

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed084 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.E. Heape	Locality:	Bruce Tout, Oakvale
Date Desc.:	04/04/86	Elevation:	287 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6667400 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	777400 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): Self-mulching, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.16
		Great Soil Group:	Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.05 m	Very dark brown (10YR2/2-Moist); Very dark brown (10YR2/2-Dry); , 10YR62, 10-20% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 2-5 mm, Granular; Weak grade of structure, 2-5 mm, Granular; Rough-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	0.05 - 0.1 m	Very dark grey (10YR3/1-Moist); , 10YR62, 0-2% , 0-5mm, Distinct; , 7.5YR84, 0-2% , 0-5mm, Faint; Medium heavy clay; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-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), Soft segregations; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A13	0.1 - 0.25 m	Very dark brown (10YR2/2-Moist); , 10YR72, 0-2% , 5-15mm, Distinct; , 10YR82, 0-2% , 0-5mm, Faint; Medium heavy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A14	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); , 10YR72, 0-2% , 0-5mm, Distinct; , 10YR82, 0-2% , 0-5mm, Faint; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Rigid consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A15	0.55 - 0.8 m	Dark reddish grey (5YR4/2-Moist); , 10YR31, 2-10% , 5-15mm, Distinct; , 10YR82, 0-2% , 0-5mm, Faint; Medium clay; Moderate grade of structure, 50-100 mm, Lenticular; 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; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.8 - 1.9 m	Dark reddish grey (5YR4/2-Moist); , 10YR31, 10-20% , 15-30mm, Prominent; , 7.5YR54, 0-2% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Cast; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine

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B22 1.9 - 2.8 m Dark reddish grey (5YR4/2-Moist); , N30, 0-2% , 0-5mm, Distinct; , 5YR81, 0-2% , 5-15mm, Distinct; Medium clay; Weak grade of structure, 20-50 mm, Lenticular; 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; Strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter);

Morphological Notes

A11 The second colour in layer 1 is fine, pale coloured sand, spread through the clay. There is some evidence that the cause is infilled cracks, but this has been masked by cultivation. Structure from 5-45cm appears degraded, being almost mass

A12 ive from 25-40cm. Beneath this there are slickensides with polished faces (from 50cm).

Observation Notes

Parent Rock: alluvial sediment, clay, second terraced fan

Site Notes

Wheat stubble. Fine self mulching top is covering any cracks that may be there. This is a mostly flat site. Few quartzite pebbles on surface (4cm diameter). The site lies at the foot of a small basaltic rise, and lies between this hill and

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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 Cmol (+)/kg	Acidity		%
0 - 0.02	8.28A	0.088A	29.37B	9.01	1.57	0.65			
0 - 0.05	8A	0.083A	25.43B	11.05	1.13	1.06			
0.05 - 0.1	8.18A	0.103A	26.67B	12.08	1.11	1.55			
0.1 - 0.2	8.38A	0.086A	27.07B	13.39	0.53	1.98			
0.3 - 0.4	8.91A	0.2A	27.48B	15.88	0.35	4.69			
0.7 - 0.8	8.96A	0.498A	24.61B	15.38	0.5	7.24			
1.2 - 1.3	8.48A	0.424A	24.97B	17.8	0.47	9.28000			
						1			
2.5 - 2.6	8.81A	0.711A	23.83B	15.55	0.84	8.67			

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	1.05C									14 50.2
0 - 0.05	0.1B	1.13C	14.7J								13.5 44
0.05 - 0.1	0.1B	1.08C	9.5J								13.9 46.4
0.1 - 0.2	<0.1B	0.94C	3.7J								14.7 48.1
0.3 - 0.4	0.4B	0.63C	<1J								16.5 50.6
0.7 - 0.8	0.6B	<0.01C	4.1J								15.6 51.3
1.2 - 1.3	<0.1B	0.09C	3.2J								16.1 57
2.5 - 2.6	1.4B	0.33C	9.3J								15.9 52.6

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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