

**Project Name:** Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD  
**Project Code:** DLR **Site ID:** 139 **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>	05/09/90	<b>Elevation:</b>	305 metres
<b>Map Ref.:</b>	Sheet No. : 8056 GPS	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	7706708 AMG zone: 55	<b>Runoff:</b>	Very rapid
<b>Easting/Lat.:</b>	370436 Datum: AGD66	<b>Drainage:</b>	Moderately well drained

#### Geology

<b>Exposure Type:</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>	0 degrees

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

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b>	N/A
Supracalcic Mottled-Subnatric Brown Sodosol Medium	<b>Principal Profile Form:</b>	Db2.43
Moderately gravelly Loamy Clayey Very deep	<b>Great Soil Group:</b>	Solodic soil

#### **ASC Confidence:**

All necessary analytical data are available.

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

**Vegetation:** Low Strata - Tussock grass, 0.51-1m, Very sparse. \*Species includes - Sporobolus caroli, Enneapogon species  
Mid Strata - Tree, 1.01-3m, Mid-dense. \*Species includes - Eremophila mitchellii, Bursaria incana, Flindersia

maculosa

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

**Surface Coarse Fragments:** 20-50%, coarse gravelly, 20-60mm, rounded, Ferricrete

#### Profile Morphology

A1	0 - 0.12 m	Dark brown (10YR3/3-Moist); ; Sandy loam; Massive grade of structure; Earthy fabric; Dry; Weak consistence; ; Calcareous, ; ; Gypseous, ; ; Field pH 5.5 (Raupach, 0.05); Common, fine (1-2mm) roots; Clear, Smooth change to -
A2c	0.12 - 0.25 m	Dark yellowish brown (10YR3/4-Moist); ; Sandy clay loam; Massive grade of structure; Earthy fabric; Dry; Weak consistence; ; Calcareous, ; ; Gypseous, ; ; Few, very fine (0-1mm) roots; Abrupt, Tongued change to -
B21	0.25 - 0.55 m	Dark yellowish brown (10YR4/4-Moist); ; Light clay; Strong grade of structure, 20-50 mm, Columnar; Strong grade of structure, 10-20 mm, Prismatic; Smooth-ped fabric; Dry; Strong consistence; ; Calcareous, ; ; Gypseous, ; ; Field pH 6 (Raupach, 0.3); Few, very fine (0-1mm) roots; Clear, Smooth change to -
B22	0.55 - 0.8 m	Dark yellowish brown (10YR4/4-Moist); Mottles, 5YR56, 10-20% , 0-5mm, Faint; Mottles, 10-20% ; Light medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; Few cutans, <10% of ped faces or walls coated, faint; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; ; Calcareous, ; ; Gypseous, ; ; Field pH 6.5 (Raupach, 0.6); Clear, Smooth change to -
B23	0.8 - 1.45 m	Dark yellowish brown (10YR4/4-Moist); Mottles, 2.5Y56, 20-50% , 5-15mm, Faint; Mottles, 7.5YR58, 20-50% ; Light medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; Few cutans, <10% of ped faces or walls coated, faint; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; ; Gypseous, ; ; Field pH 9 (Raupach, 1.2); Clear, Smooth change to -
B24k	1.45 - 1.7 m	Dark brown (10YR3/3-Moist); Mottles, 10YR64, 10-20% , 0-5mm, Faint; Mottles, 10-20% ; Light clay; Moderate grade of structure; Smooth-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; Many (20 - 50 %), Calcareous, Medium (2 -6 mm), Soft segregations; ; Gypseous, ; ; Field pH 9.9 (Raupach, 1.5);

#### Morphological Notes

#### Observation Notes

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**Laboratory Test Results:**

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.12	5.9A		1.5B	1.4	0.23	0.13			
0.25 - 0.55	6.4A		3.4J	3.8	0.1	0.6		9.4I	6.38
0.55 - 0.8	6.8A		4.8B	5.9	0.19	4.5		15B	30.00
			4.9E	5.8	0.18	3.2			21.33
0.8 - 1.45	9.2A		7.8B	7.1	0.19	6.4		15B	42.67
			5.3E	6.4	0.2	4.2			28.00
1.45 - 1.7	9.4A								

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**Laboratory Analyses Completed for this profile**

10B	Extractable sulfur(mg/kg) - Phosphate extractable sulfur
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
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)
4A1	pH of 1:5 soil/water suspension