**Project Name:** **Preliminary Assessment and Survey of Land Degradation in the Dalrypmle Shire, QLD**
**Project Code:** **DLR** **Site ID:** **256** **Observation ID:** **1**
**Agency Name:** **QLD Department of Primary Industries**

## Site Information

| | | | |
|---|---|---|---|
| **Desc. By:** | M. DeCorte | **Locality:** | |
| **Date Desc.:** | 16/05/91 | **Elevation:** | 300 metres |
| **Map Ref.:** | Sheet No. : 8058 GPS | **Rainfall:** | No Data |
| **Northing/Long.:** | 7814440 AMG zone: 55 | **Runoff:** | No runoff |
| **Easting/Lat.:** | 388161 Datum: AGD66 | **Drainage:** | Well 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:** | Level plain <9m <1% | **Pattern Type:** | Plain |
| **Morph. Type:** | Flat | **Relief:** | No Data |
| **Elem. Type:** | Plain | **Slope Category:** | Level |
| **Slope:** | 1 % | **Aspect:** | 270 degrees |

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

**Erosion:**

## Soil Classification

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

**Mapping Unit:** N/A
**Principal Profile Form:** Ug5.17

**ASC Confidence:**
No analytical data are available but confidence is fair.

**Great Soil Group:** Black earth

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

**Vegetation:** Low Strata - Tussock grass, 0.51-1m, Sparse. *Species includes - Bothriochloa ewartiana
Mid Strata - , , . *Species includes - None recorded
Tall Strata - Tree, 12.01-20m, Sparse. *Species includes - Eucalyptus orgadophylla

**Surface Coarse Fragments:** No surface coarse fragments

## Profile Morphology

| | | |
|---|---|---|
| A11 | 0 - 0.02 m | Very dark grey (10YR3/1-Moist); ; Medium clay; Strong grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Many (>5 per 100mm2) Medium (2-5mm) macropores, Moist; Weak consistence; , Calcareous, , ; , Gypseous, , ; Many, fine (1-2mm) roots; Clear, Smooth change to - |
| A12 | 0.02 - 0.12 m | Very dark grey (10YR3/1-Moist); ; Medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; , Calcareous, , ; , Gypseous, , ; Field pH 8.5 (Raupach, 0.05); Common, fine (1-2mm) roots; Gradual, Smooth change to - |
| B21 | 0.12 - 0.65 m | Black (10YR2/1-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Lenticular; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; , Gypseous, , ; Field pH 9 (Raupach, 0.3); Few, very fine (0-1mm) roots; Gradual, Smooth change to - |
| B22 | 0.65 - 1 m | Very dark grey (10YR3/1-Moist); ; Medium heavy clay; Strong grade of structure, 20-50 mm, Lenticular; Strong grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Soft segregations; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; , Gypseous, , ; Field pH 9 (Raupach, 0.9); Gradual, Smooth change to - |
| B22 | 1 - 1.4 m | Very dark grey (10YR3/1-Moist); ; Medium heavy clay; Strong grade of structure, 20-50 mm, Lenticular; Strong grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Soft segregations; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; , Gypseous, , ; Gradual, Smooth change to - |

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| | | |
|---|---|---|
| B23 | 1.4 - 1.8 m | Very dark grey (10YR3/1-Moist); ; Medium heavy clay; Strong grade of structure, 20-50 mm, Lenticular; Strong grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm consistence; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Soft segregations; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; , Gypseous, , ; Field pH 8.5 (Raupach, 1.8); |

**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 | 7.5C | 0.13A | | | | | | | | |
| | 8.3A | | | | | | | | | |
| 0.12 - 0.65 | 8C | 0.26A | 31B | 32 | 0.53 | 6.9 | | | | |
| | 9.3A | | | | | | | | | |
| 0.65 - 1 | 8C | 0.83A | | | | | | | | |
| | 8.8A | | | | | | | | | |
| 1 - 1.4 | 8.55A | 1.75A | 19E | 36 | 0.42 | 13.5 | | 62B | | 21.77 |
| 1.4 - 1.8 | 8.7A | 1.45A | 18E | 39 | 0.44 | 15 | | 70B | | 21.43 |

| 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 | | 1.9A | | | 0.12A | | | | 1D | 23 | 20 | 60 |
| 0.12 - 0.65 | | | | | | | | | 2D | 17 | 16 | 68 |
| 0.65 - 1 | | | | | | | | | | | | |
| 1 - 1.4 | | | | 0.085A | | 0.529A | | | 1D | 14 | 15 | 70 |
| 1.4 - 1.8 | | | | 0.077A | | 0.474A | | | 3D | 10 | 13 | 72 |

| 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 | | | | | | | | | | |
| 0.12 - 0.65 | | | | | | | | | | |
| 0.65 - 1 | | | | | | | | | | |
| 1 - 1.4 | | | | | | | | | | |
| 1.4 - 1.8 | | | | | | | | | | |

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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 |