

**Project Name:** Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD  
**Project Code:** DLR **Site ID:** 253 **Observation ID:** 1  
**Agency Name:** QLD Department of Primary Industries

#### Site Information

<b>Desc. By:</b> M. DeCorte	<b>Locality:</b>
<b>Date Desc.:</b> 15/05/91	<b>Elevation:</b> 325 metres
<b>Map Ref.:</b> Sheet No. : 8057 GPS	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 7770395 AMG zone: 55	<b>Runoff:</b> Very slow
<b>Easting/Lat.:</b> 394306 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> No Data	<b>Substrate Material:</b> No Data

#### Land Form

<b>Rel/Slope Class:</b> Level plain <9m <1%	<b>Pattern Type:</b> Plain
<b>Morph. Type:</b> Flat	<b>Relief:</b> No Data
<b>Elem. Type:</b> Plain	<b>Slope Category:</b> Level
<b>Slope:</b> 1 %	<b>Aspect:</b> 30 degrees

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

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b> N/A
Mottled Eutrophic Grey Chromosol Very thick Non-gravelly	<b>Principal Profile Form:</b> Dy3.72
Sandy Clayey Very deep	
<b>ASC Confidence:</b>	<b>Great Soil Group:</b> No suitable

No analytical data are available but confidence is fair.

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

**Vegetation:** Low Strata - Tussock grass, 0.51-1m, Sparse. \*Species includes - Phynchelytrum repens, Chrysopogon fallax, Themeda triandra

Mid Strata - Tree, 1.01-3m, Isolated plants. \*Species includes - Eucalyptus crebra

Tall Strata - Tree, 12.01-20m, Sparse. \*Species includes - Eucalyptus crebra, Eucalyptus papuana

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

#### Profile Morphology

A11	0 - 0.05 m	Very dark brown (10YR2/2-Moist); ; Loamy sand; Weak grade of structure, 5-10 mm, Granular; Earthy fabric; Many (>5 per 100mm2) Medium (2-5mm) macropores, Moist; Very weak consistence; , Calcareous, , , , Gypseous, , , ; Field pH 6.5 (Raupach, 0.05); Many, fine (1-2mm) roots; Clear, Smooth change to -
A12	0.05 - 0.12 m	Very dark greyish brown (10YR3/2-Moist); ; Loamy sand; Massive grade of structure; Earthy fabric; Many (>5 per 100mm2) Medium (2-5mm) macropores, Moist; Very weak consistence; , Calcareous, , , , Gypseous, , , ; Many, fine (1-2mm) roots; Abrupt, Smooth change to -
A21j	0.12 - 0.34 m	Yellowish brown (10YR5/4-Moist); ; Sandy loam; Massive grade of structure; Earthy fabric; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , , ; Field pH 6.5 (Raupach, 0.3); Common, fine (1-2mm) roots; Gradual, Smooth change to -
A22j	0.34 - 0.54 m	Brownish yellow (10YR6/6-Moist); Mottles, 10YR72, 0-2% , 5-15mm, Faint; Mottles, 7.5YR58, 0-2% ; Sandy clay loam (Heavy); Massive grade of structure; Earthy fabric; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , , ; Common, fine (1-2mm) roots; Clear, Smooth change to -
B21c	0.54 - 0.83 m	Pale brown (10YR6/3-Moist); Mottles, 7.5YR58, 20-50% , 5-15mm, Distinct; Mottles, 2.5YR48, 20-50% ; Medium clay; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Common (10 - 20 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , , , Gypseous, , , ; Field pH 7 (Raupach, 0.6); Few, very fine (0-1mm) roots; Clear, Smooth change to -
B22	0.83 - 1.08 m	Light yellowish brown (10YR6/4-Moist); Mottles, 10YR68, 10-20% , 5-15mm, Faint; Mottles, 10-20% ; Medium clay; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Few (2 - 10 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; , Calcareous, , , , Gypseous, , , ; Field pH 7 (Raupach, 0.9); Few, very fine (0-1mm) roots; Gradual, Smooth change to -

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B31c	1.08 - 1.35 m	Pale brown (10YR6/3-Moist); Mottles, 2.5YR36, 20-50% , 15-30mm, Distinct; Mottles, 7.5YR68, 20-50% ; Light clay; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Very many (50 - 100 %), Ferromanganiferous, Very coarse (20 - 60 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 7.5 (Raupach, 1.2); Clear, Smooth change to -
B32c	1.35 - 1.58 m	Light brownish grey (10YR6/2-Moist); Mottles, 7.5YR58, 2-10% , 5-15mm, Distinct; Mottles, 2-10% ; Coarse sandy light clay; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Very many (50 - 100 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 7.5 (Raupach, 1.5); Gradual, Smooth change to -
2A2b	1.58 - 1.74 m	Light grey (10YR7/2-Moist); ; Coarse sand; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Very many (50 - 100 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; , Calcareous, , , , Gypseous, , ; Sharp, Smooth change to -
2B2b	1.74 - 1.8 m	Light brownish grey (10YR6/2-Moist); Mottles, 2.5YR56, 10-20% , 5-15mm, Prominent; Mottles, 10-20% ; Coarse sandy light clay; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Very many (50 - 100 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; , Calcareous, , , , Gypseous, , ; Field pH 7.5 (Raupach, 1.8);

**Morphological Notes**

**Observation Notes**

**Site Notes**

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**Laboratory Test Results:**

Depth m	pH	1:5 EC dS/m	Ca	Exchangeable Mg	Cations K	Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP %
0 - 0.1	5C 6.2A	0.03A								
0.12 - 0.34	5.2C 6.5A	0.01A								
0.54 - 0.83	5.5C 6.5A	0.04A	2.5B	2.6	0.07	0.37				
0.83 - 1.08	5.9C 7A	0.04A								
1.08 - 1.35	7.5A	0.03A	2E	2.35	0.1	0.4		5.5B		7.27
1.35 - 1.58	7.6A	0.02A	0.89E	1.35	0.04	0.18		1B		18.00

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		0.4A			0.02A				45D	37	8	18
0.12 - 0.34												
0.54 - 0.83									29D	22	2	45
0.83 - 1.08												
1.08 - 1.35				0.022A		0.158A			35D	26	4	35
1.35 - 1.58				0.018A		0.09A			60D	23	7	12

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**Laboratory Analyses Completed for this profile**

10A1	Total sulfur - X-ray fluorescence
12A1_CU	DTPA - extractable copper, zinc, manganese and iron
12A1_FE	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
15C1_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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_PB_C	Clay (%) - Plummet balance
P10_PB_CS	Coarse sand (%) - Plummet balance
P10_PB_FS	Fine sand (%) - Plummet balance
P10_PB_Z	Silt (%) - Plummet balance