

**Project Name:** Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD  
**Project Code:** DLR **Site ID:** T527 **Observation ID:** 1  
**Agency Name:** QLD Department of Primary Industries

#### Site Information

<b>Desc. By:</b> M.G. Cannon	<b>Locality:</b>
<b>Date Desc.:</b> 10/12/91	<b>Elevation:</b> 230 metres
<b>Map Ref.:</b> Sheet No. : 8257 GPS	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 7735410 AMG zone: 55	<b>Runoff:</b> Rapid
<b>Easting/Lat.:</b> 476880 Datum: AGD66	<b>Drainage:</b> Imperfectly drained

#### Geology

<b>ExposureType:</b> No Data	<b>Conf. Sub. is Parent. Mat.:</b> No Data
<b>Geol. Ref.:</b> O-Dr	<b>Substrate Material:</b> Undisturbed soil core, 0.94 m deep, Granite

#### Land Form

<b>Rel/Slope Class:</b> Undulating low hills 30-90m 3-10%	<b>Pattern Type:</b> Low hills
<b>Morph. Type:</b> Upper-slope	<b>Relief:</b> No Data
<b>Elem. Type:</b> Hillslope	<b>Slope Category:</b> Gently inclined
<b>Slope:</b> 5 %	<b>Aspect:</b> 260 degrees

**Surface Soil Condition (dry):** Hardsetting

**Erosion:** 2 m, 9 m;

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b> N/A
Eutrophic Mottled-Mesonatric Brown Sodosol Thick Very gravelly Sandy Clayey Moderately deep	<b>Principal Profile Form:</b> Dy3.33
<b>ASC Confidence:</b>	<b>Great Soil Group:</b> No suitable

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 - Bothriochloa pertusa, Aristida species, Heteropogon

contortus Mid Strata - Tree, 1.01-3m, Sparse. \*Species includes - Eucalyptus crebra

Tall Strata - Tree, 6.01-12m, Sparse. \*Species includes - Eucalyptus crebra, Eucalyptus papuana

**Surface Coarse Fragments:** 50-90%, fine gravelly, 2-6mm, angular, Granodiorite

#### Profile Morphology

A11	0 - 0.06 m	Dark yellowish brown (10YR4/4-Moist); ; Loamy coarse sand; Massive grade of structure; Earthy fabric; Dry; Weak consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , , ; Field pH 6 (Raupach, 0.05); Many, very fine (0-1mm) roots; Clear, Wavy change to -
A21	0.06 - 0.22 m	Yellowish brown (10YR5/6-Moist); ; Loamy coarse sand; Massive grade of structure; Earthy fabric; Dry; Very weak consistence; 20-50%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , , ; Field pH 6.5 (Raupach, 0.1); Common, very fine (0-1mm) roots; Gradual, Wavy change to -
A22j	0.22 - 0.36 m	Brownish yellow (10YR6/6-Moist); ; Clayey coarse sand; Massive grade of structure; Earthy fabric; Dry; Very weak consistence; 20-50%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , , ; Field pH 6.5 (Raupach, 0.3); Few, very fine (0-1mm) roots; Abrupt, Tongued change to -
B	0.36 - 0.66 m	Yellowish brown (10YR5/4-Moist); Mottles, 10YR62, 10-20% , 5-15mm, Distinct; Mottles, 5YR46, 10-20% ; Medium heavy clay; Strong grade of structure, 50-100 mm, Columnar; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; 10-20%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Veins; , Calcareous, , , , Gypseous, , , ; Field pH 5.5 (Raupach, 0.5); Diffuse, Wavy change to -
BC	0.66 - 0.94 m	Yellowish brown (10YR5/6-Moist); Mottles, 10YR68, 2-10% , 5-15mm, Distinct; Mottles, 2-10% ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Dry; Very strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Veins; , Calcareous, , , , Gypseous, , , ; Field pH 8.5 (Raupach, 0.9);

#### Morphological Notes

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DLR1033; OTHER GRASSES - CHFAL & CYSP1.

**Site Notes**

**Observation 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 - 0.06	6.18A	0.03A	2.2B 2.31J	0.72 0.89	0.8 0.22	0.59 0.02		2.5I		23.60 0.80
0.06 - 0.22	6.27A	0.01A								
0.22 - 0.36	6.86A	0.02A								
0.36 - 0.66	5.89A	0.23A	6.5B 6.05J	2.4 2.19	0.83 0.1	4 1.33		15.8D 12.6I		25.32 31.75 8.42 10.56 11.83
0.66 - 0.94	8.6A	0.41A	6.7J	2.14	0.07	1.94		16.4I		

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 - 0.06		0.5B		0.028A	0.01A	1.32A			58A	31	6	5
0.06 - 0.22												
0.22 - 0.36												
0.36 - 0.66		0.3B		0.014A	0.01A	1.5A			40A	17	5	37
0.66 - 0.94									38A	15	9	37

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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 <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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