

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** na025 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b>	D. McGarry	<b>Locality:</b>	University of Sydney, I.A.Watson Research Farm
<b>Date Desc.:</b>	26/02/88	<b>Elevation:</b>	236 metres
<b>Map Ref.:</b>	Sheet No. : 8837_S 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6648020 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	771080 Datum: AGD66	<b>Drainage:</b>	No Data

#### Geology

<b>ExposureType:</b>	Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	No Data	<b>Substrate Material:</b>	No Data

#### Land Form

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	No Data	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Terrace plain	<b>Slope Category:</b>	Level
<b>Slope:</b>	0 %	<b>Aspect:</b>	No Data

**Surface Soil Condition (dry):** Surface crust, Recently cultivated

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	N/A	<b>Mapping Unit:</b>	N/A
<b>ASC Confidence:</b>	Confidence level not specified	<b>Principal Profile Form:</b>	N/A
		<b>Great Soil Group:</b>	N/A

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11	0 - 0.1 m	Brown (10YR5/3-Moist); Brown (10YR5/3-Dry); ; Clayey sand; Massive grade of structure; Earthy fabric; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.17 m	Dark greyish brown (10YR4/2-Moist); ; Clayey sand; Moderate grade of structure, 20-50 mm, Platy; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A2	0.17 - 0.36 m	Light brownish grey (10YR6/2-Moist); ; Clayey sand; Weak grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
B21	0.36 - 0.65 m	Pinkish grey (7.5YR6/2-Moist); , 5YR46, 2-10% , 5-15mm, Distinct; , N20, 0-2% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 7 (pH meter);
B22	0.65 - 0.8 m	Pale brown (10YR6/3-Moist); , 5YR46, 2-10% , 5-15mm, Distinct; , N20, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Gradual, Smooth change to -
B23k	0.8 - 1.6 m	Greyish brown (2.5Y5/2-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Common (10 - 20 %), Calcareous, Fine (0 - 2 mm), Nodules; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Clear, Smooth change to -
C	1.6 - 2.53 m	Very pale brown (10YR8/3-Moist); ; Light clay; Massive grade of structure; Moderately moist; Rigid consistence; Field pH 8.5 (pH meter);

#### Morphological Notes

A11 Sampling depths were altered to coincide with A2 and top of B2. Na02507 is hard, rock-like carbonate.

#### Observation Notes

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Parent Rock: alluvial sediment, mixed texture, with abundant lime, Rolling Downs Group

**Site Notes**

Very dispersed surface with large sand grains evident. Pink surface, very powdery once thin surface seal is broken. We are one step down from na026.

**Agency Name:** CSIRO Division of Soils (QLD)

**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	6.26A	0.041A	0.989999	0.52	0.4	<0.01			
			9B						
0 - 0.1	6.38A	0.061A	0.36B	0.62	0.22	0.89			
0.1 - 0.17	6.22A	0.035A	0.2B	0.45	0.21	0.54			
0.2 - 0.3	7.5A	0.022A	0.53B	0.28	0.03	0.93			
0.4 - 0.5	7.5A	0.067A	4.6B	10.36	0.85	1.19			
0.7 - 0.8	8.8A	0.105A	4.64B	10.25	1.09	2.34			
1.2 - 1.3	9.06A	0.306A	4.36B	8.030001	1.17	6.23			
2.5 - 2.6	9.17A	0.296A	5B	11.77	1.23	6.56			

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**Laboratory Analyses Completed for this profile**

15A2_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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