

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed194 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: Forestry Commission of NSW, Culgoora State Forest
Date Desc.: 11/07/86	Elevation: 197 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6651600 AMG zone: 55	Runoff: No Data
Easting/Lat.: 742600 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: No Data

Surface Soil Condition (dry): Loose

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Dr2.22
	Great Soil Group: Red earth

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark reddish brown (5YR3/4-Moist); Reddish brown (5YR4/4-Dry); ; Loamy sand; Single grain grade of structure; Weak grade of structure, 2-5 mm, Granular; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark reddish brown (2.5YR3/4-Moist); ; Loamy sand; Weak grade of structure, 10-20 mm, Platy; Weak grade of structure, 5-10 mm, Angular blocky; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to
A2	0.25 - 0.5 m	Dark red (2.5YR3/6-Moist); , N20, 0-2% , 0-5mm, Distinct; Clayey sand; Weak grade of structure, 10-20 mm, Platy; Weak grade of structure, 5-10 mm, Angular blocky; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.5 - 1 m	Dark red (7.5R3/6-Moist); , 2.5YR54, 0-2% , 0-5mm, Distinct; Light clay; Weak grade of structure, 50-100 mm, Prismatic; Weak grade of structure, 10-20 mm, Platy; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 6 (pH meter); Few, very fine (0-
B22	1 - 1.88 m	Red (7.5R4/6-Moist); , 7.5R44, 2-10% , 0-5mm, Faint; Light clay; Massive grade of structure; Sandy (grains prominent) fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 6 (pH meter); Few, very fine (0-
B23	1.88 - 2.55 m	Red (7.5R4/6-Moist); , 7.5R44, 2-10% , 0-5mm, Faint; , 5YR63, 0-2% , 0-5mm, Distinct; Light clay; Massive grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11 Shearvane 70 -80 hard to get in but then breaks at 5.0 probably because soil fractures as vane is inserted. The A2 is just present, not bleached. The cutans at 120-130 become more common with depth (to 260). The B2 has weak partings, not enough to justify prismatic structure.

A12

Observation Notes

Parent Rock: alluvial sediment, sand, clay second terraced fan, Culgoora

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Deane's wattle, cypress pine, iron bark. Too dark for surface photo.

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Exchangeable Cations			Exchangeable Acidity Na Cmol (+)/kg	CEC	ECEC	ESP %
			Ca	Mg	K				
0 - 0.02	6.92A	0.038A	2.47B	0.7	0.4	<0.01			
0 - 0.1	6.81A	0.065A	2.08B	0.57	0.37	<0.01			
0.1 - 0.2	6.78A	0.023A	1.08B	0.49	0.25	<0.01			
0.3 - 0.4	5.82A	0.013A	<0.1B	<0.1	0.21	<0.01			
0.7 - 0.8	5.8A	0.011A	0.87B	0.44	0.26	<0.01			
1.2 - 1.3	6.12A	0.013A	2.21B	1.58	0.22	<0.01			
2.45 - 2.55	4.81A	0.044A	0.11B	1.62	0.26	0.03			

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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