

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** we009 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality:
Date Desc.: 02/02/89	Elevation: 174 metres
Map Ref.: Sheet No. : 8737_N 1:50000	Rainfall: No Data
Northing/Long.: 6660700 AMG zone: 55	Runoff: No Data
Easting/Lat.: 708400 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: No Data	Slope Category: Level
Slope: 0 %	Aspect: No Data

Surface Soil Condition (dry): Firm, Trampled

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: N/A
	Great Soil Group: Grey clay

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark grey (10YR4/1-Moist); Dark grey (10YR4/1-Dry); ; Light clay; Weak grade of structure, 20-50 mm, Subangular blocky; Weak grade of structure, <2 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 7 (pH meter); Few, very fine (0-1mm)
A13	0.25 - 0.7 m	Very dark grey (10YR3/1-Moist); , 10YR52, 0-2% , 0-5mm, Faint; Light clay; Weak grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.7 - 1 m	Dark greyish brown (10YR4/2-Moist); , 10YR31, 10-20% , 5-15mm, Prominent; Light medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Veins; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B22	1 - 2.2 m	Yellowish brown (10YR5/4-Moist); , 10YR52, 10-20% , 5-15mm, Distinct; , 10YR31, 0-2% , 0-5mm, Distinct; Light clay; Weak grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 20-50 mm, Prismatic; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Veins; Field pH 8.5 (pH meter); Diffuse, Smooth change to -
C	2.2 - 2.71 m	Strong brown (7.5YR5/8-Moist); , 10YR72, 10-20% , 5-15mm, Distinct; Fine sandy light clay; Massive grade of structure; Few (<1 per 100mm ²) Fine (1-2mm) macropores, Moderately moist; Strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11 Originally bu011. A few subangular pieces of rusty 5YR3/3 sandstone chips in cracks at 50-55cm. Low-angle fissures at 100-110cm could be slickensides, giving a very coarse wedge structure. Ped centres at 120-130cm are reddish, perhaps 5YR5/

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A12 6. C horizon has minor 10YR3/1 humus stains in faunal passages. The B horizon has a well developed vertical fissure (? prismatic structure).

Observation Notes

Parent Rock: alluvial sediment, sand, clay first terraced fan, Namoi

Site Notes

Landform: edge of 'dry lake' (map): a low terrace backswamp, compare we008 but note subsurface mottling. Recent flooding shown by patches of inwashed sand.

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Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
						Cmol (+)/kg			
0 - 0.1	6.5A	0.166A	20.93B	13.16	1.58	0.76			
0.1 - 0.2	7.09A	0.085A	22.88B	13.67	0.85	1.04			
0.3 - 0.4	7.71A	0.06A	23.9B	14.46	0.75	1.41			
0.7 - 0.8	8.33A	0.118A	21.78B	11.88	0.67	1.45			
1.2 - 1.3	8.44A	0.122A	16.1B	10.13	0.54	1.15			
2.5 - 2.6	8.71A	0.085A	10.3B	6.73	0.36	1.51			

Depth m	CaCO ₃	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
	%	%	mg/kg	%	%	%	Mg/m ³	GV	CS	FS %	Silt Clay
0 - 0.1	<0.1B	1.58C	79.1J								12.2 51.7
0.1 - 0.2	<0.1B	0.98C	33.9J								12.1 52.6
0.3 - 0.4	<0.1B	0.85C	31.7J								12.3 57.2
0.7 - 0.8	0.1B	0.48C	56.7J								13 50.5
1.2 - 1.3	<0.1B	0.13C	70J								13.1 33.9
2.5 - 2.6	<0.1B	0.07C	40.5J								8.8 22.7

[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
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method