

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed022 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	D. McGarry	Locality:	Twynam Pastoral Co., Boolcarrol
Date Desc.:	23/05/85	Elevation:	196 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6675300 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	751400 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:	0 %	Aspect:	No Data

Surface Soil Condition (dry): Self-mulching, Recently cultivated

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:	Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.07 m	Very dark greyish brown (10YR3/2-Moist); Very dark greyish brown (10YR3/2-Dry); ; Light medium clay; Moderate grade of structure, 2-5 mm, Granular; Earthy fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 7.7 (pH meter); Common, very fine (0-1mm) roots; Sharp, Wavy change to -
A12p	0.07 - 0.16 m	Very dark grey (10YR3/1-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Subangular blocky; Earthy fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 2-10%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 7.8 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
A13	0.16 - 0.55 m	Very dark grey (10YR3/1-Moist); , 10YR63, 0-2% , 5-15mm, Faint; , 10YR83, 0-2% , 0-5mm, Faint; Medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Very strong consistence; 2-10%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 0.95 m	Very dark grey (10YR3/1-Moist); , 10YR63, 0-2% , 5-15mm, Faint; , 10YR83, 0-2% , 0-5mm, Faint; Medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.3 (pH meter); Common, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.95 - 2.25 m	Reddish brown (5YR4/4-Moist); , N30, 2-10% , 0-5mm, Distinct; , 2.5YR48, 0-2% , 5-15mm, Prominent; Light medium clay; Strong grade of structure, 10-20 mm, Lenticular; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Gypseous, Fine (0 - 2 mm), Crystals; Field pH 8.3 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -

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B22g 2.25 - 2.9 m Dark reddish grey (5YR4/2-Moist); , 2.5YR48, 10-20% , 15-30mm, Prominent; , 10YR82, 0-2% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm²) Fine (1-2mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.3 (pH meter);

Morphological Notes

A11p Visible crackdepth is 54cm and 61cm. Highly pedal B21 does not appear as a buried soil here, but such material has been described elsewhere as buried soil. The B22 appears slightly gleyed.

Observation Notes

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

Site Notes

Due to cultivation, surface cracks are not visible, but the penetrometer shows cracks underneath. A crack is visible in core to 65 cm.

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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	7.95A	0.105A	31.09B	8.89	2.1	1.01			
0 - 0.07	7.95A	0.144A	28.84B	12.56	1.41	1.15			
0.1 - 0.16	8.39A	0.127A	30.93B	12.77	0.43	3.32			
0.3 - 0.4	9.22A	0.207A	29.48B	12.86	0.48	3.43			
0.7 - 0.8	8.23A	1.718A	28.63B	12.98	0.3	10			
1.2 - 1.3	8.66A	1.608A	26.66B	15.8	0.67	13.07			
2.5 - 2.6	8.86A	1.291A	26.39B	13.41	0.44	11.59			

[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