# Project Name:SOIL STRUCTURE & MANAGEMENTProject Code:SSMSite ID:SSM20Agency Name:CSIRO Division of Soils (ACT)

#### Observation ID: 1

Site Informatio	n							
Desc. By:	B. Mu		Locality:		070			
Date Desc.: Map Ref.:	26/02 Sheet	/91 t No. : 8430 1:50000	Elevation: Rainfall:					
Northing/Long.:		900 AMG zone: 55	Runoff:		Moderate	ly rapid		
Easting/Lat.:	58230	00 Datum: AGD66	Drainage:		Well drair	ned		
<u>Geology</u>								
ExposureType: Geol. Ref.:	Undis QrOs	sturbed soil core	Conf. Sub. is Parent. Mat.: Substrate Material:			Probable Unconsolidated material (unidentified)		
Land Form Rel/Slope Class: Morph. Type: Elem. Type: Slope:		er-slope	Pattern Ty Relief: Slope Cate		Rises No Data No Data 90 degree			
Surface Soil Co		n (dry), Uardaatting	Aspect:		90 degre	62		
	onunic	on (dry): Hardsetting						
Erosion:								
Soil Classificat								
Australian Soil C					ng Unit:	_	N/A	
Mottled-Mesonatri		Sodosol			bal Profile		Dr3.43	
ASC Confidence Confidence level		cified		Great	Soil Group	):	Red-brown earth	
Site Disturband								
Vegetation:	<u></u>							
Surface Coarse	e Frag	ments:						
Profile Morpho								
A1 0 - 0.05	m	Dark reddish brown (5YR3/3 Subangular blocky; Earthy fr (0 - 5) mm crack; Many (>5 Fine (1-2mm) macropores, I Very weak consistence; Nor subrounded, dispersed, Qua change to -	abric; Coarse per 100mm2 Few (<1 per n-plastic; Nor	e, (10 - 2 ) Mediur 100mm2 mal plas	20) mm cra m (2-5mm) 2) Very fine sticity; Non	ck; Medi macropo (0.075-1 -sticky; 0	um, (5 - 10) mm crack; Fine, ores, Few (<1 per 100mm2) Imm) macropores, Dry; I-2%, fine gravelly, 2-6mm,	
A21 0.05 - 0.	1 m	Reddish brown (5YR4/4-Mo Distinct; Fine sandy loam; W (20 - 50) mm crack; Coarse, 100mm2) Medium (2-5mm) (<1 per 100mm2) Very fine Normal plasticity; Non-sticky coarse fragments; 0-2%, fin Cultivation pan; Common, v	Veak grade o , (10 - 20) mr macropores, (0.075-1mm) y; 0-2%, fine e gravelly, 2-	f structu n crack; Few (< macrop gravelly; 6mm, su	re, 5-10 m Medium, ( 1 per 100m ores, Dry; , 2-6mm, s ubrounded	m, Platy; 5 - 10) m 1m2) Fine Firm con ubrounde , disperse	Earthy fabric; Very coarse, im crack; Few (<1 per e (1-2mm) macropores, Few isistence; Non-plastic; ed, dispersed, Quartz, ed, coarse fragments;	
A22 0.1 - 0.3	m	2mm) macropores, Few (<1	istinct; Loam barse, (10 - 2 mm2) Mediur per 100mm2 brmal plastici fragments; 0-	y fine sa 0) mm c n (2-5m 2) Very f ty; Non- 2%, fine	and; Single crack; Med m) macrop ine (0.075- sticky; 0-2 gravelly, 2	grain gra ium, (5 - ores, Fe 1mm) m %, fine g 2-6mm, s	ade of structure; Sandy 10) mm crack; Fine, (0 - 5) w (<1 per 100mm2) Fine (1- acropores, Dry; Loose ravelly, 2-6mm, subrounded, subrounded, dispersed,	
B21 0.3 - 0.4	m	Yellowish red (5YR4/6-Mois Distinct; Fine sandy medium Subangular blocky; Smooth crack; Medium, (5 - 10) mm Normal plasticity; Slightly sti coarse fragments; 0-2%, fin Many cutans, >50% of ped f	-ped fabric; \ -ped fabric; \ crack; Mode icky; 0-2%, fi e gravelly, 2-	grade o /ery coa rately m ne grave 6mm, su	of structure rse, (20 - 5 oist; Firm o elly, 2-6mm ubrounded	e, 50-100 50) mm c consister n, subrou , disperse	mm, Prismatic; 50-100 mm, rack; Coarse, (10 - 20) mm ice; Moderately plastic; nded, dispersed, Quartz, ed, coarse fragments;	

