

Project Name: SOIL STRUCTURE & MANAGEMENT
Project Code: SSM **Site ID:** SSM23 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	B. Murphy	Locality:	
Date Desc.:	27/02/91	Elevation:	235 metres
Map Ref.:	Sheet No. : 8430 1:50000	Rainfall:	No Data
Northing/Long.:	6239200 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	566700 Datum: AGD66	Drainage:	Well drained

Geology

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

Land Form

Rel/Slope Class:	No Data	Pattern Type:	Alluvial plain
Morph. Type:	Crest	Relief:	No Data
Elem. Type:	Levee	Slope Category:	No Data
Slope:	1 %	Aspect:	270 degrees

Surface Soil Condition (dry): Hardsetting

Erosion: Partial, Minor or present (wind); No scalding (scald) No sheet erosion (sheet) No wave erosion (wave) No rill erosion (rill) No mass movement (mass) No gully erosion (gully) No stream bank erosion (stbank) No tunnel erosion

Soil Classification

Australian Soil Classification:		Mapping Unit:	N/A
Calcic Red Dermosol		Principal Profile Form:	Dr2.43
ASC Confidence:		Great Soil Group:	Red-brown earth
Confidence level not specified			

Site Disturbance: Complete clearing. Pasture, native or improved, but never cultivated

Vegetation:

Surface Coarse Fragments:

Profile Morphology

O1	0 - 0.05 m	Organic Layer; ;
A1	0.05 - 0.11 m	Dark reddish brown (5YR3/3-Moist); ; Fine sandy clay loam; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Very coarse, (20 - 50) mm crack; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Fine (1-2mm) macropores, Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 100mm ²) Medium (2-5mm) macropores, Few (<1 per 100mm ²) Coarse (>5mm) macropores, Dry; Weak consistence; Slightly plastic; Normal plasticity; Non-sticky; Many, very fine (0-1mm) roots; Gradual change to
A2	0.11 - 0.19 m	Dark reddish brown (5YR3/4-Moist); Light reddish brown (5YR6/4-Dry); ; Clay loam, sandy; 10-20 mm, Subangular blocky; Earthy fabric; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Fine (1-2mm) macropores, Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm ²) Medium (2-5mm) macropores, Few (<1 per 100mm ²) Coarse (>5mm) macropores, Dry; Firm consistence; Slightly plastic; Normal plasticity; Non-sticky; Common, very fine (0-1mm) roots; Abrupt change to -
B21	0.19 - 0.29 m	Reddish brown (5YR4/4-Moist); Substrate influence, 5YR48, 0-2% , Distinct; Light clay; 50-100 mm, Subangular blocky; , Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Fine (1-2mm) macropores, Few (<1 per 100mm ²) Medium (2-5mm) macropores, Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 100mm ²) Coarse (>5mm) macropores, Dry; Strong consistence; Moderately plastic; Normal plasticity; Moderately sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Common, very fine (0-1mm) roots; Gradual change to -
B22k	0.29 - 0.55 m	Yellowish red (5YR4/8-Moist); Biological mixing, 0-2% , Faint; Medium heavy clay; Strong grade of structure, 50-100 mm, Subangular blocky; 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Dry; Strong consistence; Very plastic; Normal plasticity; Very sticky; Many cutans, >50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Calcareous, Medium (2 - 6 mm), Nodules, strong, segregations;Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules, strong, segregations;Soil matrix is Slightly calcareous; Common, very fine (0-1mm) roots; Gradual change to -

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B31k	0.55 - 0.75 m	Yellowish red (5YR5/6-Moist); Biological mixing, 0-2% , Faint; Medium clay; Strong grade of structure, 100-200 mm, Prismatic; 50-100 mm, Subangular blocky; Smooth-ped fabric; Very coarse, (20 - 50) mm crack; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Dry; Strong consistence; Very plastic; Normal plasticity; Very sticky; Many cutans, >50% of ped faces or walls coated, faint; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules, strong, segregations; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules, strong, segregations; Few, very fine (0-1mm) roots; Gradual change to -
B32k	0.75 - 0.95 m	Brown (7.5YR5/4-Moist); Substrate influence, 5YR6/6, 2-10% , Faint; Medium clay; 100-200 mm, Prismatic; 50-100 mm, Subangular blocky; Smooth-ped fabric; Very coarse, (20 - 50) mm crack; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Dry; Strong consistence; Very plastic; Normal plasticity; Very sticky; Many cutans, >50% of ped faces or walls coated, faint; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules, strong, segregations; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules, strong, segregations; Few, very fine (0-1mm) roots;

Morphological Notes

B21 Linings in termite channels 1-4 mm thick Channels 5-8 mm in diameter.

B22k Some peds also smaller (10-20 mm) also polyhedral peds.

Observation Notes

Site Notes

QUANDIALLA OLD LEVEE

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0.05 - 0.07	4.84B	0.243A	5.22J	2.62	1.47	0.11		9.97I	1.10
0.06 - 0.135									
0.07 - 0.1	4.53B	0.165A	3.66J	2.14	0.87	0.04		7.63I	0.52
0.1 - 0.15	4.5B	0.088A	4.5J	2.5	1.01	0.04		7.9I	0.51
0.19 - 0.29	5.15B	0.052A	7.72J	3.87	0.8	0.03		12.98I	0.23
0.2 - 0.275									
0.75 - 0.85	7.48B	0.064A	11.53J	10.71	0.5	0.24		20.06I	1.20

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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
PWS425-1mm	425-1000 micron fraction (%) - Wet Sieving after chemical dispersion
PWS63-212	63-212 micron fraction (%) - Wet Sieving after chemical dispersion