

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed103 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: Lewis J. Griffiths, Myall Valley West
Date Desc.: 25/06/86	Elevation: 326 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6664900 AMG zone: 55	Runoff: No Data
Easting/Lat.: 781500 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: Very gently sloped
Slope: 1 %	Aspect: 270 degrees

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

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: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Medium heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7.3 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Dark brown (7.5YR3/2-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Weak grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1.1 m	Very dark grey (10YR3/1-Moist); , 10YR51, 0-2% , 0-5mm, Faint; , 10YR42, 0-2% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Weak grade of structure, 20-50 mm, Prismatic; 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, Fine (0 - 2 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	1.1 - 1.5 m	Dark brown (7.5YR3/2-Moist); , 10YR41, 0-2% , 5-15mm, Distinct; Light clay; Weak grade of structure, 50-100 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Cast; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter);
B22	1.5 - 2.1 m	Dark reddish grey (5YR4/2-Moist); , 7.5YR82, 0-2% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 10-20 mm, Prismatic; Massive grade of structure, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Clear, Smooth change to -
D	2.1 - 3.53 m	Dark reddish grey (5YR4/2-Moist); ; Loamy sand; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, subrounded, Consolidated rock (unidentified), coarse fragments; Field pH 7.8 (pH meter);

Morphological Notes

A11 Surface 2cm mostly granular. 10-20 layer is more dense than 204. ? result of cultivation in wet state? Pedality 30-40 weak (KJS) moderate (WTW); at 070 there are weak

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lenses. Few subangular stones at 20-30 and at 60cm, too weathered to iden

A12 tify. Gravels at 210. Extra sample is to represent B2. 250-260 is sandy, grading down to medium and fine waterworn gravels sharply on similar sands at 275. A deep dark grey soil becoming brownish with depth and gravelly. Uncertain affinitie
A13 s to MVpH, or possibly terrace Q. ? Haplumbrept?

Observation Notes

Parent Rock: alluvial sediment, mixed texture, with lime, second terraced fan

Site Notes

Second core encounters gravel and is pulled out at 239. Cracks infilled by last rain, to 20cm depth. At 330cm a stone layer at base of sandy section masks a sedimentary break to prior sandy clay, no burial. Soil is brown with basalt floater

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Project Code: EDCERO1 Site ID: 3d
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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
		Ca	Mg	K	Na	Acidity			
m		dS/m			Cmol (+)/kg				%
0 - 0.02	7.44A	0.07A	20.3B	8.98	1.87	0.11			
0 - 0.1	7.23A	0.065A	19.63B	11.1	1.55	0.27			
0.1 - 0.2	7.37A	0.062A	20.65B	12.44	1.03	0.46			
0.3 - 0.4	7.89A	0.061A	22.79B	15.41	0.69	0.97			
0.7 - 0.8	8.51A	0.2A	23.39B	16.67	0.74	1.5			
1.2 - 1.3	8.73A	0.166A	22.02B	15.53	0.89	1.48			
1.7 - 1.8	8.57A	0.096A	19.8B	12.63	0.82	1.23			
2.5 - 2.6	7.84A	0.053A	9.74B	5.6	0.52	0.56			

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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