

**Project Name:** Preliminary Assessment and Survey of Land Degradation in the Dalrymple Shire, QLD  
**Project Code:** DLR **Site ID:** 161 **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>     | 19/09/90             | <b>Elevation:</b> | 3256 metres  |
| <b>Map Ref.:</b>       | Sheet No. : 8058 GPS | <b>Rainfall:</b>  | No Data      |
| <b>Northing/Long.:</b> | 7808972 AMG zone: 55 | <b>Runoff:</b>    | No runoff    |
| <b>Easting/Lat.:</b>   | 374904 Datum: AGD66  | <b>Drainage:</b>  | 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):** Cracking, Self-mulching

#### Erosion:

#### Soil Classification

|  |                                |             |
|--|--------------------------------|-------------|
| <b>Australian Soil Classification:</b>               | <b>Mapping Unit:</b>           | N/A         |
| Endocalcareous Self-Mulching Black Vertosol Gravelly | <b>Principal Profile Form:</b> | Ug5.13      |
| Medium fine Very fine Deep                           | <b>Great Soil Group:</b>       | Black earth |

#### **ASC Confidence:**

All necessary analytical data are available.

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

#### Vegetation:

Low Strata - , , . \*Species includes - Sporobolus species, Bothriochloa decipiens  
Mid Strata - Tree, 1.01-3m, Very sparse. \*Species includes - Acacia species, Acacia farnesiana  
Tall Strata - Tree, 6.01-12m, Sparse. \*Species includes - Acacia cana

**Surface Coarse Fragments:** 10-20%, medium gravelly, 6-20mm, rounded, Quartz

#### Profile Morphology

|      |              |   |
|------|--------------|---|
| A1   | 0 - 0.05 m   | Very dark grey (10YR3/1-Moist); ; Medium clay; Strong grade of structure, 5-10 mm, Granular; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Dry; Very firm consistence; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; , Calcareous, , , ; Gypseous, , ; Field pH 7.5 (Raupach, 0.05); Few, very fine (0-1mm) roots; Clear, Smooth change to -  |
| B21  | 0.05 - 0.5 m | Very dark grey (10YR3/1-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 20-50%, medium gravelly, 6-20mm, rounded, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, prominent; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; , Gypseous, , ; Field pH 8.5 (Raupach, 0.3); Few, very fine (0-1mm) roots; Clear, Smooth change to - |
| B22k | 0.5 - 1 m    | Very dark grey (10YR3/1-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, prominent; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Nodules; , Gypseous, , ; Field pH 8.5 (Raupach, 0.6); Few, very fine (0-1mm) roots; Clear, Smooth change to -          |
| B3   | 1 - 1.1 m    | ; , Calcareous, , , ; Gypseous, , ; Field pH 8.5 (Raupach, 1.1);  |

#### Morphological Notes

#### Observation Notes

#### Site 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<br>Cmol (+)/kg | Acidity |       | %     |
| 0 - 0.05   | 7.9A |        | 17B                  | 12   | 0.52 | 0.64              |         |       |       |
| 0.05 - 0.5 | 8.7A |        | 13.8J                | 12.8 | 0.2  | 2.3               |         | 30.4I | 7.57  |
| 0.5 - 1    | 8.5A |        |                      |      |      |                   |         |       |       |
| 1 - 1.1    | 8.6A |        | 7.6B                 | 9.4  | 0.26 | 6.3               |         | 18B   | 35.00 |
|            |      |        | 6E                   | 8.3  | 0.22 | 4.1               |         |       | 22.78 |

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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  |