

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed345 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	W.T. Ward	Locality:	I.O.(Ian) Falkiner, Murrumbilla
Date Desc.:	21/08/87	Elevation:	292 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6656450 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	780300 Datum: AGD66	Drainage:	No Data

Geology

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

Land Form

Rel/Slope Class:	No Data	Pattern Type:	No Data
Morph. Type:	No Data	Relief:	No Data
Elem. Type:	Terrace flat	Slope Category:	No Data
Slope:	%	Aspect:	270 degrees

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.15
		Great Soil Group:	Brown clay

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.05 m	Dark reddish brown (5YR3/2-Moist); Dark reddish grey (5YR4/2-Dry); ; Clay loam; Massive grade of structure; Weak grade of structure, 10-20 mm, Platy; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Sharp, Wavy change
A12p	0.05 - 0.16 m	Dark reddish brown (5YR3/2-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 6.8 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
A13	0.16 - 0.5 m	Dark reddish brown (5YR3/2-Moist); , 7.5YR4/2, 0-2% , 0-5mm, Distinct; Light medium clay; Weak grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.5 - 1 m	Dark reddish brown (5YR3/4-Moist); , 7.5YR4/2, 0-2% , 0-5mm, Faint; , 5YR3/2, 2-10% , 0-5mm, Faint; Medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter);
B22	1 - 1.8 m	Dark reddish brown (5YR3/4-Moist); , 5YR5/2, 2-10% , 0-5mm, Prominent; Medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 5-10 mm, Cast; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.8 (pH meter); Diffuse, Smooth change to -
C1	1.8 - 3.05 m	Reddish brown (5YR4/4-Moist); ; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Massive grade of structure; Smooth-ped fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, medium gravelly, 6-20mm, rounded, Basalt, coarse fragments; Field pH 8 (pH meter);

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C2 3.05 - 3.6 m Brown (7.5YR5/4-Moist); ; Medium clay; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, rounded, Basalt, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.8 (pH meter);

Morphological Notes

A11p A1p1 is compacted surface following cultivation when wet; A1p2 is prior cultivation.
One subrounded basalt stone (1-2cm) at 165cm depth. A horizontal biscuity fracture below 180cm, but much cast granular at this level too. A few soft calca
A12p reous segregations occur in faunal passages between 300 and 320cm. Rounded basalt stones below 370cm stop hole at 395. Q, an alluvial terrace below pediment.

Observation Notes

Parent Rock: alluvial sediment, from sandstone and basalt, with lime, second terraced fan

Site Notes

Site 345 is ca 300m from 344. Surface is hard-setting, but more clayey than 344. Brown clay surface. 10m S of fence.

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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	Acidity		%
						Cmol	(+)/kg		
0 - 0.05	6.58A	0.073A	6.96B	8.559999	0.95	1.19			
0.1 - 0.16	7.3A	0.079A	10.05B	11.71	0.65	2.18			
0.3 - 0.4	9.29A	0.282A	9.08B	15.1	0.36	4.97			
0.7 - 0.8	9.29A	0.513A	6.25B	17.09	0.5	7.71			
1.2 - 1.3	9.35A	0.572A	5.87B	17.82	0.5	8.95			
2.5 - 2.6	8.43A	0.488A	3.94B	14.69	0.33	8.04			
3.5 - 3.6	9.39A	0.533A	4.02B	14.75	0.28	8			

Depth m	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	FS %	Silt Clay
0 - 0.05	<0.1B	1.26C	32J								
0.1 - 0.16	<0.1B	0.94C	10.9J								
0.3 - 0.4	3.6B	0.48C	<1J								
0.7 - 0.8	4.5B	0.24C	5.6J								
1.2 - 1.3	6.8B	0.13C	10.2J								
2.5 - 2.6	<0.1B	0.09C	10.2J								
3.5 - 3.6	1.3B	0.1C	<1J								10.4 26.8

[illegible]

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_K	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_MG	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_NA	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
19B1	Carbonates - manometric
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
5A2	Chloride - 1:5 soil/water extract, automated colour
6B3	Total organic carbon - high frequency induction furnace, infrared
7B1	Water soluble nitrate - automated colour
9B1	Bicarbonate-extractable phosphorus - manual colour
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method