

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed043 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	D. McGarry	Locality:	B.L. Langfield, Bundaroo
Date Desc.:	30/10/85	Elevation:	218 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6672700 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	761000 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): Surface crust, 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

A11p	0 - 0.07 m	Dark greyish brown (10YR4/2-Moist); Dark greyish brown (10YR4/2-Dry); ; Light medium clay; Moderate grade of structure, 10-20 mm, Platy; Moderate grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Sharp, Wavy change to -
A12	0.07 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; 10YR63, 2-10% , 0-5mm, Faint; Medium heavy clay; Weak grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Field pH 6.7 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); ; 10YR62, 0-2% , 0-5mm, Distinct; ; 10YR73, 0-2% , 0-5mm, Faint; Medium heavy clay; Weak grade of structure, 20-50 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; Very firm consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 0.85 m	Very dark greyish brown (10YR3/2-Moist); ; 10YR62, 0-2% , 0-5mm, Distinct; ; 10YR73, 0-2% , 0-5mm, Faint; Medium heavy clay; Weak grade of structure, 20-50 mm, Subangular 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; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.85 - 1.4 m	Brown (7.5YR4/2-Moist); ; 10YR31, 2-10% , 5-15mm, Distinct; ; 5YR44, 2-10% , 0-5mm, Distinct; Heavy clay; Weak grade of structure, 20-50 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; Very firm consistence; Field pH 8.5 (pH meter); Gradual, Smooth
B22	1.4 - 2.87 m	Brown (7.5YR4/2-Moist); ; 5YR44, 0-2% , 0-5mm, Distinct; ; 10YR73, 0-2% , 5-15mm, Distinct; Heavy clay; Strong grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8 (pH meter);

Morphological Notes

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A11p Carbonate in 043.04 in trace amounts; B21 and B22 separated on structure; 270 to 287 is more massive; soil contains only minor quantities of lime, in large quantity below 250-260. Visible crack depth is 11cm.

Observation Notes

Parent Rock: alluvial sediment, clay, parna on fourth fan

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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	7.95A	0.062A	22.69B	8.51	1.87	0.98			
0 - 0.07	7.34A	0.13A	23.88B	8.37	1.46	1.2			
0.1 - 0.2	8.05A	0.087A	24.29B	12.16	0.9	2.33			
0.3 - 0.4	8.78A	0.155A	31.82B	13.34	0.7	3.83			
0.7 - 0.8	8.86A	0.574A	28.68B	13.35	0.9	7.39			
1.2 - 1.3	8.88A	0.889A	33.05B	16.52	1.45	9.05			
2.5 - 2.6	8.79A	0.748A	26.45B	14.75	1.15	9.05			

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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