

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T523 **Observation ID:** 1
Agency Name: QLD Department of Primary Industries

Site Information

Desc. By: M.G. Cannon	Locality:
Date Desc.: 09/12/91	Elevation: 300 metres
Map Ref.: Sheet No. : 8157 GPS	Rainfall: No Data
Northing/Long.: 7758906 AMG zone: 55	Runoff: Moderately rapid
Easting/Lat.: 434408 Datum: AGD66	Drainage: Moderately well drained

Geology

ExposureType: No Data	Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: O-Dr	Substrate Material: Undisturbed soil core, 0.75 m deep, Granite

Land Form

Rel/Slope Class: Undulating rises 9-30m 3-10%	Pattern Type: Rises
Morph. Type: Crest	Relief: No Data
Elem. Type: Hillcrest	Slope Category: Gently inclined
Slope: 4 %	Aspect: 270 degrees

Surface Soil Condition (dry):

Erosion: 2 m, 50 m;

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Eutrophic Mottled-Subnatic Brown Sodosol Thick Non-gravelly Sandy Clayey Moderately deep	Principal Profile Form: Dy3.73
ASC Confidence:	Great Soil Group: Solodic soil

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, Heteropogon contortus,

Phynchelytrum repens Mid Strata - Tree, 3.01-6m, Sparse. *Species includes - Eucalyptus crebra

Tall Strata - Tree, 6.01-12m, Sparse. *Species includes - Eucalyptus crebra, Grevillea striata

Surface Coarse Fragments: 0-2%, medium gravelly, 6-20mm, rounded, Quartz

Profile Morphology

A11	0 - 0.03 m	Brown (7.5YR5/4-Moist); ; Sand; Single grain grade of structure; Smooth-ped fabric; Dry; Very weak consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 7 (Raupach, 0.01); Common, fine (1-2mm) roots; Abrupt, Smooth change to -
A12	0.03 - 0.13 m	Brown (7.5YR4/4-Moist); ; Clayey coarse sand; Massive grade of structure; Earthy fabric; Dry; Firm consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 6.5 (Raupach, 0.1); Common, fine (1-2mm) roots; Gradual, Wavy change to -
A21	0.13 - 0.23 m	Strong brown (7.5YR4/6-Moist); ; Clayey coarse sand; Massive grade of structure; Earthy fabric; Dry; Weak consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 6.5 (Raupach, 0.2); Few, very fine (0-1mm) roots; Gradual, Wavy change to -
A22j	0.23 - 0.36 m	Strong brown (7.5YR4/8-Moist); ; Clayey coarse sand; Massive grade of structure; Earthy fabric; Dry; Very weak consistence; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 6.5 (Raupach, 0.3); Few, very fine (0-1mm) roots; Clear, Wavy change to -
B2	0.36 - 0.55 m	Yellowish brown (10YR5/4-Moist); Substrate influence, 5YR46, 10-20% , 0-5mm, Distinct; Substrate influence, 10YR68, 10-20% ; Medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Rough-ped fabric; Dry; Very strong consistence; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 7 (Raupach, 0.45); Gradual, Wavy change to -
BC	0.55 - 0.75 m	; Medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Dry; Strong consistence; 50-90%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Soil matrix is Moderately calcareous; Field pH 9.5 (Raupach, 0.65); Gradual, Wavy change to -
C	0.75 - 0.95 m	; Dry; Firm consistence; 50-90%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; , Calcareous, , , , Gypseous, , ; Field pH 9.5 (Raupach, 0.85);

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Observation Notes

1CM LAYER OF BIOLOGICALLY MIXED SAND ON TOP. BHORIZON DISPERSES IN DISTILLED WATER, T523.1 0-3CM NO
SAMPLE./OTHER GRASSES - UROCHLOA. DLR1029

Site Notes

Morphological Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Exchangeable Na	CEC	ECEC	ESP
m		dS/m				Acidity Cmol (+)/kg			%
0.03 - 0.13	5.76A	0.02A	2B 1.83J	0.41 1.45	0.41 0.14	0.16 0.02	3.9I		4.10 0.51
0.13 - 0.23	5.91A	0.01A							
0.23 - 0.36	6.7A	0.01A	2.08J	1.57	0.02	0.08	5.2D 3.9I		1.54 2.05
0.36 - 0.55	7.68A	0.06A	5.4B 5.74J	0.34 6.63	0.34 0.02	2.4 0.85	15.7I		15.29 5.41
0.55 - 0.75	8.96A	0.08A							
0.75 - 0.95	9.45A	0.06A	4.16J	4.27	0.02	0.99	11.2I		8.84

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			%		
0.03 - 0.13	0.1A	0.6B		0.017A	0.02A	2.46A			57A	26	8	10
0.13 - 0.23												
0.23 - 0.36									59A	21	9	11
0.36 - 0.55				0.016A		1.75A			51A	14	7	28
0.55 - 0.75												
0.75 - 0.95									68A	17	5	10

[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
15A2_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,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
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