

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed418 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.E. Heape	Locality:	Bruce Tout, Oakvale
Date Desc.:	09/04/86	Elevation:	295 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6663500 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	775400 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:	Very gently sloped
Slope:	1 %	Aspect:	260 degrees

Surface Soil Condition (dry): Loose

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Dr5.43
		Great Soil Group:	Solodic soil

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Loamy fine sand; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.3 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Clayey sand; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
A2	0.3 - 0.5 m	Light brownish grey (10YR6/2-Moist); , 7.5YR42, 0-2% , 0-5mm, Distinct; Clayey sand; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Consolidated rock (unidentified), coarse fragments; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
B21	0.5 - 0.65 m	Red (10R4/6-Moist); , 10YR61, 20-50% , 30-mm, Prominent; , 10YR51, 2-10% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Rough-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
B22	0.65 - 0.95 m	Yellowish red (5YR4/6-Moist); , 10YR53, 20-50% , 30-mm, Prominent; , 10YR34, 2-10% , 0-5mm, Distinct; Light medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz, coarse fragments; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
B23k	0.95 - 1.5 m	Yellowish red (5YR4/6-Moist); , 10YR53, 20-50% , 30-mm, Prominent; Light medium clay; Strong grade of structure, 50-100 mm, Prismatic; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Soft segregations; Field pH 8.5 (pH meter); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
C1	1.5 - 3.05 m	White (10YR8/1-Moist); , 10YR74, 0-2% , 5-15mm, Distinct; , 10YR63, 2-10% , 15-30mm, Prominent; Light clay; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;

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C2 3.05 - 3.74 m White (10YR8/1-Moist); , 10YR53, 2-10% , 5-15mm, Prominent; Fine sandy light clay; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11 Layer 4 is an extra layer at the top of the B2. Colour of layer 4 is red/ brown, though it has abundant grey mottles. Carbonate begins at 95cm. Roots in subsoil are dominantly on faces of peds. 10YR8/1 C is rock colour; "organic stain" is weakly weathered sandstone-iron stain. Co-author McGarry.

A12

Observation Notes

Parent Rock: alluvial sediment, mixed texture, with lime, sandstone Tertiary beds

Site Notes

Large gully caused by water erosion - at least 1 m deep 3 m from site. Rounded and subrounded gravels scattered on the

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
		Ca	Mg	K	Na	Acidity			
m		dS/m			Cmol (+)/kg				%
0 - 0.1	7.24A	0.112A	4.79B	1.43	1.68	0.01			
0.1 - 0.2	7.4A	0.05A	4.24B	1.24	0.91	<0.01			
0.3 - 0.4	7.75A	0.043A	4.31B	1.21	0.71	<0.01			
0.5 - 0.6	7.94A	0.097A	14.56B	11.78	1.96	0.22			
0.7 - 0.8	8.55A	0.114A	9.18B	11.45	1.22	0.56			
1.2 - 1.3	8.95A	0.275A	9.32B	13.63	1.08	1.14			
2.5 - 2.6	7.42A	0.205A	3.41B	9.5	0.33	1.96			
3.5 - 3.6	4.88A	0.405A	3.91B	14.89	0.42	3.7			

[illegible][illegible]

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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