Project Name: **Preliminary Assessment and Survey of Land Degradation in the Dalrypmle Shire, QLD**
Project Code: **DLR** **Site ID:** **250** **Observation ID:** **1**
Agency Name: **QLD Department of Primary Industries**

Site Information

Desc. By:	M. DeCorte	**Locality:**	
Date Desc.:	14/05/91	**Elevation:**	280 metres
Map Ref.:	Sheet No. : 8157 GPS	**Rainfall:**	No Data
Northing/Long.:	7760683 AMG zone: 55	**Runoff:**	Very rapid
Easting/Lat.:	433096 Datum: AGD66	**Drainage:**	Imperfectly drained

Geology

ExposureType:	No Data	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	No Data	**Substrate Material:**	No Data

Land Form

Rel/Slope Class:	Gently undulating rises 9-30m 1-3%	**Pattern Type:**	Rises
Morph. Type:	Flat	**Relief:**	No Data
Elem. Type:	Plain	**Slope Category:**	Very gently sloped
Slope:	2 %	**Aspect:**	280 degrees

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification:
Eutrophic Hypernatric Grey Sodosol Medium Non-gravelly Sandy Clayey Deep

Mapping Unit: N/A
Principal Profile Form: Dy3.43

ASC Confidence:
Analytical data are incomplete but reasonable confidence.

Great Soil Group: Solodized solonetz

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

Vegetation: Low Strata - Tussock grass, 0.51-1m, Very sparse. *Species includes - Bothriochloa decipiens, Aristida species, Eragrostis species Mid Strata - Tree, 3.01-6m, Isolated plants. *Species includes - Eremophila mitchellii

Tall Strata - Tree, 6.01-12m, Very sparse. *Species includes - Eucalyptus brownii

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.1 m	Dark brown (10YR3/3-Moist); ; Loamy sand; Massive grade of structure; Earthy fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Very weak consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , ; , Gypseous, , ; Field pH 5.5 (Raupach, 0.05); Few, very fine (0-1mm) roots; Clear, Smooth
A2e	0.1 - 0.18 m	Yellowish brown (10YR5/4-Moist); ; Clayey sand; Massive grade of structure; Earthy fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Very weak consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; , Calcareous, , ; , Gypseous, , ; Few, very fine (0-1mm) roots; Sharp, Tongued change to -
B1	0.18 - 0.28 m	Dark greyish brown (10YR4/2-Moist); ; Light clay; Strong grade of structure, 20-50 mm, Columnar; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, prominent; , Calcareous, , ; , Gypseous, , ; Clear, Smooth change to -
B21	0.28 - 0.62 m	Dark greyish brown (10YR4/2-Moist); Mottles, 7.5YR68, 2-10% , 0-5mm, Faint; Mottles, 2-10% ; Light clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , ; , Gypseous, , ; Field pH 8 (Raupach, 0.3); Clear, Smooth change to -
D1	0.62 - 0.8 m	Strong brown (7.5YR5/8-Moist); Mottles, 7.5YR46, 20-50% , 0-5mm, Faint; Mottles, 20-50% ; Loamy coarse sand; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , ; , Gypseous, , ; Clear, Smooth change to -

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D2	0.8 - 0.9 m	Brown (7.5YR4/2-Moist); Mottles, 7.5YR46, 10-20% , 0-5mm, Faint; Mottles, 10-20% ; Loamy coarse sand; Weak grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, distinct; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; , Calcareous, , ; , Gypseous, , ; Field pH 9.9 (Raupach, 0.9); Clear, Smooth change to -
D3	0.9 - 1.3 m	Brown (7.5YR4/4-Moist); Mottles, 10YR58, 2-10% , 5-15mm, Faint; Mottles, 2-10% ; Clay loam (Light); Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, distinct; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; , Calcareous, , ; , Gypseous, , ; Field pH 9.9 (Raupach, 1.2); Clear, Smooth
D4	1.3 - 1.5 m	Dark yellowish brown (10YR4/6-Moist); Mottles, 10YR68, 20-50% , 5-15mm, Distinct; Mottles, 20-50% ; Sandy clay loam; Smooth-ped fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, distinct; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; , Calcareous, , ; , Gypseous, , ; Field pH 9.9 (Raupach, 1.5);

Morphological Notes

Observation Notes

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m	Cmol (+)/kg							%
0 - 0.1	5.1C	0.03A								
	6.8A									
0.18 - 0.28	6.7C	0.18A								
	8.1A									
0.28 - 0.62	7.8C	0.34A	2.8B	3.5	0.65	5.6				
	9.1A									
0.8 - 0.9	8.2C	0.3A								
	9.8A									
0.9 - 1.3	9.1A	0.36A	1.5E	3.2	0.23	5.8		10B		58.00
1.3 - 1.5	9A	0.47A	2E	4.2	0.23	11		14.5B		75.86

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis				
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.1		0.2A			0.02A				50D	31	10	13
0.18 - 0.28												
0.28 - 0.62									41D	23	6	33
0.8 - 0.9												
0.9 - 1.3				0.022A		1.73A			41D	29	4	27
1.3 - 1.5				0.018A		1.46A			34D	26	7	32

Depth	COLE	Gravimetric/Volumetric Water Contents							K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar		
m		g/g - m3/m3							mm/h	mm/h
0 - 0.1										
0.18 - 0.28										
0.28 - 0.62										
0.8 - 0.9										
0.9 - 1.3										
1.3 - 1.5										

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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 (Ca2+,Mg2+,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
15C1_CA	Exchangeable bases (Ca2+,Mg2+,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_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