

**Project Name:** SOIL STRUCTURE & MANAGEMENT  
**Project Code:** SSM **Site ID:** SSM109 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

#### Site Information

<b>Desc. By:</b> P. Gessler	<b>Locality:</b>
<b>Date Desc.:</b> 05/02/91	<b>Elevation:</b> 458 metres
<b>Map Ref.:</b> Sheet No. : 8529 1:25000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6186600 AMG zone: 55	<b>Runoff:</b> Slow
<b>Easting/Lat.:</b> 604500 Datum: AGD66	<b>Drainage:</b> Imperfectly drained

#### Geology

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

#### Land Form

<b>Rel/Slope Class:</b> No Data	<b>Pattern Type:</b> Low hills
<b>Morph. Type:</b> Upper-slope	<b>Relief:</b> No Data
<b>Elem. Type:</b> Hillslope	<b>Slope Category:</b> No Data
<b>Slope:</b> 5 %	<b>Aspect:</b> 180 degrees

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

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b> N/A
Eutrophic Brown Chromosol	<b>Principal Profile Form:</b> Db3.12
<b>ASC Confidence:</b>	<b>Great Soil Group:</b> Chocolate soil
Confidence level not specified	

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

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A	0 - 0.17 m	Very dark greyish brown (10YR3/2-Moist); ; Sandy loam; Weak grade of structure, 5-10 mm, Granular; , Lenticular; Rough-ped fabric; Fine, (0 - 5) mm crack; Medium, (5 - 10) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Dry; Firm consistence; Non-plastic; Non-sticky; 0-2%, fine gravelly, 2-6mm, rounded, dispersed, coarse fragments; Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Abrupt, Smooth change to -
AB	0.17 - 0.36 m	Dark brown (7.5YR3/4-Moist); ; Silty clay loam; Moderate grade of structure, 2-5 mm, Granular; , Lenticular; Rough-ped fabric; Fine, (0 - 5) mm crack; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Firm consistence; Slightly plastic; Non-sticky; Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Abrupt, Smooth change to -
B21	0.36 - 0.55 m	Brown (7.5YR4/4-Moist); ; Medium clay; Moderate grade of structure, 2-5 mm, Subangular blocky; Rough-ped fabric; Very coarse, (20 - 50) mm crack; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Moderately plastic; Moderately sticky; Few cutans, <10% of ped faces or walls coated; Few (2 - 10 %), Ferromanganiferous, Fine (0 - 2 mm), Fragments, weak, segregations; Common, very fine (0-1mm) roots; Clear, Smooth change to -
B22	0.55 - 0.71 m	Strong brown (7.5YR4/6-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; , Prismatic; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Moderately plastic; Very sticky; Common cutans, 10-50% of ped faces or walls coated; Few (2 - 10 %), Ferromanganiferous, Medium (2 - 6 mm), Nodules, strong, segregations; Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt, Smooth change to -
BC	0.71 - 0.92 m	Dark yellowish brown (10YR4/4-Moist); Biological mixing, 2.5YR44, 2-10% , Distinct; Heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; , Prismatic; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Fine, (0 - 5) mm crack; Moderately moist; Firm consistence; Moderately plastic; Very sticky; Common cutans, 10-50% of ped faces or walls coated; Few (2 - 10 %), Ferromanganiferous, Medium (2 - 6 mm), Nodules, strong, segregations; Few, very fine (0-1mm) roots; Smooth change to -

#### Morphological Notes

#### Observation Notes

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**Site Notes**

HEGGATON 2 PERMENANT PASTURE

Basic parent material



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[illegible]

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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/cm <sup>3</sup>
P3B3VLc001	0.01 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc003	0.03 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc005	0.05 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc01	0.1 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc03	0.3 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLcSAT	Saturated Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLd06	0.6 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate
P3B3VLd1	1 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate
P3B3VLd3	3 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using undisturbed 48mm diameter and 15mm height core on pressure plate
P3B3VLd5	5 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - 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