

Project Name: Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD
Project Code: DLR **Site ID:** T555 **Observation ID:** 1
Agency Name: QLD Department of Primary Industries

Site Information

| | |
|---|--------------------------------------|
| Desc. By: M.G. Cannon | Locality: |
| Date Desc.: 05/03/92 | Elevation: 240 metres |
| Map Ref.: Sheet No. : 8256 GPS | Rainfall: No Data |
| Northing/Long.: 7685130 AMG zone: 55 | Runoff: Moderately rapid |
| Easting/Lat.: 468318 Datum: AGD66 | Drainage: Imperfectly drained |

Geology

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|------------------------------|--|
| ExposureType: No Data | Conf. Sub. is Parent. Mat.: No Data |
| Geol. Ref.: Clh | Substrate Material: Undisturbed soil core, 1.8 m deep,, Siltstone |

Land Form

| | |
|---|---|
| Rel/Slope Class: Undulating plains <9m 3-10% | Pattern Type: Low hills |
| Morph. Type: Mid-slope | Relief: No Data |
| Elem. Type: Hillslope | Slope Category: Very gently sloped |
| Slope: 3 % | Aspect: 310 degrees |

Surface Soil Condition (dry): Hardsetting

Erosion: 5 m5 m;3 m,90 m;

Soil Classification

| | |
|--|---------------------------------------|
| Australian Soil Classification: | Mapping Unit: N/A |
| Calcic Subnatric Brown Sodosol Medium Non-gravelly Loamy Clayey Deep | Principal Profile Form: Db1.33 |
| 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 - Dichanthium species, Aristida species, Chrysopogon

fallaxMid Strata - Tree, 3.01-6m, Sparse. *Species includes - Eucalyptus brownii

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

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

| | | |
|-----|---------------|---|
| A1 | 0 - 0.08 m | Dark yellowish brown (10YR4/4-Moist); ; Fine sandy loam (Heavy); Massive grade of structure; Earthy fabric; Dry; Weak consistence; , Calcareous, , , , Gypseous, , ; Field pH 6.8 (Raupach, 0.05); Common, fine (1-2mm) roots; Clear change to - |
| A/B | 0.08 - 0.19 m | Yellowish brown (10YR5/4-Moist); ; Fine sandy clay loam; Massive grade of structure; Earthy fabric; Dry; Weak consistence; , Calcareous, , , , Gypseous, , ; Field pH 6.8 (Raupach, 0.15); Common, fine (1-2mm) roots; Abrupt change to - |
| B21 | 0.19 - 0.4 m | Olive brown (2.5Y4/4-Moist); ; Medium heavy clay; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Dry; Very firm consistence; , Calcareous, , , , Gypseous, , ; Field pH 8.5 (Raupach, 0.3); Few, very fine (0-1mm) roots; Clear change to - |
| B22 | 0.4 - 0.63 m | Light olive brown (2.5Y5/4-Moist); ; Medium heavy clay; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Dry; Very firm consistence; , Calcareous, , , , Gypseous, , ; Field pH 8.8 (Raupach, 0.55); Few, very fine (0-1mm) roots; Gradual change to - |
| B/D | 0.63 - 0.96 m | Yellowish brown (10YR5/6-Moist); ; Clay loam, sandy; Massive grade of structure, 5-10 mm, Angular blocky; Earthy fabric; Dry; Firm consistence; , Calcareous, , , , Gypseous, , ; Field pH 8.8 (Raupach, 0.75); Gradual change to - |
| B24 | 0.96 - 1.26 m | Brownish yellow (10YR6/6-Moist); ; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Dry; Very firm consistence; Few cutans, <10% of ped faces or walls coated, distinct; , Calcareous, , , , Gypseous, , ; Field pH 9 (Raupach, 1.1); Gradual change to - |
| BC | 1.26 - 1.53 m | Olive yellow (2.5Y6/6-Moist); ; Silty light medium clay; Strong grade of structure; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Dry; Weak consistence; 10-20%, medium gravelly, 6-20mm, subangular platy, undisturbed, Siltstone, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, prominent; , Calcareous, , , , Gypseous, , ; Field pH 9 (Raupach, 1.4); |

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BC 1.53 - 1.85 m ; Silty medium heavy clay; Moderate grade of structure; Smooth-ped fabric; Dry; Weak consistence; 10-20%, medium gravelly, 6-20mm, subangular platy, undisturbed, Siltstone, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; , Gypseous, , ; Soil matrix is Highly calcareous; Field pH 9 (Raupach, 1.7);

Morphological Notes

Observation Notes

DLR1061; B HORIZON DISPERSES WEAKLY. OTHER GROUND COVER BODEC :

Site 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 | | | | Cmol (+)/kg | Acidity | | % |
| 0 - 0.08 | 6.87A | 0.03A | 1.6B | 1.3 | 0.62 | 0.29 | | 4.9I | 5.92 |
| 0.08 - 0.19 | 6.87A | 0.02A | 1.1J | 1.01 | 0.13 | 0.13 | | | 2.65 |
| 0.19 - 0.4 | 8A | 0.25A | 6.22J | 7.55 | 0.13 | 1.46 | | 20D | 7.30 |
| 0.4 - 0.63 | 8.64A | 0.37A | 4.5B | 7.8 | 0.75 | 5.5 | | 18.9I | 7.72 |
| 0.63 - 0.96 | 9.05A | 0.52A | | | | | | | |
| 0.96 - 1.26 | 9.4A | 0.68A | 3.25J | 6.72 | 0.23 | 2.66 | | 17.5I | 15.20 |
| 1.26 - 1.53 | 9.24A | 0.57A | | | | | | | |
| 1.53 - 1.85 | 9.7A | 0.75A | 4.27J | 8.74 | 0.26 | 2.5 | | 18.9I | 13.23 |

| Depth | CaCO3 | Organic C | Avail. P | Total P | Total N | Total K | Bulk Density | Particle GV | Size CS | Analysis FS | Silt | Clay |
|-------------|-------|-----------|----------|---------|---------|---------|--------------|-------------|---------|-------------|------|------|
| m | % | % | mg/kg | % | % | % | Mg/m3 | | | % | | |
| 0 - 0.08 | 0.1A | 0.3B | | 0.015A | 0.02A | 0.459A | | | 32A | 31 | 27 | 11 |
| 0.08 - 0.19 | | | | | | | | | | | | |
| 0.19 - 0.4 | 0.1A | 0.5B | | | | | | | 10A | 17 | 22 | 51 |
| 0.4 - 0.63 | | | | | | | | | | | | |
| 0.63 - 0.96 | | | | | | | | | | | | |
| 0.96 - 1.26 | | | | | | | | | 20A | 21 | 19 | 40 |
| 1.26 - 1.53 | | | | | | | | | | | | |
| 1.53 - 1.85 | | | | | | | | | 3A | 12 | 45 | 40 |

[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 |
| 5A1 | Chloride - 1:5 soil/water extract, potentiometric titration |
| 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 |