Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed030** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	W.T. Ward	**Locality:**	A.B.(Alan) Cameron, Nundi
Date Desc.:	27/06/86	**Elevation:**	261 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6674700 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	773500 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
ASC Confidence:
Confidence level not specified

Mapping Unit: N/A
Principal Profile Form: Ug5.16
Great Soil Group: Brown clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Medium heavy clay; Strong 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; Firm consistence; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
C	0.1 - 0.2 m	Dark brown (7.5YR3/2-Moist); , 10YR63, 2-10% , 0-5mm, Prominent; Medium heavy clay; Moderate grade of structure, 2-5 mm, Platy; Weak grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Very firm consistence; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
2A11	0.2 - 0.55 m	Dark brown (7.5YR3/2-Moist); ; Medium clay; 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; Firm consistence; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
2A12	0.55 - 1 m	Dark brown (7.5YR3/2-Moist); , 10YR73, 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; Field pH 9 (pH meter);
2A13	1 - 1.8 m	Dark brown (7.5YR3/2-Moist); , 10YR72, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 100-200 mm, Lenticular; 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; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Gradual, Smooth change to -
2B2	1.8 - 2.75 m	Yellowish brown (10YR5/4-Moist); , 5YR42, 10-20% , 5-15mm, Distinct; , 7.5YR62, 2-10% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; Moderate grade of structure, 2-5 mm, Cast; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter);

Morphological Notes

A1 The 10-20 structure is parent material lamination of sand with fines, mainly. This is a soil buried by very young alluvial wash. 70-80 has no visible carbonate but gives a slight effervescence with acid. MVpH buried under recent wash. Small

C patches reddish cutans in B2 (in fissures and cast channels) 250-260 is gritty clay.

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Parent Rock: alluvial sediment, mixed texture, non-calcareous, mixed texture, with lime second (brown parna) terraced

Site Notes

Waterworn quartz and rhyolite up to 50mm diameter on surface.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m	Cmol (+)/kg							%
0 - 0.02	8.68A	0.122A	28.53B	10.74	1.94	0.4				
0 - 0.1	8.44A	0.198A	23.62B	13	1.51	0.66				
0.1 - 0.2	8.83A	0.165A	22.01B	13.94	0.95	1.31				
0.3 - 0.4	9.2A	0.23A	25.82B	21.43	0.96	5.3				
0.7 - 0.8	9.29A	0.533A	20.64B	21.93	1.11	11.95				
1.2 - 1.3	9.17A	0.844A	18.13B	24.73	1.45	16.32				
2.5 - 2.6	9.58A	0.647A	8.21B	15.21	0.62	10.57				

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis				
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.02	0.4B	0.87C									16.4	45.7
0 - 0.1	0.6B	0.84C	29.2J								15.6	39.9
0.1 - 0.2	0.7B	0.71C	14J								15.1	42.4
0.3 - 0.4	1.6B	0.69C	4.4J								14.4	62.2
0.7 - 0.8	2B	0.57C	17.4J								14.5	63.7
1.2 - 1.3	1.5B	0.5C	37.3J								15.4	66.6
2.5 - 2.6	11.8B	0.03C	15.7J								15.8	35.6

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.02									
0 - 0.1									
0.1 - 0.2									
0.3 - 0.4									
0.7 - 0.8									
1.2 - 1.3									
2.5 - 2.6									

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca2+,Mg2+,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