**Project Name:** **BRUCEDALE/LADYSMITH/GRIGGWARD - Soil Landscape Modelling**
**Project Code:** **Wagga_SLM** **Site ID:** **BD84** **Observation ID:** **1**
**Agency Name:** **CSIRO Division of Soils (ACT)**

## Site Information

**Desc. By:** McKane, Dermot
**Date Desc.:** 15/07/93
**Map Ref.:** Sheet No. : 8327 1:25000
**Northing/Long.:** 6126566 AMG zone: 55
**Easting/Lat.:** 540135 Datum: AGD66
**Locality:**
**Elevation:** 260 metres
**Rainfall:** No Data
**Runoff:** Slow
**Drainage:** Very poorly drained

## Geology

**ExposureType:** Undisturbed soil core
**Geol. Ref.:** No Data
**Conf. Sub. is Parent. Mat.:** No Data
**Substrate Material:** No Data

## Land Form

**Rel/Slope Class:** No Data
**Morph. Type:** No Data
**Elem. Type:** No Data
**Slope:** 1 %
**Pattern Type:** No Data
**Relief:** No Data
**Slope Category:** No Data
**Aspect:** 315 degrees

## Surface Soil Condition (dry):

## Erosion:

## Soil Classification

**Australian Soil Classification:**
Sodic Eutrophic Brown Kandosol
**ASC Confidence:**
Confidence level not specified
**Mapping Unit:** N/A
**Principal Profile Form:** N/A
**Great Soil Group:** N/A

## Site Disturbance:

## Vegetation:

## Surface Coarse Fragments:

## Profile Morphology

| | | |
|---|---|---|
| A1 | 0 - 0.13 m | Brown (7.5YR4/4-Moist); ; Clay loam; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Very firm consistence; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Common, very fine (0-1mm) roots; Clear change to - |
| B2 | 0.13 - 0.35 m | Brown (7.5YR4/4-Moist); ; Coarse sandy light clay; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Firm consistence; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Nodules, weak, segregations;Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules, weak, segregations;Few, very fine (0-1mm) roots; Gradual change to - |
| 2A | 0.35 - 0.48 m | Brown (7.5YR4/4-Moist); ; Coarse sand; Single grain grade of structure; Sandy (grains prominent) fabric; Loose consistence; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules, strong, segregations;Soil matrix is Slightly calcareous; Clear change to - |
| 3A | 0.48 - 0.69 m | Dark brown (7.5YR3/4-Moist); ; Clayey coarse sand; Massive grade of structure; Sandy (grains prominent) fabric; Very weak consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Abrupt change to - |
| 3A2 | 0.69 - 0.92 m | Light yellowish brown (10YR6/4-Moist); White (10YR8/1-Dry); ; Medium sandy clay loam; Massive grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Clear change to - |
| 3B21 | 0.92 - 1.22 m | Brownish yellow (10YR6/6-Moist); ; Light clay; Moderate grade of structure, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Common (10 - 20 %), Manganiferous, Fine (0 - 2 mm), Veins, weak, segregations;Few, very fine (0-1mm) roots; Clear change to - |

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| | | |
|---|---|---|
| 3B22 | 1.22 - 1.98 m | Reddish yellow (5YR6/8-Moist); ; Light clay; Moderate grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules, weak, segregations;Clear change to - |
| 3B23 | 1.98 - 2.13 m | Brownish yellow (10YR6/6-Moist); ; Light clay; Moderate grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Very firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules, weak, |

**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 - 0.13 | 7.53A | 1.009A | 10.4J | 3.1 | 0.97 | 2.4 | | 15l | | 16.00 |
| 0.13 - 0.35 | 7.57A | 0.68A | 5.9J | 1.8 | 0.63 | 1.3 | | 9.1l | | 14.29 |
| 0.35 - 0.48 | 7.73A | 0.379A | 5.8J | 2.2 | 0.58 | 0.96 | | 9.1l | | 10.55 |
| 0.48 - 0.69 | 7.59A | 0.424A | 5.5J | 1.7 | 0.4 | 0.72 | | 7.5l | | 9.60 |
| 0.69 - 0.92 | 7.61A | 0.258A | 2.9J | 0.95 | 0.17 | 0.45 | | 4.2l | | 10.71 |
| 0.92 - 1.22 | 7.11A | 0.418A | 14.6J | 4.3 | 0.77 | 1.2 | | 18.1l | | 6.63 |
| 1.22 - 1.98 | 7.65A | 0.455A | 13.3J | 4 | 0.82 | 0.94 | | 18.6l | | 5.05 |
| 1.98 - 2.13 | 8.05A | 0.456A | 20.4J | 5.3 | 1 | 1.5 | | 24.8l | | 6.05 |

| 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 - 0.13 | | 2.2C | | | | | | | 45.6l | | 17.9 | 36.5 |
| 0.13 - 0.35 | | 0.6C | | | | | | | 37.1l | | 14.8 | 48.1 |
| 0.35 - 0.48 | | 0.2C | | | | | | | 34.7l | | 10.6 | 54.7 |
| 0.48 - 0.69 | | 0.37C | | | | | | | 22.5l | | 15.4 | 62.1 |
| 0.69 - 0.92 | | 0.13C | | | | | | | 22.7l | | 24.9 | 52.4 |
| 0.92 - 1.22 | | 0.18C | | | | | | | 63.7l | | 15 | 21.3 |
| 1.22 - 1.98 | | 0.19C | | | | | | | 52.5l | | 9.5 | 38 |
| 1.98 - 2.13 | | 0.18C | | | | | | | 55.4l | | 13.3 | 31.3 |

| 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 - 0.13 | | | | | | | | | |
| 0.13 - 0.35 | | | | | | | | | |
| 0.35 - 0.48 | | | | | | | | | |
| 0.48 - 0.69 | | | | | | | | | |
| 0.69 - 0.92 | | | | | | | | | |
| 0.92 - 1.22 | | | | | | | | | |
| 1.22 - 1.98 | | | | | | | | | |
| 1.98 - 2.13 | | | | | | | | | |

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**Laboratory Analyses Completed for this profile**

| | |
|---|---|
| 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)+ |
| 15L1 | Base saturation percentage (BSP) |
| 15N1 | Exchangeable sodium percentage (ESP) |
| 3A1 | EC of 1:5 soil/water extract |
| 4A1 | pH of 1:5 soil/water suspension |
| 6B3 | Total organic carbon - high frequency induction furnace, infrared |
| P10_NR_C | Clay (%) - Not recorded |
| P10_NR_S | Sand (%) - Not recorded |
| P10_NR_Z | Silt (%) - Not recorded |