

**Project Name:** Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD  
**Project Code:** DLR **Site ID:** T521 **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>	05/12/91	<b>Elevation:</b>	363 metres
<b>Map Ref.:</b>	Sheet No. : 8157 GPS	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	7783188 AMG zone: 55	<b>Runoff:</b>	Slow
<b>Easting/Lat.:</b>	405554 Datum: AGD66	<b>Drainage:</b>	Moderately well drained

**Geology**

<b>ExposureType:</b>	No Data	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	TI	<b>Substrate Material:</b>	Undisturbed soil core, No Data

**Land Form**

<b>Rel/Slope Class:</b>	Gently undulating rises 9-30m 1-3%	<b>Pattern Type:</b>	Rises
<b>Morph. Type:</b>	Mid-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Plain	<b>Slope Category:</b>	Level
<b>Slope:</b>	2 %	<b>Aspect:</b>	270 degrees

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

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	N/A
Haplic Eutrophic Red Dermosol Thin Non-gravelly Clay-loamy Clayey Very deep		<b>Principal Profile Form:</b>	Gn3.13
<b>ASC Confidence:</b>		<b>Great Soil Group:</b>	No suitable

Analytical data are incomplete but reasonable confidence.

**Site Disturbance:** Limited clearing, for example selective logging

**Vegetation:** Low Strata - Tussock grass, 0.26-0.5m, Sparse. \*Species includes - Cenchrus ciliaris, Aristida species, Chrysopogon  
Mid Strata - Tree, 1.01-3m, Sparse. \*Species includes - Terminalia oblongata, Acacia species  
Tall Strata - Tree, 6.01-12m, Sparse. \*Species includes - Eucalyptus crebra, Eucalyptus papuana, Eucalyptus terminalis

**Surface Coarse Fragments:** No surface coarse fragments

**Profile Morphology**

A1	0 - 0.06 m	Dark reddish brown (5YR3/3-Moist); ; Sandy clay loam; Massive grade of structure; Earthy fabric; Many (>5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Dry; Strong consistence; , Calcareous, , , , Gypseous, , , Field pH 6.5 (Raupach, 0.04); Common, fine (1-2mm) roots; Clear, Wavy change to -
B1	0.06 - 0.26 m	Dark reddish brown (2.5YR3/4-Moist); ; Clay loam, sandy; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Dry; Strong consistence; , Calcareous, , , , Gypseous, , , Field pH 7 (Raupach, 0.15); Common, very fine (0-1mm) roots; Gradual, Wavy change to -
B21	0.26 - 0.56 m	Dark red (2.5YR3/6-Moist); ; Light clay; Massive grade of structure; Earthy fabric; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Dry; Very firm consistence; , Calcareous, , , , Gypseous, , , Field pH 8 (Raupach, 0.4); Few, very fine (0-1mm) roots; Diffuse, Wavy change
B22	0.56 - 0.9 m	Dark red (10R3/6-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Dry; Strong consistence; Few cutans, <10% of ped faces or walls coated, faint; Few (2 - 10 %), Aluminous, Medium (2 - 6 mm), Tubules; , Calcareous, , , , Gypseous, , , Field pH 8.5 (Raupach, 0.8); Few, very fine (0-1mm) roots;
B22	0.9 - 1.2 m	Dark red (10R3/6-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Dry; Very strong consistence; Few cutans, <10% of ped faces or walls coated, faint; Few (2 - 10 %), Aluminous, Coarse (6 - 20 mm), Tubules; , Calcareous, , , , Gypseous, , , Field pH 9 (Raupach, 1.1); Few, very fine (0-1mm) roots; Diffuse, Wavy change to -
B23	1.2 - 1.6 m	Dark red (10R3/6-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Dry; Very strong consistence; Few cutans, <10% of ped faces or walls coated, faint; Few (2 - 10 %), Aluminous, Coarse (6 - 20 mm), Tubules; , Calcareous, , , , Gypseous, , , Field pH 9 (Raupach, 1.5); Few, very fine (0-1mm)

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**Observation Notes**

DLR1027; CHECK IRON STATUS FOR CLASSIFICATION.

**Site Notes**

**Morphological Notes**

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**Laboratory Test Results:**

Depth	pH	1:5 EC	Exchangeable Cations				CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Exchangeable Acidity		%
							(+)/kg		
0 - 0.06	6.55A	0.05A	3.5B	1.1	1.1	0.07		4.8I	1.46
			2.59J	0.99	0.38	0.02			0.42
0.06 - 0.26	6.69A	0.02A							
0.26 - 0.56	7.12A	0.02A	2.42J	1.01	0.2	0.02		5.4D	0.37
								3.2I	0.63
0.56 - 0.9	7.45A	0.02A							
0.9 - 1.2	7.34A	0.03A							
1.2 - 1.6	7.29A	0.02A	1.65J	1.21	0.13	0.02		2.9I	0.69

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.06	0.1A	1B		0.03A	0.03A	0.239A			34A	33	9	24
0.06 - 0.26												
0.26 - 0.56	0.1A	0.2B							23A	17	6	54
0.56 - 0.9												
0.9 - 1.2												
1.2 - 1.6									19A	20	10	51

[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 <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
19A1	Carbonates - rapid titration
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
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