

**Project Name:** SOIL STRUCTURE & MANAGEMENT  
**Project Code:** SSM **Site ID:** SSM22 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

#### Site Information

<b>Desc. By:</b> B. Murphy	<b>Locality:</b>
<b>Date Desc.:</b> 27/02/91	<b>Elevation:</b> 260 metres
<b>Map Ref.:</b> Sheet No. : 8430 1:50000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6249900 AMG zone: 55	<b>Runoff:</b> Slow
<b>Easting/Lat.:</b> 581200 Datum: AGD66	<b>Drainage:</b> Well drained

#### Geology

<b>ExposureType:</b> Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b> Probable
<b>Geol. Ref.:</b> Qr/O	<b>Substrate Material:</b> No Data

#### Land Form

<b>Rel/Slope Class:</b> No Data	<b>Pattern Type:</b> Rises
<b>Morph. Type:</b> Lower-slope	<b>Relief:</b> No Data
<b>Elem. Type:</b> Hillslope	<b>Slope Category:</b> No Data
<b>Slope:</b> 2 %	<b>Aspect:</b> 225 degrees

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

#### Erosion:

#### Soil Classification

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

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

**Surface Coarse Fragments:** 0-2%, fine gravelly, 2-6mm, subrounded, ; No surface coarse fragments; No surface coarse fragments

#### Profile Morphology

O1	0 - 0.02 m	Organic Layer; ;
A11	0.02 - 0.12 m	Dark reddish brown (5YR3/4-Moist); ; Fine sandy clay loam; Weak grade of structure, 10-20 mm, Subangular blocky; 50-100 mm, Prismatic; Earthy 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, Few (<1 per 100mm2) Medium (2-5mm) macropores, Few (<1 per 100mm2) Coarse (>5mm) macropores, Dry; Weak consistence; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Many, very fine (0-1mm) roots; Clear change to -
AB	0.12 - 0.21 m	Dark reddish brown (5YR3/4-Moist); Reddish brown (5YR5/4-Dry); Biological mixing, 0-2% , Distinct; Fine sandy clay loam; Weak grade of structure, 20-50 mm, Subangular blocky; 50-100 mm, Prismatic; Earthy 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, Many (>5 per 100mm2) Medium (2-5mm) macropores, Dry; Firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Very few (0 - 2 %), Organic (humified), Medium (2 -6 mm), Fragments, weak, segregations;Many, very fine (0-1mm) roots; Clear change to -
B21	0.21 - 0.32 m	Reddish brown (2.5YR4/4-Moist); Substrate influence, 2-10% , Distinct; Light clay; Moderate grade of structure, 20-50 mm, Subangular blocky; 50-100 mm, Columnar; 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, Few (<1 per 100mm2) Medium (2-5mm) macropores, Dry; Strong consistence; Moderately plastic; Normal plasticity; Slightly sticky; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Common, very fine (0-
B21	0.32 - 0.52 m	Dark reddish brown (2.5YR3/4-Moist); Substrate influence, 2-10% , Distinct; Medium heavy clay; Strong grade of structure, 20-50 mm, Subangular blocky; 100-200 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, Dry; Very firm consistence; Very plastic; Normal plasticity; Slightly sticky; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Many cutans, >50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Veins, weak, segregations;Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Root linings, weak, segregations;Few, very fine (0-1mm) roots; Gradual change to -

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B22	0.52 - 0.72 m	Red (2.5YR4/6-Moist); Substrate influence, 10-20% , Distinct; Medium clay; Strong grade of structure, 20-50 mm, Subangular blocky; 100-200 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, Dry; Very firm consistence; Moderately plastic; Normal plasticity; Slightly sticky; 50-90%, fine gravelly, 2-6mm, angular, stratified, coarse fragments; Many cutans, >50% of ped faces or walls coated, distinct; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Veins, weak, segregations; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Root linings, weak, segregations; Few, very fine (0-1mm) roots; Gradual change to -
B31k	0.72 - 0.92 m	Red (2.5YR4/6-Moist); Substrate influence, 20-50% , Distinct; Medium clay; Strong grade of structure, 20-50 mm, Subangular blocky; 100-200 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Coarse, (10 - 20) mm crack; Dry; Firm consistence; Moderately plastic; Normal plasticity; Slightly sticky; 50-90%, fine gravelly, 2-6mm, angular, stratified, coarse fragments; Many cutans, >50% of ped faces or walls coated, distinct; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Veins, weak, segregations; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Root linings, weak, segregations;

**Morphological Notes**

B21                      Ped coatings also mangan

B22                      Ped coatings also mangan

B31k                      Ped coatings also mangan

**Observation Notes**

**Site Notes**

PASTURE ROBINSON BIMBI

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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