

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed156 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: F.J.(Fred) Whiteman, Moplain
Date Desc.: 27/06/86	Elevation: 303 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6657700 AMG zone: 55	Runoff: No Data
Easting/Lat.: 782700 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: Level
Slope: 0 %	Aspect: 270 degrees

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 - 0.1 m	Very dark grey (10YR3/1-Moist); Dark grey (10YR4/1-Dry); ; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); , 10YR32, 0-2% , 0-5mm, Distinct; 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; Firm consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); , 10YR32, 0-2% , 0-5mm, Distinct; 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; Firm consistence; 0-2%, medium gravelly, 6-20mm, angular, Consolidated rock (unidentified), coarse fragments; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 0.9 m	Dark grey (10YR4/1-Moist); , 10YR82, 0-2% , 5-15mm, Prominent; Medium heavy clay; Weak grade of structure, 50-100 mm, Lenticular; 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 firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B2	0.9 - 1.8 m	Brown (7.5YR5/4-Moist); , 10YR42, 2-10% , 5-15mm, Distinct; , 10YR72, 0-2% , 0-5mm, Faint; Light medium clay; Moderate grade of structure, 50-100 mm, Lenticular; Weak grade of structure, 50-100 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Gradual, Smooth change to -
D	1.8 - 2.7 m	Reddish brown (5YR4/4-Moist); , 10YR82, 2-10% , 5-15mm, Prominent; Silty clay; Massive grade of structure; Smooth-ped fabric; Moderately moist; 90-100%, coarse gravelly, 20-60mm, subrounded, Consolidated rock (unidentified), coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 9 (pH meter);

Morphological Notes

A11 Lime appears at 40cm. 1 angular fragment of weathered basalt at 42cm, also piece of quartz. Cf MVpH. 120-130 effervesces in fine earth. Gravels occur at 180, various quartz, basalt, occur with carbonate nodules in situ. 250-260 is in basal

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A12 gravel and waterworn stone, mostly basalt. Field texture of sample 6 estimated from lab results.

Observation Notes

Parent Rock: alluvial sediment, mixed texture, with lime, gravel parna on third fan

Site Notes

Deep dark top on brown B. ? Q. Lightly trampled. Few 20mm cracks closed by soil washed in. A rolypoly. Less than 2% stone as surface floaters. Heavy basaltic gravel slows hole.

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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 - 0.02	8.25A	0.147A	25.86B	7.73	2.49	0.12			
0 - 0.1	8.03A	0.162A	21.98B	7.88	1.95	0.3			
0.1 - 0.2	8.22A	0.105A	23.34B	9.85	1.01	0.52			
0.3 - 0.4	8.79A	0.087A	23.54B	17.59	0.59	1.86			
0.7 - 0.8	9.17A	0.352A	16.96B	22.71	0.53	6.93			
1.2 - 1.3	8.63A	1A	10.1B	21.64	0.43	6.64			
2.5 - 2.6	9.2A	0.458A	6.92B	15.8	0.31	5.14			

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 - 0.02	0.5B	2.02C									14.6 40.5
0 - 0.1	0.1B	1.43C	5.5J								13.7 41.1
0.1 - 0.2	<0.1B	1.37C	<1J								14.8 38.6
0.3 - 0.4	<0.1B	1.14C	<1J								15.4 47.6
0.7 - 0.8	1.8B	0.82C	<1J								18.6 50
1.2 - 1.3	2.7B	0.3C	<1J								11.8 51.4
2.5 - 2.6	14.9B	0.16C	<1J								15.7 34.1

[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