

**Project Name:** SOIL STRUCTURE & MANAGEMENT  
**Project Code:** SSM **Site ID:** SSM137 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

#### Site Information

<b>Desc. By:</b> G.M. Bowman	<b>Locality:</b>
<b>Date Desc.:</b> 05/03/91	<b>Elevation:</b> 140 metres
<b>Map Ref.:</b> Sheet No. : 7525 1:100000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 5970300 AMG zone: 54	<b>Runoff:</b> Slow
<b>Easting/Lat.:</b> 703660 Datum: AGD66	<b>Drainage:</b> Poorly drained

#### Geology

<b>ExposureType:</b> No Data	<b>Conf. Sub. is Parent. Mat.:</b> Probable
<b>Geol. Ref.:</b> Qs	<b>Substrate Material:</b> No Data

#### Land Form

<b>Rel/Slope Class:</b> No Data	<b>Pattern Type:</b> Alluvial 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> 2 %	<b>Aspect:</b> No Data

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

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b> N/A
Hypernatric Brown Sodosol	<b>Principal Profile Form:</b> Db1.23
<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 - 0.12 m	Brown (7.5YR4/4-Moist); Brown (7.5YR5/4-Dry); ; Fine sandy loam; Weak grade of structure, 20-50 mm, Platy; 20-50 mm, Prismatic; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Very firm consistence; Fragipan, Weakly cemented, Continuous, Vesicular; Few, very fine (0-1mm) roots; Clear, Smooth change to -
A2	0.12 - 0.24 m	Strong brown (7.5YR4/6-Moist); Light brown (7.5YR6/4-Dry); ; Fine sandy clay loam; Weak grade of structure, 20-50 mm, Angular blocky; 20-50 mm, Prismatic; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Dry; Very firm consistence; Few, very fine (0-1mm) roots; Abrupt, Irregular
B21	0.24 - 0.52 m	Dark brown (7.5YR3/4-Moist); Brown (7.5YR4/4-Dry); ; Medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Moderately moist; Firm consistence; Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B22	0.52 - 0.7 m	Reddish brown (5YR4/4-Moist); Yellowish red (5YR4/6-Dry); ; Medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Moderately moist; Weak consistence; Abrupt, Smooth change to -
BCK	0.7 - 1 m	Dark yellowish brown (10YR4/4-Moist); Yellowish brown (10YR5/4-Dry); Substrate influence, 10YR54; Substrate influence, 5YR56; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Moderately moist; Weak consistence; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Soft segregations, weak, segregations; Soil matrix is Slightly calcareous;

#### Morphological Notes

Ap	Very weak tendency to crust at surface (protected by mulch of straw).
A2	Slightly bleached, break to B obscured by ? movement of organic matter into B.
B21	Drab colours
B22	Zone unaffected by cultivation.

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BCK      Calcareous zone.

**Observation Notes**

Cropped continuously but stubble      retained minimum tillage.

**Site Notes**

ALAN POSTLETHWAITE - CHARLTON

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[illegible]

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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
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