

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T591 **Observation ID:** 1
Agency Name: QLD Department of Primary Industries

Site Information

Desc. By: M.G. Cannon	Locality:
Date Desc.: 16/08/93	Elevation: 292 metres
Map Ref.: Sheet No. : 8056 GPS	Rainfall: No Data
Northing/Long.: 7706994 AMG zone: 55	Runoff: No Data
Easting/Lat.: 388824 Datum: AGD66	Drainage: No Data

Geology

ExposureType: No Data	Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: No Data	Substrate Material: Undisturbed soil core, 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): Cracking, Self-mulching

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Endocalcareous-Endohypersodic Self-Mulching Grey	Principal Profile Form: Ug5.24
Vertisol Non-gravelly Medium fine Very fine Deep	
ASC Confidence:	Great Soil Group: Grey clay

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 - Digitaria species, Bothriochloa decipiens
 Mid Strata - Tree, 1.01-3m, Isolated plants. *Species includes - Terminalia oblongata
 Tall Strata - Tree, 6.01-12m, Isolated plants. *Species includes - Acacia cambagei

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11	0 - 0.02 m	Greyish brown (10YR5/2-Moist); ; Light clay; Moderate grade of structure, 5-10 mm, Platy; Strong grade of structure, 2-5 mm, Granular; Earthy fabric; Dry; Very weak consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 7 (Raupach, 0); , very fine (0-1mm) roots;
A12	0.02 - 0.16 m	Grey (10YR5/1-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 7.5 (Raupach, 0.1); , very fine (0-1mm) roots;
A13	0.16 - 0.39 m	Grey (10YR5/1-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; 10-20%, coarse gravelly, 20-60mm, subrounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 8 (Raupach, 0.3); , very fine (0-1mm) roots;
B21	0.39 - 0.78 m	Grey (10YR5/1-Moist); Mechanical, 10YR41, 10-20% , 5-15mm, Distinct; Mechanical, 10-20% ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 10-20 mm; Smooth-ped fabric; Very strong consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Field pH 9 (Raupach, 0.7); , very fine (0-1mm) roots;
B22	0.78 - 1.1 m	Dark grey (10YR4/1-Moist); Mechanical, 10YR62, 10-20% , 5-15mm, Distinct; Mechanical, 10-20% ; Medium heavy clay; Weak grade of structure, 50-100 mm, Angular blocky; Weak grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Very strong consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Field pH 9 (Raupach, 1.1); , very fine (0-1mm) roots;

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B23	1.1 - 1.41 m	Greyish brown (10YR5/2-Moist); Mechanical, 10YR62, 10-20% , 5-15mm, Distinct; Mechanical, 10-20% ; Sandy medium heavy clay; Weak grade of structure, 50-100 mm, Angular blocky; Weak grade of structure, 2-5 mm; Smooth-ped fabric; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Field pH 9 (Raupach, 1.41); , very fine (0-1mm) roots;
	1.41 - 1.72 m	Grey (10YR5/1-Moist); Mechanical, 10YR62, 10-20% , 5-15mm, Distinct; Mechanical, 10-20% ; Sandy medium heavy clay; Weak grade of structure, 50-100 mm, Angular blocky; Weak grade of structure, 2-5 mm; Smooth-ped fabric; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Field pH 9 (Raupach, 1.72); , very fine (0-1mm) roots;
B24	1.72 - 1.9 m	Greyish brown (10YR5/2-Moist); Mechanical, 10YR62, 10-20% , 5-15mm, Distinct; Mechanical, 10-20% ; Sandy medium heavy clay; Massive grade of structure; Smooth-ped fabric; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Field pH 8.5 (Raupach, 1.9); , very fine (0-1mm) roots;

Morphological Notes

Observation Notes

Kaylene Site 24

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.02	7.5A	0.08A	21E	6.3	1.3	0.09		36B	0.25
0.02 - 0.16	6.7C		21E	5.4	0.76	0.09		32B	0.28
0.16 - 0.39	6.8C	0.06A							
	7.6A								
0.39 - 0.78	7.5C	0.22A	16E	6.4	0.48	2		25B	8.00
	8.6A								
0.78 - 1.1	7.6C	0.31A							
	8.7A								
1.1 - 1.41	7.7C	0.47A							
	8.7A								
1.41 - 1.72	7.5C	0.54A							
	8.2A								
1.72 - 1.9	7.1C	0.61A	8.9E	8.8	0.32	5.2		26B	20.00
	7.7A								

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 - 0.02		1A		0.024A	0.08A	1.07A			4A	30	18	48
0.02 - 0.16		0.33A		0.017A	0.02A	1A			18A	25	13	44
0.16 - 0.39												
0.39 - 0.78		0.18A		0.013A	0.01A	0.93A			26A	26	11	37
0.78 - 1.1												
1.1 - 1.41												
1.41 - 1.72												
1.72 - 1.9									23A	27	10	40

[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
15C1_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_CEC	CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_K	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_MG	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_NA	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
17A1	Total potassium - X-ray fluorescence
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
4B2	pH of 1:5 soil/0.01M calcium chloride extract - following Method 4A1
5A1	Chloride - 1:5 soil/water extract, potentiometric titration
6A1	Organic carbon - Walkley and Black
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