

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T536 **Observation ID:** 1
Agency Name: QLD Department of Primary Industries

Site Information

Desc. By: M.G. Cannon	Locality:
Date Desc.: 11/12/91	Elevation: 245 metres
Map Ref.: Sheet No. : 8156 GPS	Rainfall: No Data
Northing/Long.: 7727422 AMG zone: 55	Runoff: Slow
Easting/Lat.: 406329 Datum: AGD66	Drainage: Poorly 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: Alluvial plain
Morph. Type: Flat	Relief: No Data
Elem. Type: Plain	Slope Category: Level
Slope: <1 %	Aspect: No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Hypercalcic Subnatric Brown Sodosol Medium Non-gravelly Silty Clayey Very deep	Principal Profile Form: Dy2.43
ASC Confidence: All necessary analytical data are available.	Great Soil Group: Solodic soil

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

Vegetation: Low Strata - , , . *Species includes - Dichanthium species, Aristida species, Sporobolus species
 Mid Strata - Tree, 1.01-3m, Sparse. *Species includes - Eremophila mitchellii, Eucalyptus coolibah
 Tall Strata - Tree, 6.01-12m, Sparse. *Species includes - Eucalyptus coolibah

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11	0 - 0.02 m	Dark greyish brown (10YR4/2-Moist); ; Silty loam; Massive grade of structure; Earthy fabric; Dry; Very weak consistence; , Calcareous, , , Gypseous, , ; Field pH 7 (Raupach, 0.01); Common, fine (1-2mm) roots; Clear, Wavy change to -
A2e	0.02 - 0.18 m	Dark grey (10YR4/1-Moist); ; Silty loam; Massive grade of structure; Earthy fabric; Dry; Weak consistence; , Calcareous, , , Gypseous, , ; Field pH 5.8 (Raupach, 0.1); Few, fine (1-2mm) roots; Abrupt, Wavy change to -
B21	0.18 - 0.34 m	Dark grey (10YR4/1-Moist); ; Silty medium clay; Moderate grade of structure, 50-100 mm, Columnar; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; , Calcareous, , , Gypseous, , ; Field pH 7 (Raupach, 0.25); Few, very fine (0-1mm) roots; Gradual change to -
B22	0.34 - 0.64 m	Yellowish brown (10YR5/4-Moist); ; Light clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Dry; Strong consistence; , Calcareous, , , Gypseous, , ; Field pH 9 (Raupach, 0.45); Few, very fine (0-1mm) roots; Diffuse change to -
B23	0.64 - 0.9 m	Brown (10YR5/3-Moist); ; Light clay; Strong grade of structure, 10-20 mm, Subangular blocky; Strong 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; Few cutans, <10% of ped faces or walls coated, prominent; Very few (0 - 2 %), Manganiferous, Coarse (6 - 20 mm), Nodules; , Calcareous, , , Gypseous, , ; Field pH 8.5 (Raupach, 0.8);
B23	0.9 - 1.1 m	Dark yellowish brown (10YR4/4-Moist); ; Light clay; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Dry; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, prominent; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Nodules; , Calcareous, , , Gypseous, , ; Field pH 8.5 (Raupach, 1);

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B23	1.1 - 1.43 m	Dark yellowish brown (10YR4/4-Moist); ; Light medium clay; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, prominent; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 9.5 (Raupach, 1.25); Diffuse change to -
B24k	1.43 - 1.8 m	Pale brown (10YR6/3-Moist); ; Light clay; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, prominent; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; , Gypseous, , ; Field pH 9.9 (Raupach, 1.6);

Morphological Notes

Observation Notes

DLR1042;B HORIZON DISPERSES IN WATER./OTHER

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 - 0.02	5.88A	0.13A	3.8B	1.6	1.4	0.44		7.6I		5.79
			4.36J	1.32	0.34	0.06				0.79
0.02 - 0.18	5.98A	0.04A	2B	1.2	0.97	0.57		5.7I		10.00
			2.07J	1.18	0.18	0.24				4.21
0.18 - 0.34	6.83A	0.24A	3.65J	2.58	0.08	0.9		10.4D		8.65
								8.5I		10.59
0.34 - 0.64	8.65A	0.42A								
0.64 - 0.9	9.55A	0.52A	8.99J	3.2	0.14	1.85		12.3I		15.04
0.9 - 1.1	9.32A	0.63A								
1.1 - 1.43	9.23A	0.53A								
1.43 - 1.8	9.45A	0.52A	6.65J	3.96	0.16	3.74		16.8I		22.26

Depth m	CaCO3 %	Organic C %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle		Size FS %	Analysis	
								GV	CS		Silt	Clay
0 - 0.02		1.8B		0.029A	0.1A	2.26A			7A	59	20	14
0.02 - 0.18		0.6B		0.022A	0.03A	2.38A			7A	63	18	12
0.18 - 0.34		0.4B							6A	50	15	28
0.34 - 0.64												
0.64 - 0.9									8A	51	14	28
0.9 - 1.1												
1.1 - 1.43												
1.43 - 1.8									5A	42	20	32

[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