

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** na004 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	W.T. Ward	Locality:	stock route, near Bohena Creek
Date Desc.:	08/03/88	Elevation:	235 metres
Map Ref.:	Sheet No. : 8837_S 1:50000	Rainfall:	No Data
Northing/Long.:	6629850 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	755850 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:	Dr2.23
		Great Soil Group:	Red-brown earth

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Reddish brown (5YR4/4-Moist); Reddish brown (5YR4/4-Dry); ; Fine sandy loam; Massive grade of structure; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 4.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.2 m	Reddish brown (5YR5/4-Moist); ; Fine sandy loam; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 4 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
A2	0.2 - 0.4 m	Yellowish red (5YR5/6-Moist); , 5YR64, 2-10% , 15-30mm, Distinct; Fine sandy clay loam; Massive grade of structure; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 4 (pH meter); Few, fine (1-2mm) roots; Abrupt, Smooth change to -
B21	0.4 - 0.6 m	Dusky red (10R3/4-Moist); ; Light medium clay; Weak grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 5 (pH meter); Few, fine (1-2mm) roots;
B22k	0.6 - 1 m	Dark red (2.5YR3/6-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Platy; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B23	1 - 1.4 m	Yellowish red (5YR5/6-Moist); , 2.5YR36, 10-20% , 0-5mm, Prominent; Fine sandy clay loam; Moderate grade of structure, 10-20 mm, Platy; Moderate grade of structure, 10-20 mm, Angular 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, Medium (2 - 6 mm), Nodules; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth
C	1.4 - 2.65 m	Yellowish red (5YR5/6-Moist); , 2.5Y64, 10-20% ; Light clay; Moderate grade of structure, 5-10 mm, Platy; Weak grade of structure, 5-10 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 8 (pH meter); Sharp, Smooth change to -

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D 2.65 - 2.88 m Strong brown (7.5YR5/8-Moist); ; Sand; Single grain grade of structure; Sandy (grains prominent) fabric; Common (1-5 per 100mm²) Very fine (0.075-1mm) macropores, Moderately moist; Loose consistence; Field pH 7.5 (pH meter);

Morphological Notes

A11 Brigalow 1. A soil resembling red brown earth on alluvial sandy clays (red terrace) by Bohena Creek.

Observation Notes

Parent Rock: alluvial sediment, clay, from sandstone, non-calcareous second terraced fan, Culgoora

Site Notes

The first site on the brigalow transect (eastern end). Ward adds, after describing the cores: Except for this site, which occurs on a low (red) terrace beside Bohena Creek probably equivalent to Q on the Namoi, the transect is on a single h

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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 - 0.1	5.08A	0.085A	0.6B	0.69	0.46	0.04			
0.1 - 0.2	4.47A	0.051A	<0.1B	0.32	0.35	<0.01			
0.3 - 0.4	5.18A	0.025A	<0.1B	0.95	0.18	0.23			
0.4 - 0.5	5.6A	0.057A	3.34B	5.91	0.32	0.68			
0.7 - 0.8	8.73A	0.197A	6.3B	12.2	0.29	2.78			
1.2 - 1.3	8.11A	0.201A	6.5B	12.3	0.32	2.89			
2.5 - 2.6	8.44A	0.156A	3.55B	13.91	0.17	3.92			
2.8 - 2.88	8.29A	0.018A	<0.1B	0.39	<0.01	<0.01			

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
m	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	FS	Silt Clay
0 - 0.1	<0.1B	1.68C	9.1J								
0.1 - 0.2	<0.1B	0.99C	2.3J								
0.3 - 0.4	0.3B	0.41C	2.5J								
0.4 - 0.5	<0.1B	0.62C	2.5J								
0.7 - 0.8	<0.1B	0.2C	1.8J								
1.2 - 1.3	1.9B	0.17C	1.9J								
2.5 - 2.6	<0.1B	<0.01C	1.5J								
2.8 - 2.88	<0.1B	<0.01C	3.3J								

[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