

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed001 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	E. Veldhuis	Locality:	Twynam Pastoral Co., Boolcarrol
Date Desc.:	10/05/85	Elevation:	185 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6677900 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	741800 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 plain	Slope Category:	Level
Slope:	1 %	Aspect:	No Data

Surface Soil Condition (dry): Self-mulching, Trampled

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.16
		Great Soil Group:	Grey clay

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.09 m	Dark grey (10YR4/1-Moist); Dark greyish brown (10YR4/2-Dry); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 2-10%, fine gravelly, 2-6mm, angular tabular, Quartz, coarse fragments; Field pH 6.7 (pH meter); Common, very fine (0-1mm) roots;
A12	0.09 - 0.25 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); , 10YR52, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 2-10%, fine gravelly, 2-6mm, angular tabular, Quartz, coarse fragments; Field pH 7 (pH meter); Common, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); , 10YR52, 0-2% , 0-5mm, Distinct; Medium heavy clay; Massive grade of structure; Moderate grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 2-10%, fine gravelly, 2-6mm, angular tabular, Quartz, coarse fragments; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1.01 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); , 10YR52, 0-2% , 0-5mm, Distinct; , 10YR61, 0-2% , 0-5mm, Distinct; Medium clay; Massive grade of structure; Earthy fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, angular tabular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	1.01 - 1.9 m	Brown (10YR5/3-Moist); , 10YR21, 10-20% , 15-30mm, Distinct; , 10YR52, 0-2% , 0-5mm, Distinct; Light medium clay; Weak 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; Firm consistence; 0-2%, fine gravelly, 2-6mm, angular tabular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B22	1.9 - 2.67 m	Brown (10YR5/3-Moist); , 10YR21, 2-10% , 15-30mm, Distinct; , 10YR82, 0-2% , 0-5mm, Distinct; Medium clay; Massive grade of structure; Weak grade of structure, 10-20 mm, Cast; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.7 (pH meter);

Morphological Notes

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A11 Observed crack depth is 51cm. Ao of 1.5cm. Inwashed coarse sand from 10cm to 140cm. The top 8cm is bleached (? by rainwater and sun). The crack fill in the B2 goes beyond 267cm.

Observation Notes

Parent Rock: alluvial sediment, clay, parna on fourth fan, Namoi

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Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
						Cmol	(+)/kg		
0 - 0.02	7.78A	0.121A	22.41B	13.34	2.11	1.47			
0 - 0.08	6.85A	0.24A	18.31B	14.58	2.46	1.9			
0.1 - 0.2	8.08A	0.1A	23.42B	17.16	1.25	3.41			
0.3 - 0.4	9.2A	0.239A	23.08B	16.64	1.06	7.02			
0.7 - 0.8	9.29A	0.416A	16.78B	15.16	0.56	8.17			
1.2 - 1.3	9.24A	0.736A	20.33B	16.67	0.79	10			
2.5 - 2.6	9.46A	0.625A	14.64B	14.37	0.25	9.49			

[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