Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrypmle Shire, QLD

Observation ID: 1 **Project Code:** Site ID: T554

Agency Name: **QLD Department of Primary Industries**

Site Information

Desc. By: M.G. Cannon Locality:

Date Desc.: Elevation: 05/03/92 372 metres Map Ref.: Sheet No.: 8256 GPS Rainfall: No Data Northing/Long.: 7684794 AMG zone: 55 Runoff: Moderately rapid 466645 Datum: AGD66 Imperfectly drained Easting/Lat.: Drainage:

Geology

ExposureType: Conf. Sub. is Parent. Mat.: No Data No Data

Substrate Material: Undisturbed soil core, 0.6 m Geol. Ref.: Clh

deep,Sandstone

Land Form

Rel/Slope Class: Undulating rises 9-30m 3-10% Pattern Type: Rises Morph. Type: Mid-slope Relief: No Data Elem. Type: Slope Category: Gently inclined Hillslope Aspect: No Data Slope: 4 %

Surface Soil Condition (dry): Hardsetting

Erosion: 5 m,90 m; **Soil Classification**

Australian Soil Classification: Mapping Unit: N/A Mottled Eutrophic Brown Chromosol Thick Slightly gravelly Principal Profile Form: Dy3.72

Sandy Clayey Moderately deep

ASC Confidence: Great Soil Group: 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 - Chrysopogon fallax, Bothriochloa species

Mid Strata - Tree, 3.01-6m, Sparse. *Species includes - Eucalyptus crebra, Eucalyptus papuana, Albizia

basaltica

Tall Strata - Tree, 6.01-12m, Isolated plants. *Species includes - Eucalyptus crebra, Eucalyptus papuana

Surface Coarse Fragments: 0-2%, cobbly, 60-200mm, subangular platy, Sandstone

Profile Morphology

0 - 0.05 m Brown (10YR4/3-Moist); ; Loamy sand; Massive grade of structure; Earthy fabric; Moderately A11 moist; Very weak consistence; , Calcareous, , ; , Gypseous, , ; Field pH 7.5 (Raupach, 0.02); Few, fine (1-2mm) roots; Clear, Wavy change to -

A21 0.05 - 0.2 m Yellowish brown (10YR5/6-Moist); ; Loamy sand; Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, rounded, dispersed,

Quartz, coarse fragments; , Calcareous, , ; , Gypseous, , ; Field pH 6.5 (Raupach, 0.1);

Common, fine (1-2mm) roots; Gradual, Wavy change to -

A22j $0.2 - 0.3 \, \text{m}$ Yellowish brown (10YR5/4-Moist); ; Loamy sand; Massive grade of structure; Earthy fabric;

Moderately moist; Very weak consistence; 20-50%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; , Calcareous, , ; , Gypseous, , ; Field pH 6 (Raupach,

0.25); Common, fine (1-2mm) roots; Clear change to -

Light olive brown (2.5Y5/4-Moist); ; Sandy clay loam (Light); Massive grade of structure; Earthy 0.3 - 0.4 m R1

fabric; Dry; Weak consistence; 50-90%, medium gravelly, 6-20mm, subangular platy, dispersed, Sandstone, coarse fragments; , Calcareous, , ; , Gypseous, , ; Field pH 6.8

(Raupach, 0.35); Few, fine (1-2mm) roots; Clear change to -

Olive yellow (2.5Y6/6-Moist); Mottles, 10YR68, 10-20%, 0-5mm, Distinct; Mottles, 2.5YR48, 10-20%; Light medium clay; Massive grade of structure; Earthy fabric; Dry; Firm consistence; 50-B2 0.4 - 0.64 m

90%, medium gravelly, 6-20mm, subangular platy, reoriented, Sandstone, coarse fragments;

Calcareous, , ; , Gypseous, , ; Field pH 7 (Raupach, 0.5); Few, fine (1-2mm) roots;

Morphological Notes

Observation Notes

DLR1060;B HORIZON DISPERSES IN WATER;

Site Notes

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Laboratory Test Results:

Depth	рН	1:5 EC		hangeable Mg	Cations K	Na	Exchangeable Acidity	CEC		ECEC		ESP
m		dS/m	u	9		Cmol (+						%
0 - 0.05	6.95A	0.04A	3.5B 3.33J	1.3 1.13	0.72 0.25	0.11 0.02		6.71				1.64 0.30
0.05 - 0.2 0.2 - 0.3 0.3 - 0.4	6.66A 6.6A 7.07A	0.01A 0.01A 0.02A	0.97J	0.66	0.11	0.02		3.91				0.51
0.3 - 0.4	7.36A	0.02A 0.02A		7.6 7.45	0.8 0.07	0.45 0.22		16.1D 13.6I				2.80 3.31 1.37 1.62
Depth m	CaCO3	Organic C %	Avail. P mg/kg	Total P %	Total N %	Tota K %	l Bulk Density Mg/m3	Pai GV	rticle CS	Size FS %	Analysi Silt	s Clay
0 - 0.05 0.05 - 0.2 0.2 - 0.3		1.2B 0.4B		0.019A	0.00	6A 0.42	22A		42A 42A	42 45	9 6	7 7
0.3 - 0.4 0.4 - 0.64				0.016A		1.8	4A		14A	30	8	47

Gravimetric/Volumetric Water Contents

5 Bar

15 Bar

0.05 Bar 0.1 Bar 0.5 Bar 1 Bar g/g - m3/m3

K unsat

mm/h

K sat

mm/h

0 - 0.05 0.05 - 0.2 0.2 - 0.3

Depth

m

COLE

Sat.

0.3 - 0.4 0.4 - 0.64

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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 (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, pretreatment for

soluble salts

15A2_K
15A2_MG
15A2_MG
15A2_NA
15D2_CEC
15F1_CA
Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
CEC - 1M ammonium acetate at pH 7.0, pretreatment for soluble salts; automatic extractor
Exchangeable bases by 0.01M silver-thiourea (AgTU)+, no pretreatment for soluble salts

15F1_K
15F1_MG
15F1_NA
Exchangeable bases by 0.01m (AgTU)+, no pretreatment for soluble salts
Exchangeable bases by 0.01m (AgTU)+, no pretreatment for soluble salts
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

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_S Fine sand (%) - Coventry and Fett pipette method
P10_CF_Z Silt (%) - Coventry and Fett pipette method