

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** na019 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: University of Sydney, I.A.Watson Research Farm
Date Desc.: 26/02/88	Elevation: 221 metres
Map Ref.: Sheet No. : 8837_S 1:50000	Rainfall: No Data
Northing/Long.: 6646250 AMG zone: 55	Runoff: No Data
Easting/Lat.: 769900 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): Surface crust, 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: Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Medium clay; Strong grade of structure, 2-5 mm, Granular; 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; Weak consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.1 - 0.3 m	Dark brown (7.5YR3/2-Moist); ; Medium heavy clay; Massive grade of structure; Moderate grade of structure, 2-5 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
2A11	0.3 - 0.55 m	Dark brown (7.5YR3/2-Moist); , 7.5YR42, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
2A12	0.55 - 1 m	Dark brown (7.5YR3/2-Moist); ; Heavy clay; Weak grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 20-50 mm, Lenticular; Smooth-ped fabric; Medium, (5 - 10) mm crack; Moderately moist; Strong consistence; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
2A13	1 - 1.4 m	Dark brown (7.5YR3/2-Moist); , 7.5YR44, 0-2% , 5-15mm, Distinct; 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; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Diffuse, Smooth change to -
2B2	1.4 - 2.82 m	Dark reddish grey (5YR4/2-Moist); , 5YR46, 0-2% , 5-15mm, Distinct; Medium heavy clay; Moderate grade of structure, 10-20 mm, Lenticular; 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; Strong consistence; Few (2 - 10 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Field pH 8.5 (pH meter);

Morphological Notes

A11p This has about 30cm of a younger deposit on the surface, compare na021 which has a similar surface but is less clearly differentiated from the material beneath. Note inwashed sand from 30-40cm. No effervescence in the fine earth.

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Parent Rock: alluvial sediment, from sandstone, clay and basalt, with lime, parna on third fan

Site Notes

Cultivated, but weakly crusting (to coarse self-mulching). Few coarse fragments (2-4mm) on soil surface. Not as sandy on surface as na018.

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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	8.34A	0.121A	26.32B	14.67	2.23	1.32			
0 - 0.1	8.1A	0.17A	21.93B	15.97	1.57	1.69			
0.1 - 0.2	8.54A	0.202A	20.98B	16.31	1.15	3.25			
0.3 - 0.4	8.88A	0.246A	18.7B	17.38	0.95	5.37			
0.7 - 0.8	9.06A	0.352A	16.58B	22.02	1.17	9.87			
1.2 - 1.3	8.94A	0.6580001A	14.82B	21.36	1.36	11.91			
2.5 - 2.6	9A	0.669A	14.08B	24.99	1.14	13.42			

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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