Project Name: **Preliminary Assessment and Survey of Land Degradation in the Dalrypmle Shire, QLD**
Project Code: **DLR** **Site ID:** **T578** **Observation ID:** **1**
Agency Name: **QLD Department of Primary Industries**

Site Information

Desc. By:	M.G. Cannon	**Locality:**	
Date Desc.:	19/08/93	**Elevation:**	510 metres
Map Ref.:	Sheet No. : 7958 GPS	**Rainfall:**	No Data
Northing/Long.:	7808904 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	323947 Datum: AGD66	**Drainage:**	No Data

Geology

ExposureType:	No Data	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	No Data	**Substrate Material:**	Undisturbed soil core, Basalt

Land Form

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

Surface Soil Condition (dry): Cracking, Self-mulching

Erosion:

Soil Classification

Australian Soil Classification:
Epicalcareous Self-Mulching Black Vertosol Non-gravelly Very fine Very fine Very deep

Mapping Unit: N/A
Principal Profile Form: Ug5.24

ASC Confidence:
All necessary analytical data are available.

Great Soil Group: Black earth

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

Vegetation: Low Strata - Tussock grass, 0.26-0.5m, Sparse. *Species includes - Eulalia aurea
Mid Strata - Shrub, 1.01-3m, Isolated clumps. *Species includes - Melaleuca bracteata
Tall Strata - Tree, 12.01-20m, Isolated plants. *Species includes - Eucalyptus platyphylla

Surface Coarse Fragments: 0-2%, stony, 200-600mm, rounded, Basalt

Profile Morphology

A11	0 - 0.01 m	Dark greyish brown (10YR4/2-Moist); ; Medium clay; Strong grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Dry; Weak consistence; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 0);
A12	0.01 - 0.2 m	Dark greyish brown (10YR4/2-Moist); ; Medium heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 0.1);
A13	0.2 - 0.44 m	Dark olive grey (5Y3/2-Moist); ; Medium heavy clay; Strong grade of structure, 50-100 mm, Angular blocky; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 0.4);
B21	0.44 - 0.81 m	Dark olive grey (5Y3/2-Moist); ; Medium heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 0.7);
	0.81 - 1.12 m	Dark olive grey (5Y3/2-Moist); ; Medium heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Very firm consistence; Many cutans, >50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 1);
	1.12 - 1.42 m	Dark olive grey (5Y3/2-Moist); ; Medium heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Very firm consistence; Many cutans, >50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 1.3);

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B22	1.42 - 1.71 m	Dark greyish brown (2.5Y4/2-Moist); ; Medium heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Very firm consistence; Many cutans, >50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 1.6);
	1.71 - 2.01 m	Dark greyish brown (2.5Y4/2-Moist); ; Medium heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Very firm consistence; Many cutans, >50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Common (10 - 20 %), Calcareous, Fine (0 - 2 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 1.9);
B23c	2.01 - 2.07 m	Greyish brown (2.5Y5/2-Moist); Substrate influence, 2.5Y42, 10-20% , 5-15mm, Distinct; Substrate influence, 10-20% ; Medium heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Very firm consistence; 0-2%, fine gravelly, 2-6mm, dispersed, Basalt, coarse fragments; Many cutans, >50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Concretions; , Gypseous, , ; Field pH 9.5 (Raupach, 2.05);
B24	2.07 - 2.57 m	Grey (2.5Y5/1-Moist); Mottles, 10YR56, 2-10% , 0-5mm, Distinct; Mottles, 2-10% ; Medium heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Very firm consistence; Many cutans, >50% of ped faces or walls coated, prominent; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; , Calcareous, , ; , Gypseous, , ; Field pH 9.5 (Raupach, 2.5);
BC	2.57 - 2.89 m	; 10-20 mm; Earthy fabric; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; , Calcareous, , ; , Gypseous, , ; Field pH 9.5 (Raupach, 2.8);

Morphological Notes

Observation Notes

Kaylene Site 9

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations Ca	Mg	K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.01	7.3C 8.3A	0.17A	28E	28	1.1	0.17		65B		0.26
0.01 - 0.2	7.3C 8.3A	0.14A	30E	29	0.98	0.15		67B		0.22
0.2 - 0.44	7.5C 8.5A	0.12A	27E	28	0.56	0.2		65B		0.31
0.44 - 0.81	7.7C 8.7A	0.15A								
0.81 - 1.12	7.9C 8.8A	0.19A								
1.12 - 1.42	7.9C 8.9A		20E	37	0.25	1.4		65B		2.15
1.42 - 1.71	7.8C 8.8A	0.18A								
1.71 - 2.01	7.8C 9A	0.25A								
2.01 - 2.07	8C 8.9A	0.31A								
2.07 - 2.57	7.6C 8.3A	0.12A	19E	49	0.26	2.4		70B		3.43
2.57 - 2.89	7.5C 8.4A	0.07A								

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	GV	Particle Size Analysis CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.01		0.7A		0.036A		0.33A			3A	15	14	68
0.01 - 0.2		0.51A		0.035A		0.033A			3A	15	13	69
0.2 - 0.44												
0.44 - 0.81		0.3A		0.026A		0.25A			3A	15	14	69
0.81 - 1.12												
1.12 - 1.42		0.23A							2A	16	12	70
1.42 - 1.71												
1.71 - 2.01												
2.01 - 2.07												
2.07 - 2.57									1A	8	10	81
2.57 - 2.89												

Depth	COLE	Gravimetric/Volumetric Water Contents Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	K sat	K unsat
m					g/g - m3/m3				mm/h	mm/h
0 - 0.01										
0.01 - 0.2										
0.2 - 0.44										
0.44 - 0.81										
0.81 - 1.12										
1.12 - 1.42										
1.42 - 1.71										
1.71 - 2.01										

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2.01 - 2.07
2.07 - 2.57
2.57 - 2.89

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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
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
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