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#### B22 0.4 - 0.6 m Yellowish red (5YR4/6-Moist); Substrate influence, 0-2%, Faint; Biological mixing, 0-2%, Distinct; Fine sandy medium clay; Strong grade of structure, 50-100 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; Moderately moist; Firm consistence; Moderately plastic; Normal plasticity; Slightly sticky; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, Quartz, coarse fragments; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Many cutans, >50% of ped faces or walls coated, distinct; Few, very fine (0-1mm) roots; Gradual change to -

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B23k 0.6 - 0.9 m
Light yellowish brown (10YR6/4-Moist); Substrate influence, 5YR46, 20-50%, Distinct; Fine sandy clay loam; Moderate grade of structure, 50-100 mm, Subangular blocky; 50-100 mm, Angular blocky; Rough-ped fabric; Very coarse, (20 - 50) mm crack; Coarse, (10 - 20) mm crack; Medium, (5 - 10) mm crack; Moderately moist; Weak consistence; Slightly plastic; Normal plasticity; Slightly sticky; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10%), Calcareous, Coarse (6 - 20 mm), Nodules, strong, segregations; Very few (0 - 2%), Manganiferous, Medium (2 -6 mm), Soft segregations, weak, segregations;

#### Morphological Notes

B23k Ped coatings also mangan.

#### **Observation Notes**

\*\*\* Site process also alluvial

#### Site Notes

PHILLIPS PINES PADDOCK STUBBLE-PASTURE

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### Laboratory Test Results:

Depth	рН	1:5 EC		changeable			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	К	Na Cmol (+	Acidity ⊦)/kg			%
0 - 0.02 0.01 - 0.085	4.64B	0.301A	1.01J	0.63	0.87	0.31		3.021		10.26
0.02 - 0.05 0.05 - 0.1	4.26B 4.15B	0.18A 0.09A	1.06J	0.59	0.61	0.15		3.03I		4.95
0.1 - 0.3 0.3 - 0.4 0.31 - 0.385	5.33B 6.3B	0.033A 0.214A		0.7 7.61	0.18 0.27	0.1 1.66		1.9I 12.44I		5.26 13.34
0.7 - 0.8	7.17B	0.292A	2.86J	7.5	0.33	2.88		10.231		28.15

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Pa GV	rticle CS	Size FS	Analysis Silt	s Clay
m	%	%	mg/kg	%	%	%	Mg/m3	0.		%	oiit	oluy
0 - 0.02 0.01 - 0.085		1.08C					1.51				9	9
0.02 - 0.05		1.08C					-				9	9
0.05 - 0.1		0.78C									9	9
0.1 - 0.3		0.24C									11	5
0.3 - 0.4		0.32C									7	37
0.31 - 0.385							1.48					
0.7 - 0.8		0.09C									14	20

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 0.02 - 0.05 0.05 - 0.1 0.1 - 0.3 0.3 - 0.4 0.31 - 0.385 0.7 - 0.8

0.21D 0.17G

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### Laboratory Analyses Completed for this profile

40.44 41	
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
P3B3VLd06	0.6 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
1 ODOVEGO	pressure plate
P3B3VLd5	5 BAR Moisture m3/m3 - Volumetric using undisturbed 48mm diameter and 15mm height core on
P3B3VL05	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