

**Project Name:** WAGGA WAGGA SOIL LANDSCAPES  
**Project Code:** 1000448      **Site ID:** WW161      **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

**Site Information**

|                        |                          |                   |                     |
|------------------------|--------------------------|-------------------|---------------------|
| <b>Desc. By:</b>       | Chen, XY                 | <b>Locality:</b>  |                     |
| <b>Date Desc.:</b>     | 15/07/93                 | <b>Elevation:</b> | 173 metres          |
| <b>Map Ref.:</b>       | Sheet No. : 8327 1:25000 | <b>Rainfall:</b>  | No Data             |
| <b>Northing/Long.:</b> | 6120475 AMG zone: 55     | <b>Runoff:</b>    | Very slow           |
| <b>Easting/Lat.:</b>   | 518375 Datum: AGD66      | <b>Drainage:</b>  | Imperfectly drained |

**Geology**

|                      |         |                                    |          |
|----------------------|---------|------------------------------------|----------|
| <b>ExposureType:</b> | No Data | <b>Conf. Sub. is Parent. Mat.:</b> | Probable |
| <b>Geol. Ref.:</b>   | Cza     | <b>Substrate Material:</b>         | Clay     |

**Land Form**

|                         |         |                        |             |
|-------------------------|---------|------------------------|-------------|
| <b>Rel/Slope Class:</b> | No Data | <b>Pattern Type:</b>   | Plain       |
| <b>Morph. Type:</b>     | Flat    | <b>Relief:</b>         | No Data     |
| <b>Elem. Type:</b>      | Plain   | <b>Slope Category:</b> | No Data     |
| <b>Slope:</b>           | 0 %     | <b>Aspect:</b>         | 180 degrees |

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

**Erosion:**

**Soil Classification**

|   |  |                                |                 |
|---|--|--------------------------------|-----------------|
| <b>Australian Soil Classification:</b>    |  | <b>Mapping Unit:</b>           | N/A             |
| Haplic Red Chromosol Thick Gravelly Sandy |  | <b>Principal Profile Form:</b> | Dr2.23          |
| <b>ASC Confidence:</b>                    |  | <b>Great Soil Group:</b>       | Red-brown earth |
| Confidence level not specified            |  |                                |                 |

**Site Disturbance:** Extensive clearing, for example poisoning, ringbarking

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

|    |               |   |
|----|---------------|---|
| A1 | 0 - 0.1 m     | Dark brown (7.5YR3/4-Moist); ; Fine sandy loam; Weak grade of structure, <2 mm, Granular; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Dry; Weak consistence; Non-plastic; Slightly sticky; Field pH 6.5 (Raupach); Many, fine (1-2mm) roots; Gradual, Smooth change to -                              |
| A2 | 0.1 - 0.3 m   | Dark reddish brown (5YR3/4-Moist); ; Fine sandy clay loam; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Dry; Very firm consistence; Slightly plastic; Moderately sticky; Field pH 6.5 (Raupach); Common, fine (1-2mm) roots; Gradual change to - |
| B2 | 0.3 - 0.55 m  | Red (2.5YR4/6-Moist); ; Light medium clay; Moderate grade of structure, 2-5 mm, Polyhedral; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Moderately plastic; Very sticky; Few cutans, <10% of ped faces or walls coated, faint; Field pH 7 (Raupach); Few, fine (1-2mm) roots; Gradual change to -   |
| B3 | 0.55 - 0.85 m | Yellowish red (5YR3/6-Moist); Mottles, 0-2% , Faint; Medium clay; Strong grade of structure, 20-50 mm, Subangular blocky; 100-200 mm, Lenticular; Smooth-ped fabric; Moderately moist; Very plastic; Very sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 8.5 (Raupach); Few, fine (1-2mm) roots;  |

**Morphological Notes**

A1 Water expellent.

**Observation Notes**

Pit to 35cm, auger to 85cm.

**Site Notes**

50M W FARM ENTRANCE, S HIGHWAY

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#### Laboratory Test Results:

| Depth       | pH   | 1:5 EC | Ca    | Exchangeable Mg | Cations K | Na          | Exchangeable Acidity | CEC   | ECEC | ESP  |
|-------------|------|--------|-------|-----------------|-----------|-------------|----------------------|-------|------|------|
| m           |      | dS/m   |       |                 |           | Cmol (+)/kg |                      |       |      | %    |
| 0 - 0.1     | 6.3B | 0.09A  | 11.4J | 2.6             | 0.4       | 0.3         | 0L                   | 13.2I |      | 2.27 |
| 0.1 - 0.3   | 6.4B | 0.04A  | 3.8J  | 1.7             | 0.8       | 0.3         | 0L                   | 9.4I  |      | 3.19 |
| 0.3 - 0.55  | 5.9B | 0.13A  | 6.9J  | 8               | 1.9       | 0.7         | 0L                   | 16.5I |      | 4.24 |
| 0.55 - 0.85 | 6.5B | 0.16A  | 8.7J  | 11.3            | 1.6       | 1           | 0L                   | 23.7I |      | 4.22 |

| 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 - 0.1     |       | 3.35A     | 3D       |         |         |         |              |             | 31F     | 55          | 7    | 7    |
| 0.1 - 0.3   |       | 0.46A     | 1D       |         |         |         |              |             | 31F     | 40          | 16   | 13   |
| 0.3 - 0.55  |       | 0.33A     | 0D       |         |         |         |              |             | 12F     | 15          | 8    | 65   |
| 0.55 - 0.85 |       | 0.28A     | 0D       |         |         |         |              |             | 7F      | 12          | 11   | 70   |

| Depth       | COLE | Gravimetric/Volumetric Water Contents |          |         |         |       |       | K sat  | K unsat |
|-------------|------|---------------------------------------|----------|---------|---------|-------|-------|--------|---------|
| m           |      | Sat.                                  | 0.05 Bar | 0.1 Bar | 0.5 Bar | 1 Bar | 5 Bar | 15 Bar |         |
|             |      |                                       |          | g/g -   |         | m3/m3 |       |        |         |
| 0 - 0.1     |      |                                       |          | 0.29B   |         |       |       | 0.11B  |         |
| 0.1 - 0.3   |      |                                       |          | 0.27B   |         |       |       | 0.06B  |         |
| 0.3 - 0.55  |      |                                       |          | 0.49B   |         |       |       | 0.24B  |         |
| 0.55 - 0.85 |      |                                       |          | 0.53B   |         |       |       | 0.26B  |         |

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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                 |
| 15F2       | Exchangeable aluminium by 0.01m (AgTU)+  |
| 15F3       | CEC by 0.01M silver-thiourea (AgTU)+   |
| 3A1        | EC of 1:5 soil/water extract   |
| 4B1        | pH of 1:5 soil/0.01M calcium chloride extract - direct                                 |
| 6A1        | Organic carbon - Walkley and Black   |
| 9E         | Available P (mg/kg) - Bray P   |
| 9J2        | Phosphate sorption curve - automated colour  |
| P10_HYD_C  | Clay (%) - Hydrometer Method   |
| P10_HYD_CS | Coarse Sand (%) - Hydrometer Method  |
| P10_HYD_FS | Fine Sand (%) - Hydrometer Method  |
| P10_HYD_Z  | Silt (%) - Hydrometer Method   |
| P3B_GV_01  | 0.1 BAR Moisture g/g - Gravimetric using suction plate                                 |
| P3B_GV_15  | 15 BAR Moisture g/g - Gravimetric using pressure plate                                 |