

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed010 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

**Site Information**

<b>Desc. By:</b>	G.M. Roberts	<b>Locality:</b>	stock route, at Fairview
<b>Date Desc.:</b>	16/07/85	<b>Elevation:</b>	232 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6677300 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	766700 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):** Self-mulching, Trampled

**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>	Ug5.15
		<b>Great Soil Group:</b>	Brown clay

**Site Disturbance:** Cultivation. Rainfed

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

A11	0 - 0.1 m	Dark greyish brown (10YR4/2-Moist); Dark greyish brown (10YR4/2-Dry); ; Light medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.2 m	Dark greyish brown (10YR4/2-Moist); , 10YR81, 0-2% , 5-15mm, Prominent; Medium heavy clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter); Common, fine (1-2mm) roots; Gradual, Smooth change to -
A13k	0.2 - 0.52 m	Very dark greyish brown (10YR3/2-Moist); , 10YR81, 0-2% , 0-5mm, Faint; Heavy clay; Moderate grade of structure, 50-100 mm, Prismatic; Moderate grade of structure, 5-10 mm, Angular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to
B21	0.52 - 0.7 m	Dark brown (10YR3/3-Moist); ; Heavy clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Earthy 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; Diffuse, Smooth change to -
B22	0.7 - 1 m	Dark brown (10YR3/3-Moist); ; Medium heavy clay; Weak grade of structure, 50-100 mm, Prismatic; Moderate 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; Firm consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;

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B23	1 - 1.9 m	Brown (7.5YR4/4-Moist); , 10YR31, 0-2% , 0-5mm, Faint; , 10YR81, 0-2% , 0-5mm, Faint; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Weak grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9.2 (pH meter); Few, very fine (0-1mm) roots;
B24	1.9 - 2.72 m	Brown (7.5YR4/4-Moist); , 10YR31, 0-2% , 0-5mm, Faint; , 10YR81, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 5-10 mm, Angular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9.2 (pH meter);

**Morphological Notes**

A11      Inwashed sand grains at 80cm. Distinct bands of calcium carbonate at 155 and 206cm.  
There is also calcium carbonate in lesser % throughout this horizon.

**Observation Notes**

Parent Rock: , , parna on fourth fan

**Site Notes**

Easy drilling to 1 metre - red ochreous mottles in lower B2 horizon.

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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	7.11A	0.23A	22.97B	13.17	4.13	0.84			
0 - 0.1	8.26A	0.145A	32.62B	14.38	2.31	2.12			
0.1 - 0.2	8.95A	0.161A	30.92B	14.41	1.48	3.99			
0.3 - 0.4	9.34A	0.261A	26.04B	15.47	1.5	8.13			
0.52 - 0.6	9.27A	0.447A	24.93B	15.48	1.72	10.82			
0.7 - 0.8	9.13A	0.615A	25.05B	16.44	1.94	12.9			
1.2 - 1.3	8.77A	1.105A	23.84B	16.53	1.98	13.71			
2.5 - 2.6	9.04A	0.818A	21.02B	16.89	1.88	12.91			

Depth  m	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	FS %	Silt Clay
0 - 0.02	<0.1B	2.67C									17.5 56
0 - 0.1	0.1B	1.06C	11.1J								14.4 58.4
0.1 - 0.2	0.5B	0.66C	3.3J								14.9 59
0.3 - 0.4	1B	0.58C	3.1J								15.2 58.7
0.52 - 0.6	1.2B	0.48C	5.9J								15.2 62.4
0.7 - 0.8	1.1B	0.36C	19.1J								15.1 64.6
1.2 - 1.3	1.5B	0.04C	15.4J								12.9 70.5
2.5 - 2.6	1.7B	0.04C	9.9J								15.4 62.4

[illegible]

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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