

Project Name: SOIL STRUCTURE & MANAGEMENT
Project Code: SSM **Site ID:** SSM30 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By: B. Murphy	Locality:
Date Desc.: 26/03/91	Elevation: No Data
Map Ref.: Sheet No. : 8226 1:50000	Rainfall: No Data
Northing/Long.: 6027300 AMG zone: 55	Runoff: Moderately rapid
Easting/Lat.: 466900 Datum: AGD66	Drainage: Moderately well drained

Geology

ExposureType: Undisturbed soil core	Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: Q312	Substrate Material: No Data

Land Form

Rel/Slope Class: No Data	Pattern Type: Low hills
Morph. Type: Mid-slope	Relief: No Data
Elem. Type: Hillslope	Slope Category: No Data
Slope: 3 %	Aspect: 135 degrees

Surface Soil Condition (dry): Hardsetting

Erosion: Not apparent (wind); Not apparent (sheet) Not apparent (wave) Not apparent (tunnel)

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Eutrophic Red Dermosol	Principal Profile Form: Dy2.12
ASC Confidence:	Great Soil Group: Non-calcic brown soil
Confidence level not specified	

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.02 m	Reddish brown (5YR4/4-Moist); ; Loam; Weak grade of structure, 5-10 mm, Subangular blocky; 50-100 mm, Lenticular; Earthy fabric; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Medium (2-5mm) macropores, Few (<1 per 100mm2) Coarse (>5mm) macropores, Dry; Firm consistence; Slightly plastic; Normal plasticity; Non-sticky; Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Abrupt change to -
A12	0.02 - 0.08 m	Reddish brown (5YR4/4-Moist); Pink (7.5YR7/4-Dry); ; Loam; Weak grade of structure, 5-10 mm, Platy; 50-100 mm, Prismatic; Earthy fabric; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Medium (2-5mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Firm consistence; Slightly plastic; Normal plasticity; Non-sticky; Cultivation pan; Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt change to -
A13	0.08 - 0.2 m	Yellowish red (5YR4/6-Moist); ; Clay loam; Weak grade of structure, 20-50 mm, Platy; 50-100 mm, Prismatic; Earthy fabric; Very coarse, (20 - 50) mm crack; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Many (>5 per 100mm2) Medium (2-5mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Coarse (>5mm) macropores, Dry; Strong consistence; Moderately plastic; Normal plasticity; Slightly sticky; Few cutans, <10% of ped faces or walls coated, faint; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules, strong, segregations;Cultivation pan; Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt change to -
B21	0.2 - 0.4 m	Yellowish red (5YR5/8-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Subangular blocky; 50-100 mm, Columnar; Rough-ped fabric; Very coarse, (20 - 50) mm crack; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Medium (2-5mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Very firm consistence; Moderately plastic; Normal plasticity; Moderately sticky; Common cutans, 10-50% of ped faces or walls coated, faint; Common (10 - 20 %), Ferromanganiferous, Medium (2 -6 mm), Nodules, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules, strong, segregations;Common, very fine (0-1mm) roots; Gradual change to -

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B22	0.4 - 0.7 m	Strong brown (7.5YR5/6-Moist); Substrate influence, 2-10% , Distinct; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; 50-100 mm, Prismatic; Rough-ped fabric; Very coarse, (20 - 50) mm crack; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Medium (2-5mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Very firm consistence; Moderately plastic; Moderately sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Common (10 - 20 %), Ferromanganiferous, Medium (2 -6 mm), Soft segregations, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Soft segregations, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Medium (2 -6 mm), Nodules, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Medium (2 -6 mm), Crystals, strong, segregations;Few, very fine (0-1mm) roots;
B23	0.7 - 0.9 m	Strong brown (7.5YR5/6-Moist); Substrate influence, 2-10% , Distinct; Light medium clay; Moderate grade of structure, 50-100 mm, Prismatic; 50-100 mm, Angular blocky; 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, Few (<1 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Strong consistence; Moderately plastic; Moderately sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Common (10 - 20 %), Ferromanganiferous, Medium (2 -6 mm), Soft segregations, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Soft segregations, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Medium (2 -6 mm), Nodules, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules, strong, segregations;Common (10 - 20 %), Ferromanganiferous, Medium (2 -6 mm), Crystals, strong, segregations;Few, very fine (0-1mm) roots;

Morphological Notes

A11	Large pores from old canola crop.	Fine sand present.
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A12 Fine sand present.

A13	Some tendency for platey to become lenses.	lenticular. Ex-ped root development along
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Observation Notes

atlas area is Va17 but looks as soils are Qc3

Site Notes

ALBURY TREVETHAN BROCKLESBY

Observation ID: 1

Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.02	5.99B	0.138A	4.42J	1.53	1.01	0.03		5.8I	0.52
0.01 - 0.085									
0.02 - 0.05	5.29B	0.102A	3.52J	1.12	0.59	0.05		5.69I	0.88
0.05 - 0.1	4.66B	0.056A	2.55J	0.8	0.41	0.01		4.56I	0.22
0.1 - 0.2	5.4B	0.027A	4.38J	1.41	0.44	0.01		6.89I	0.15
0.2 - 0.3	5.82B	0.032A	4.82J	1.95	0.42	0.04		6.95I	0.58
0.25 - 0.325									
0.7 - 0.8	6.36B	0.04A	5.53J	5.05	0.48	0.2		8.68I	2.30

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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
MIN_EC	Exchange Capacity - Minerology
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method
P3A1	Bulk density - g/cm ³
P3B3VLc001	0.01 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc003	0.03 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc005	0.05 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc01	0.1 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc03	0.3 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLcSAT	Saturated Moisture m ³ /m ³ - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLd06	0.6 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate
P3B3VLd1	1 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate
P3B3VLd15	15 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate
P3B3VLd3	3 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate
P3B3VLd5	5 BAR Moisture m ³ /m ³ - 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
XRD_C_An	Anatase - X-Ray Diffraction
XRD_C_Hm	Hematite - X-Ray Diffraction
XRD_C_Il	Illite - X-Ray Diffraction
XRD_C_Is	Interstratified clay minerals - X-Ray Diffraction
XRD_C_Ka	Kaolin - X-Ray Diffraction
XRD_C_Qz	Quartz - X-Ray Diffraction