Project Name: **SOIL STRUCTURE & MANAGEMENT**
Project Code: **SSM** **Site ID:** **SSM123** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: P. Gessler
Date Desc.: 20/02/91
Map Ref.: Sheet No. : 8227 1:25000
Northing/Long.: 6116210 AMG zone: 55
Easting/Lat.: 476410 Datum: AGD66
Locality:
Elevation: 185 metres
Rainfall: No Data
Runoff: Slow
Drainage: Moderately well drained

Geology

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

Land Form

Rel/Slope Class: No Data
Morph. Type: Simple-slope
Elem. Type: Hillslope
Slope: 2 %
Pattern Type: Low hills
Relief: No Data
Slope Category: No Data
Aspect: 0 degrees

Surface Soil Condition (dry): Cracking

Erosion: Stable, Minor (sheet) Stable, No rill erosion (rill)

Soil Classification

Australian Soil Classification:
Hypercalcic Red Dermosol
ASC Confidence:
Confidence level not specified
Mapping Unit: N/A
Principal Profile Form: Dr2.13
Great Soil Group: Red-brown earth

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage

Vegetation:

Surface Coarse Fragments:

Profile Morphology

Ap	0 - 0.12 m	Dark reddish brown (5YR3/4-Moist); ; Silty clay loam; Massive grade of structure; Rough-ped fabric; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Medium (2-5mm) macropores, Dry; Very firm consistence; Slightly plastic; Slightly sticky; 0-2%, rounded, dispersed, Quartz, coarse fragments; Cultivation pan, Uncemented, Continuous, Massive; Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt, Smooth change to -
B21t	0.12 - 0.45 m	Dark reddish brown (2.5YR3/4-Moist); ; Heavy clay; Moderate grade of structure, 10-20 mm, Subangular blocky; 20-50 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Medium, (5 - 10) mm crack; Coarse, (10 - 20) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Moderately plastic; Normal plasticity; Moderately sticky; 0-2%, rounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated; Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Wavy change to -
B22	0.45 - 0.74 m	Yellowish red (5YR4/6-Moist); Biological mixing, 2.5YR46, 2-10% , Distinct; Medium clay; Moderate grade of structure, Angular blocky; 50-100 mm; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Moderately plastic; Normal plasticity; Moderately sticky; 0-2%, rounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated; Few, very fine (0-1mm) roots; Clear, Wavy change to -
B23	0.74 - 1 m	Brown (7.5YR5/4-Moist); Biological mixing, 2.5YR58, 2-10% , Prominent; Medium clay; Moderate grade of structure, Columnar; 20-50 mm; Smooth-ped fabric; Fine, (0 - 5) mm crack; Medium, (5 - 10) mm crack; Moderately moist; Moderately plastic; Normal plasticity; Moderately sticky; 0-2%, rounded, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules, strong, segregations;Few, very fine (0-1mm) 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	5.86B	0.342A	4.17J	6.87	0.88	0.93		10.67I		8.72
0.01 - 0.085										
0.02 - 0.05	5.56B	0.362A	3.23J	6.31	0.62	1.12		9I		12.44
0.05 - 0.1	5.69B	0.247A	3.84J	7.15	0.44	1.6		11.63I		13.76
0.1 - 0.12	6.09B	0.186A	5.74J	11.78	0.75	2.4		17.06I		14.07
0.12 - 0.22	6.97B	0.315A	6.78J	16.06	0.81	4		23.6I		16.95
0.13 - 0.205										
0.7 - 0.8	8.03B	1.75A	5.69J	16.7	0.73	8.6		21.82I		39.41

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		2.32C									14	18
0.01 - 0.085							1.55					
0.02 - 0.05		1.63C									14	23
0.05 - 0.1		1.26C									12	37
0.1 - 0.12		0.97C									14	27
0.12 - 0.22		0.48C									12	46
0.13 - 0.205							1.48					
0.7 - 0.8		0.41C									14	42

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		0.37F	0.33F	0.31I						
0.02 - 0.05										
0.05 - 0.1										
0.1 - 0.12										
0.12 - 0.22										
0.13 - 0.205			0.4F	0.39I		0.37F	0.31D	0.26G		
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
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