

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed602 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	W.T. Ward	Locality:	Arthur Lindsay-Smith, Waugan
Date Desc.:	14/07/87	Elevation:	214 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6670370 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	759940 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:	360 degrees

Surface Soil Condition (dry): Surface crust

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

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Very dark greyish brown (10YR3/2-Dry); ; Light medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Smooth-ped 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); Common, very fine (0-1mm) roots; Clear, Smooth change to -
A12k	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A13k	0.25 - 0.5 m	Dark brown (7.5YR3/2-Moist); ; Light medium clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change
A14	0.5 - 0.75 m	Brown (7.5YR4/4-Moist); , 7.5YR32, 20-50% , 30-mm, Prominent; Light medium clay; Moderate grade of structure, 50-100 mm, Subangular 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, Coarse (6 - 20 mm), Nodules; Very few (0 - 2 %), Gypseous, Medium (2 -6 mm), Crystals; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.75 - 1.9 m	Reddish brown (5YR4/3-Moist); , 5YR54, 0-2% , 0-5mm, Distinct; Medium clay; Moderate 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; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Gypseous, Fine (0 - 2 mm), Crystals; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B22	1.9 - 2.71 m	Reddish brown (5YR4/3-Moist); , 5YR54, 0-2% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 10-20 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; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8 (pH meter);

Morphological Notes

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A11 No surface burial, otherwise similar to lower part of 601 nearby, which differs in its granular appearance above 25cm. In 601 nodular line is met at 60cm. In 602 it commences at 110cm. Half core taken by G. McTainsh. Minor inwashed sand in part of profile.

A12k

Observation Notes

Parent Rock: aeolian sediment, clay, mixed texture, with lime parna on fourth fan

Site Notes

The surface is slightly uneven but there are no evident gilgai, and no open pipes.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Ca	Exchangeable Mg	Exchangeable K	Exchangeable Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.1	7.26A	0.206A	26.34B	10.25	1.28	2.96				
0.1 - 0.2	8.66A	0.147A	27.77B	10.43	0.66	5.1				
0.3 - 0.4	9.07A	0.257A	27.38B	10.06	0.57	8.2				
0.7 - 0.8	8.12A	1.758A	27.17B	11.23	0.87	14.23				
1.2 - 1.3	8.65A	1.219A	27.34B	12.74	1.05	16.18				
2.5 - 2.6	8.41A	1.046A	27.09B	12.8	1.15	16.83				

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	1.61C	33.2J									
0.1 - 0.2	0.3B	0.68C	10.3J									
0.3 - 0.4	0.6B	0.59C	11.2J									
0.7 - 0.8	0.5B	0.36C	12.6J									
1.2 - 1.3	3.9B	0.13C	9J									
2.5 - 2.6	0.1B	0.09C	4.9J									

[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