Project Name: **SOIL STRUCTURE & MANAGEMENT**
Project Code: **SSM** **Site ID:** **SSM124** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By:	P. Gessler	**Locality:**	
Date Desc.:	20/02/91	**Elevation:**	225 metres
Map Ref.:	Sheet No. : 8327 1:25000	**Rainfall:**	No Data
Northing/Long.:	6099300 AMG zone: 55	**Runoff:**	Very slow
Easting/Lat.:	515500 Datum: AGD66	**Drainage:**	Moderately well drained

Geology

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

Land Form

Rel/Slope Class:	No Data	**Pattern Type:**	Plain
Morph. Type:	Flat	**Relief:**	No Data
Elem. Type:	Plain	**Slope Category:**	No Data
Slope:	0 %	**Aspect:**	No Data

Surface Soil Condition (dry): Surface crust

Erosion:

Soil Classification

Australian Soil Classification:
Hypercalcic Red Chromosol
ASC Confidence:
Confidence level not specified

Mapping Unit: N/A
Principal Profile Form: Dr2.23
Great Soil Group: Red-brown earth

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1p	0 - 0.12 m	Dark brown (7.5YR3/4-Moist); ; Sandy loam; Weak grade of structure, 10-20 mm, Granular; 200-500 mm, Lenticular; Rough-ped fabric; Fine, (0 - 5) mm crack; Coarse, (10 - 20) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Medium (2-5mm) macropores, Dry; Firm consistence; Non-plastic; Non-sticky; Cultivation pan, Uncemented, Discontinuous, Massive; Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Abrupt, Smooth change to -
A2	0.12 - 0.26 m	Dark reddish brown (5YR3/2-Moist); ; Loam; Weak grade of structure, 5-10 mm, Granular; 200-500 mm, Lenticular; Rough-ped fabric; Fine, (0 - 5) mm crack; Coarse, (10 - 20) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Dry; Loose consistence; Non-plastic; Non-sticky; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Abrupt, Wavy change to -
A3	0.26 - 0.45 m	Dark reddish brown (2.5YR3/4-Moist); ; Silty clay loam; Weak grade of structure, 5-10 mm, Granular; 200-500 mm, Lenticular; Rough-ped fabric; Fine, (0 - 5) mm crack; Coarse, (10 - 20) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Loose consistence; Non-plastic; Non-sticky; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Wavy change to -
B21	0.45 - 0.66 m	Red (2.5YR4/6-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; 50-100 mm, Columnar; Smooth-ped fabric; Very coarse, (20 - 50) mm crack; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Firm consistence; Moderately plastic; Slightly sticky; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules, weak, segregations;Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Clear, Wavy change to -

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B22	0.66 - 1 m	Olive yellow (2.5Y6/6-Moist); Biological mixing, 2.5YR48, 10-20% , Distinct; Medium clay; Moderate grade of structure, 20-50 mm, Columnar; 20-50 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Coarse, (10 - 20) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Moderately plastic; Moderately sticky; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules, weak, segregations;Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots;

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 - 0.02	5.44B	0.218A	2.75J	1.05	1.13	0.03		5.49I		0.55
0.01 - 0.085										
0.02 - 0.05	4.62B	0.162A	2.41J	0.71	0.7	0.02		4.58I		0.44
0.05 - 0.1	4.26B	0.039A	1.89J	0.55	0.44	0.01		4.19I		0.24
0.12 - 0.26										
0.1 - 0.45	5.95B	0.058A	9.45J	2.66	0.88	0.05		12.97I		0.39
0.45 - 0.55	6.38B	0.048A	11.17J	3.25	0.6	0.08		15.07I		0.53
0.46 - 0.535										
0.7 - 0.8	7.02B	0.125A	11.45J	3.35	0.65	0.04		15.01I		0.27

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 - 0.02		1.44C									47	17
0.01 - 0.085							1.58					
0.02 - 0.05		1.27C									2	33
0.05 - 0.1		1.16C									20	19
0.12 - 0.26												
0.1 - 0.45		0.68C									15	16
0.45 - 0.55		0.71C									15	35
0.46 - 0.535							1.49					
0.7 - 0.8		0.24C									9	60

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 - 0.02										
0.01 - 0.085		0.34F	0.28F	0.26I		0.2F	0.16D	0.14G		
0.02 - 0.05										
0.05 - 0.1										
0.12 - 0.26										
0.1 - 0.45										
0.45 - 0.55										
0.46 - 0.535		0.39F	0.35F	0.33I		0.28F	0.25D	0.24G		
0.7 - 0.8										

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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