

**Project Name:** SOIL STRUCTURE & MANAGEMENT  
**Project Code:** SSM **Site ID:** SSM110 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

#### Site Information

|                        |                          |                   |                     |
|------------------------|--------------------------|-------------------|---------------------|
| <b>Desc. By:</b>       | P. Gessler               | <b>Locality:</b>  |                     |
| <b>Date Desc.:</b>     | 06/02/91                 | <b>Elevation:</b> | 258 metres          |
| <b>Map Ref.:</b>       | Sheet No. : 8329 1:25000 | <b>Rainfall:</b>  | No Data             |
| <b>Northing/Long.:</b> | 6210850 AMG zone: 55     | <b>Runoff:</b>    | Slow                |
| <b>Easting/Lat.:</b>   | 534400 Datum: AGD66      | <b>Drainage:</b>  | Imperfectly drained |

#### Geology

|                      |                       |                                    |         |
|----------------------|-----------------------|------------------------------------|---------|
| <b>ExposureType:</b> | Undisturbed soil core | <b>Conf. Sub. is Parent. Mat.:</b> | No Data |
| <b>Geol. Ref.:</b>   | Sus                   | <b>Substrate Material:</b>         | No Data |

#### Land Form

|                         |         |                        |               |
|-------------------------|---------|------------------------|---------------|
| <b>Rel/Slope Class:</b> | No Data | <b>Pattern Type:</b>   | Covered 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>         | No Data       |

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

#### Erosion:

#### Soil Classification

|  |                                |                 |
|--|--------------------------------|-----------------|
| <b>Australian Soil Classification:</b> | <b>Mapping Unit:</b>           | N/A             |
| Hypercalcic Red Dermosol               | <b>Principal Profile Form:</b> | Db1.13          |
| <b>ASC Confidence:</b>                 | <b>Great Soil Group:</b>       | Red-brown earth |
| Confidence level not specified         |                                |                 |

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

|     |               |   |
|-----|---------------|---|
| Ap  | 0 - 0.09 m    | Dark brown (7.5YR3/2-Moist); ; Fine sandy clay loam; Moderate grade of structure, 2-5 mm, Granular; >500 mm, Lenticular; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Dry; Firm consistence; Non-plastic; Non-sticky; 2-10%, fine gravelly, 2-6mm, rounded, dispersed, Quartz, coarse fragments; Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Sharp, Smooth change to -  |
| AB  | 0.09 - 0.31 m | Dark brown (7.5YR3/4-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Lenticular; 2-5 mm, Prismatic; Rough-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Slightly plastic; Moderately sticky; 0-2%, fine gravelly, 2-6mm, rounded, dispersed, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Cultivation pan, Moderately cemented, Continuous, Massive; Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Wavy change to -   |
| B21 | 0.31 - 0.8 m  | Yellowish red (5YR4/6-Moist); Biological mixing, 2.5YR46, 0-2% , Faint; Silty clay; Strong grade of structure, 5-10 mm, Angular blocky; 50-100 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Medium, (5 - 10) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Dry; Moderately plastic; Moderately sticky; 0-2%, fine gravelly, 2-6mm, rounded tabular, dispersed, Quartz, coarse fragments; 0-2%, fine gravelly, 2-6mm, rounded tabular, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Fragments, weak, segregations; Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt, Wavy change |
| B22 | 0.8 - 1 m     | Brown (7.5YR5/4-Moist); Biological mixing, 2.5YR46, 2-10% , Faint; Silty clay; Strong grade of structure, 20-50 mm, Columnar; 20-50 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Medium, (5 - 10) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very plastic; Very sticky; 0-2%, fine gravelly, 2-6mm, rounded tabular, dispersed, Quartz, coarse fragments; 0-2%, fine gravelly, 2-6mm, rounded tabular, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Fragments, weak, segregations; Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots;                                   |

#### Morphological Notes

#### Observation Notes

#### Site Notes

SPIERS SITE1 WHEAT STUBBLE 200M FR DAM

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**Laboratory Analyses Completed for this profile**

|            |  |
|------------|--|
| 13A1_AL    | Oxalate-extractable aluminium  |
| 13A1_FE    | Oxalate-extractable iron   |
| 13A1_MN    | Oxalate-extractable manganese  |
| 13A1_SI    | Oxalate-extractable silicon  |
| 13C1_AL    | Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon                                      |
| 13C1_FE    | Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon                                      |
| 13C1_MN    | Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon                                      |
| 13C1_SI    | Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon                                      |
| 14H1_CA    | Soluble bases/SE (Ca,Mg,K,Na)  |
| 14H1_K     | Soluble bases/SE (Ca,Mg,K,Na)  |
| 14H1_MG    | Soluble bases/SE (Ca,Mg,K,Na)  |
| 14H1_NA    | Soluble bases/SE (Ca,Mg,K,Na)  |
| 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)   |
| 3A1        | EC of 1:5 soil/water extract   |
| 4B1        | pH of 1:5 soil/0.01M calcium chloride extract - direct   |
| 6B3        | Total organic carbon - high frequency induction furnace, infrared  |
| P10_CF_C   | Clay (%) - Coventry and Fett pipette method  |
| P10_CF_Z   | Silt (%) - Coventry and Fett pipette method  |
| P3A1       | Bulk density - g/cm3   |
| P3B3VLc001 | 0.01 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate                 |
| P3B3VLc003 | 0.03 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate                 |
| P3B3VLc005 | 0.05 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate                 |
| P3B3VLc01  | 0.1 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate                  |
| P3B3VLc03  | 0.3 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate                  |
| P3B3VLcSAT | Saturated Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate                |
| P3B3VLd06  | 0.6 BAR Moisture m3/m3 - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate |
| P3B3VLd1   | 1 BAR Moisture m3/m3 - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate   |
| P3B3VLd15  | 15 BAR Moisture m3/m3 - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate  |
| P3B3VLd3   | 3 BAR Moisture m3/m3 - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate   |
| P3B3VLd5   | 5 BAR Moisture m3/m3 - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate   |
| P6_LP      | Dispersion Index (Loveday and Pyle, 1973)  |
| PWS1-2mm   | 1000-2000 micron fraction (%) - Wet Sieving after chemical dispersion                                      |
| PWS20-63   | 20-63 micron fraction (%) - Wet Sieving after chemical dispersion  |
| PWS212-425 | 212-425 micron fraction (%) - Wet Sieving after chemical dispersion  |
| PWS425-1mm | 425-1000 micron fraction (%) - Wet Sieving after chemical dispersion                                       |
| PWS63-212  | 63-212 micron fraction (%) - Wet Sieving after chemical dispersion   |