

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed094 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: Brynmair
Date Desc.: 14/01/87	Elevation: 206 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6665600 AMG zone: 55	Runoff: No Data
Easting/Lat.: 756700 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): Surface crust, Poached

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Ug5.4
	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 - 0.1 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); , 10YR51, 0-2% , 0-5mm, Distinct; , 10YR72, 0-2% , 0-5mm, Faint; Light medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Weak grade of structure, 2-5 mm, Platy; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 7.5 (pH meter); Common, fine (1-2mm) roots;
A12	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); , 10YR72, 0-2% , 0-5mm, Faint; , 10YR51, 0-2% , 0-5mm, Faint; Light medium clay; Strong grade of structure, 50-100 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; 0-2%, 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;
A13	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); , 10YR72, 0-2% , 5-15mm, Prominent; , 10YR72, 0-2% , 0-5mm, Faint; Light medium clay; Strong grade of structure, 50-100 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; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 0.95 m	Very dark grey (10YR3/1-Moist); , 10YR72, 0-2% , 5-15mm, Prominent; , 10YR72, 0-2% , 0-5mm, Faint; Medium clay; 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; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
B21	0.95 - 1.9 m	Reddish brown (5YR4/3-Moist); , 7.5YR32, 0-2% , 0-5mm, Distinct; , 10YR72, 0-2% , 5-15mm, Prominent; Medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 10-20 mm, Angular blocky; 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, Coarse (6 - 20 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -

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B22 1.9 - 2.64 m Brown (7.5YR4/2-Moist); , 7.5YR52, 0-2% , 5-15mm, Prominent; , 10YR31, 2-10% , 15-30mm, Prominent; Medium clay; Moderate grade of structure, 100-200 mm, Lenticular; Strong grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 9 (pH meter);

Morphological Notes

A11 0-10cm has a strong surface crust colour 10YR5/1. The top metre of the core is extremely hard. Brown subsoil has common dark humus stain. The subsoil colour seems too brown to be old alluvium, compare Auscott cores, however the colours are
A12 dull. Does not qualify as vertisol.

Observation Notes

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

Site Notes

Site is heavily poached. Most cracks are filled in. Vegetation not identifiable.

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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 Cmol (+)/kg	Acidity		%
0 - 0.02	7.23A	0.127A	18.13B	7.38	1.13	0.98999			
0 - 0.1	7.49A	0.108A	20.58B	7.01	0.8	1.28			
0.1 - 0.2	8.79A	0.105A	25.12B	7.48	0.36	1.89			
0.3 - 0.4	9.02A	0.177A	23.91B	7.19	0.35	3.31			
0.7 - 0.8	8.94A	0.393A	24.09B	9.16	0.6	6.75			
1.2 - 1.3	8.97A	0.468A	24.39B	9.76	0.82	7.1			
2.5 - 2.6	9.02A	0.499A	24.61B	7.4	0.77	7.88			

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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