

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed342 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: I.O.(Ian) Falkiner, Murrumbilla
Date Desc.: 18/07/87	Elevation: 305 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6655600 AMG zone: 55	Runoff: No Data
Easting/Lat.: 780500 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: Pediment	Slope Category: No Data
Slope: %	Aspect: 355 degrees

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: N/A
	Great Soil Group: Solodic soil

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.08 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Light clay; Weak grade of structure, 2-5 mm, Platy; Weak grade of structure, 2-5 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots;
B21	0.08 - 0.25 m	Dark reddish grey (5YR4/2-Moist); , 7.5YR32, 10-20% , 5-15mm, Faint; , 7.5YR42, 0-2% , 5-15mm, Faint; Light medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots;
B22	0.25 - 0.55 m	Dark reddish grey (5YR4/2-Moist); , 7.5YR32, 2-10% , 5-15mm, Distinct; , 7.5YR64, 0-2% , 0-5mm, Distinct; Light medium clay; Weak grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
B23	0.55 - 1 m	Brown (7.5YR4/4-Moist); , 7.5YR32, 2-10% , 5-15mm, Prominent; Light medium clay; Moderate grade of structure, 10-20 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; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B24	1 - 1.8 m	Reddish brown (5YR4/4-Moist); , 7.5YR44, 2-10% , 0-5mm, Faint; , 10YR63, 0-2% , 0-5mm, Faint; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Strong 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; Strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
C	1.8 - 2.5 m	Reddish yellow (5YR6/6-Moist); , 10YR63, 0-2% , 0-5mm, Distinct; Light clay; Massive grade of structure; Weak grade of structure, 20-50 mm, Platy; Smooth-ped fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) 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; Very few (0 - 2 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -

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D1	2.5 - 3.5 m	Light brownish grey (2.5Y6/2-Moist); , 5YR56, 0-2% , 5-15mm, Distinct; Medium heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; Weak grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Field pH 7.8 (pH meter); Sharp, Smooth change to -
D2	3.5 - 4.28 m	Light yellowish brown (2.5Y6/4-Moist); ; Light clay; Massive grade of structure; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Ironstone, coarse fragments; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (pH meter);

Morphological Notes

A1	Dark topsoil colours run down to about 30cm; the profile however has a sandy surface over a clayey B at 8cm. Carbonate nodules at 120-130 appear to occupy root or faunal passageways; at this level earthworm activity (faunal mixing) is prominent.
B21	B2 changes gradually to C, which becomes coarser towards base, where sample was taken. Very clear pedisegment basal contact at 250cm and sorting suggests stream action. There are several small stones at this level. A second stoneline
B22	occurs at 340 to 350 beneath grey sandy clay. It has large stones and fragments of ironstone. Colour 2 at 300 is in sandier patches. The grey is possibly hydromorphic. 350-428 is Purlawaugh.

Observation Notes

Parent Rock: colluvial sediment, from sandstone, with lime, clay colluvium, thick, no basalt

Site Notes

Site 342 is ca 350m NNW of 341. Hard-setting surface. Clay with abundant sand.

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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 - 0.08	6.27A	0.043A	4.09B	4.1	0.62	0.38			
0.1 - 0.2	7.7A	0.047A	9.1B	10.78	0.45	1.6			
0.3 - 0.4	8.7A	0.062A	10.17B	14.47	0.38	2.52			
0.7 - 0.8	9.23A	0.225A	7.17B	15.16	0.41	5.14			
1.2 - 1.3	9.12A	0.316A	5.13B	15.72	0.5	6.76			
2.4 - 2.5	8.81A	0.305A	1.67B	8.24	0.24	3.86			
3 - 3.1	7.79A	0.585A	3.27B	17.83	0.37	8.71			
4 - 4.1	8.94A	0.933A	10.25B	40.65	0.6	20.85			

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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