

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed151 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	G.M. Roberts	Locality:	M.H.(Mark) & R.E.W. Lampe, Bobbiwaa
Date Desc.:	21/08/85	Elevation:	238 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6658200 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	768900 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 plain	Slope Category:	Level
Slope:	0 %	Aspect:	No Data

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:	Ug5.15
		Great Soil Group:	Brown clay

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.08 m	Very dark greyish brown (10YR3/2-Moist); Brown (10YR4/3-Dry); ; Silty clay; Weak grade of structure, 5-10 mm, Subangular blocky; Single grain grade of structure; Earthy fabric; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 6.8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.08 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; Light clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Coarse, (10 - 20) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 7.7 (pH meter); Few, very fine (0-1mm)
A13	0.25 - 0.7 m	Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B21k	0.7 - 1 m	Brown (7.5YR4/4-Moist); , 7.5YR74, 2-10% , 5-15mm, Distinct; , 10YR32, 2-10% , 15-30mm, Distinct; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
B22k	1 - 1.8 m	Reddish brown (5YR4/3-Moist); , 7.5YR32, 10-20% , 15-30mm, Distinct; , 7.5YR74, 2-10% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
B23	1.8 - 2.75 m	Yellowish red (5YR5/6-Moist); , 7.5YR32, 10-20% , 15-30mm, Distinct; Light medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Earthy fabric; Medium, (5 - 10) mm crack; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 0-2%, coarse gravelly, 20-60mm, rounded tabular, Quartz, coarse fragments; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

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A11p This site receives regular additional deposits from Bobbiwaa Creek. This possibly explains the light surface textures. Quantities of sand on ped faces - ?recent alluvium down cracks or prior soil layering.

Observation Notes

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

Site Notes

The target site is in a drain, so the hole was drilled 100m south. A brown clay with coarse sand at 2.5m. A cloddy surface, just ploughed.

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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	6.86A	0.084A	11.87B	7.91	2.15	0.11			
0 - 0.08	7.11A	0.121A	10.55B	7.67	1.81	0.51			
0.1 - 0.2	7.84A	0.064A	19.97B	12.06	1.26	1.04			
0.3 - 0.4	8.67A	0.073A	21.21B	16.23	1.21	1.73			
0.7 - 0.8	9.16A	0.212A	17.06B	14.18	0.91	2.41			
1.2 - 1.3	9.11A	0.186A	15.19B	12.1	1.21	2.32			
2.5 - 2.6	8.86A	0.077A	18.03B	10.87	0.92	2.02			

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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