

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed050 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: D.R.(Don) & M.M. O'Regan, Moema North
Date Desc.: 03/07/86	Elevation: 287 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6672100 AMG zone: 55	Runoff: No Data
Easting/Lat.: 780300 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: Fan	Slope Category: Very gently sloped
Slope: 1 %	Aspect: 290 degrees

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: Dy5.43
	Great Soil Group: Solodic soil

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.08 m	Black (10YR2/1-Moist); Black (10YR2/1-Dry); ; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, <2 mm, Granular; Rough-ped fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 9 (pH meter); Abrupt, Wavy change to -
A12p	0.08 - 0.27 m	Black (10YR2/1-Moist); , 7.5YR82, 0-2% , 0-5mm, Distinct; Heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A13	0.27 - 0.55 m	Black (10YR2/1-Moist); , 7.5YR82, 2-10% , 0-5mm, Distinct; Heavy clay; Strong grade of structure, 10-20 mm, Lenticular; Strong grade of structure, 5-10 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; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1 m	Black (10YR2/1-Moist); , 7.5YR82, 0-2% , 0-5mm, Distinct; Heavy clay; Strong grade of structure, 10-20 mm, Lenticular; Strong grade of structure, 5-10 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), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
A15	1 - 1.3 m	Dark brown (7.5YR3/4-Moist); , 10YR21, 10-20% , 5-15mm, Distinct; , 7.5YR66, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 20-50 mm, Lenticular; Weak 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; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9.2 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
	1.3 - 3.5 m	Dark brown (7.5YR3/4-Moist); , N20, 0-2% , 0-5mm, Distinct; , 7.5YR66, 0-2% , 5-15mm, Distinct; Light medium clay; Strong grade of structure, 20-50 mm, Lenticular; Strong 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, Very firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9.2 (pH meter); Few, very fine (0-

Morphological Notes

A11p Pronounced compacted zone to 27cm over an excellently structured A1. Manganese stain begins at 170cm, soft (larger) carbonate at 180cm. Top of B2 (to 180cm) poorly

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structured, deeper part excellent structure. ?MVpH.

Observation Notes

Parent Rock: residual, sandstone, second terraced fan

Site Notes

Soil core has slickensides at base and wedge structure. Q, brown B with moderate carbonate nodules. Scattered boonery indicates best cracking clays (farmer). The topography is both gently sloping and gently undulating. Some shallow smooth w

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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	8.75A	0.151A	42.49B	16.03	2.8	1.07			
0 - 0.08	7.87A	0.452A	47.05B	17.36	2.51	0.84			
0.1 - 0.2	8.72A	0.186A	42.79B	18.93	1.32	1.68			
0.3 - 0.4	8.92A	0.193A	37.9B	19.93	1.06	3.09			
0.7 - 0.8	9.1A	0.253A	34.87B	24.93	1.29	6.38			
1.2 - 1.3	9.15A	0.302A	29.94B	24.32	1.35	7.88			
2.5 - 2.6	8.9A	0.558A	27.97B	22.9	1.03	6.14			

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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