); Diffuse, Wavy change to -
B24	1 - 1.4 m	Very dark grey (10YR3/1-Moist); ; Heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated, prominent; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 1.2); Gradual, Wavy change to -

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B3 1.4 - 1.7 m Brown (7.5YR4/3-Moist); ; Heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Weak grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 1.6);

Morphological Notes

Observation Notes

DLR1020

Site Notes

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Laboratory Test Results:

Depth m	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
		dS/m	Ca	Mg	K	Na			
0 - 0.1	8.19A	0.13A	34B	15	0.66	1.1		45.5I	2.42
			30J	13.6	0.15	0.68			1.49
0.1 - 0.36	9.04A	0.13A	28.6J	13.9	0.06	0.74		40.9D	1.81
								43.6I	1.70
0.36 - 0.7	9.31A	0.2A	36B	17	0.57	3.9			
0.7 - 1	8.93A	0.57A							
1 - 1.4	8.79A	0.72A	23.5J	17.7	0.06	3.05		45.8I	6.66
1.4 - 1.7	8.93A	0.69A							

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 - 0.1	0.2A	1.1B		0.017A	0.03A	0.307A			19A	17	13	52
0.1 - 0.36	0.8A	0.9B							18A	16	14	52
0.36 - 0.7												
0.7 - 1												
1 - 1.4												
1.4 - 1.7									13A	16	15	56

[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
13A1_FE	Oxalate-extractable 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