

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed431 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.E. Heape	Locality:	Bruce Tout, Oakvale
Date Desc.:	26/03/86	Elevation:	299 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6665300 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	777800 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:	10 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:	Dy3.13
		Great Soil Group:	Solodic soil

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Brown (10YR4/3-Dry); ; Sandy loam; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.17 m	Dark brown (10YR3/3-Moist); ; Sandy loam; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
B21	0.17 - 0.3 m	Yellowish brown (10YR5/4-Moist); , 5YR72, 0-2% , 5-15mm, Distinct; , 10YR31, 2-10% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 50-100 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; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
B22	0.3 - 0.6 m	Strong brown (7.5YR5/6-Moist); , 7.5YR52, 10-20% , 15-30mm, Distinct; Light medium clay; Moderate grade of structure, 50-100 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; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B23k	0.6 - 1 m	Yellowish brown (10YR5/6-Moist); , 10YR52, 2-10% , 5-15mm, Distinct; Light clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate 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; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B24	1 - 1.3 m	Light yellowish brown (10YR6/4-Moist); ; Light clay; Strong grade of structure, 20-50 mm, Prismatic; 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, Very coarse (20 - 60 mm), Soft segregations; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
C1g	1.3 - 2.4 m	Weak red (10R4/4-Moist); , 10YR64, 10-20% , 5-15mm, Distinct; , 2.5Y62, 20-50% , 30-mm, Prominent; Light clay; Strong grade of structure, 10-20 mm, Prismatic; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to

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C2g	2.4 - 2.9 m	Reddish brown (5YR5/3-Moist); , 2.5Y62, 20-50% , 30-mm, Prominent; , 10YR82, 2-10% , 15-30mm, Prominent; Light medium clay; Moderate grade of structure, 50-100 mm, Prismatic; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Ironstone, coarse fragments; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
C31	2.9 - 4.2 m	Light reddish brown (5YR6/4-Moist); , N60, 20-50% , 30-mm, Prominent; , 7.5YR52, 0-2% , 5-15mm, Prominent; Light medium clay; Weak grade of structure, 20-50 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
C32	4.2 - 4.47 m	Red (2.5YR5/8-Moist); , 10YR61, 20-50% , 15-30mm, Distinct; , 5YR52, 2-10% , 0-5mm, Distinct; Light clay; Massive grade of structure; Moderately moist; Very strong consistence; Field pH 5.5 (pH meter);

Morphological Notes

A11	Carbonate evident at 64cm. Top 5mm appears single-grained and fine granular , though we don't know the level of disturbance on sampling. There is a sharp irregular genetic break to A1 horizon. Few (5%) red flecks and grey stains in B2v. Hor
A12	izon 170-180cm has red flecks at centre of peds, surrounded by yellow, then grey. It contains a very few manganese stains. From 250cm sandy patches become evident. A ? break to sandstone in situ at 320cm. The carbonate nodules seem to be la
B21	ter than the grey colours. 440-450cm is certainly weathering sandstone. The soil is on colluvium affected by red weathering (=prior soil). C31 is weathered in situ sandstone. C32 is less weathered sandstone.

Observation Notes

Parent Rock: colluvial sediment, from sandstone, with lime, colluvium, weathered

Site Notes

Point placed along grid line - boundary of farm property. 167-247 cm core was squeezed from 80cm-78cm. Pediment slope on Jurassic sandstone.

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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