

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed422 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.E. Heape	Locality:	Bruce Tout, Oakvale
Date Desc.:	03/04/86	Elevation:	278 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6664300 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	774600 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:	Level
Slope:	0 %	Aspect:	290 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:	Dy5.13
		Great Soil Group:	Solodic soil

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage, Cultivation. Rainfed,

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.04 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Fine sandy clay loam; Moderate grade of structure, 5-10 mm, Granular; Moderate grade of structure, <2 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6.5 (pH meter); Common, fine (1-2mm) roots; Clear, Wavy change to -
A12	0.04 - 0.1 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Fine sandy clay loam; Weak grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Field pH 6.5 (pH meter); Few, fine (1-2mm) roots;
A13	0.1 - 0.25 m	Dark brown (10YR3/3-Moist); , 7.5YR32, 2-10% , 0-5mm, Faint; , 5YR44, 0-2% , 5-15mm, Distinct; Fine sandy clay loam; Weak grade of structure, 50-100 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Few, fine (1-2mm) roots;
A14	0.25 - 0.42 m	Dark brown (10YR3/3-Moist); , 7.5YR32, 2-10% , 0-5mm, Faint; , 5YR44, 0-2% , 5-15mm, Distinct; Fine sandy clay loam; Weak grade of structure, 50-100 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Field pH 7.5 (pH meter); Few, fine (1-2mm) roots; Clear, Wavy change to -
B21	0.42 - 1.17 m	Strong brown (7.5YR5/6-Moist); , 10YR46, 10-20% , 5-15mm, Distinct; , 10YR61, 2-10% , 0-5mm, Distinct; 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; Common (1-5 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; Abrupt, Smooth change to -
B22k	1.17 - 2.1 m	Reddish brown (5YR5/4-Moist); , 10YR61, 20-50% , 15-30mm, Distinct; , 5YR31, 2-10% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Common (10 - 20 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Field pH 8 (pH meter); Diffuse, Smooth change to -

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- C 2.1 - 3.06 m Reddish brown (5YR5/4-Moist); , 10YR61, 10-20% , 15-30mm, Prominent; , 7.5YR32, 0-2% , 0-5mm, Distinct; Fine sandy light clay; Massive grade of structure; Earthy 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, Fine (0 - 2 mm), Nodules; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
- D 3.06 - 4.45 m Very pale brown (10YR7/4-Moist); , 10YR61, 10-20% , 15-30mm, Prominent; , 2.5Y52, 0-2% , 0-5mm, Distinct; Fine sandy light clay; Massive grade of structure; Weak grade of structure, <2 mm, Angular 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 5.5 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

- A11 Faunal mixing in layer 3 is worm cast in worm holes. Layer 5 also has organic stain (black) concentrated in root channels. Layers 4 and 5 have red/grey mottles with very diffuse edges. Because of this the main soil colour is very difficult
- A12 to assess. Layer 7 is classed as C material, being sand, though root and faunal passages are infilled with grey clay. Note absence of coarse fragments throughout the profile. Also, no sedimentary banding. Sharp break to weathered soft sands
- A13 tone at 306cm. Soil is poorly differentiated solodic. Prominent band of manganese stains at 210-220cm.

Observation Notes

Parent Rock: colluvial sediment, from sandstone, with lime, Tertiary beds

Site Notes

Creek flat, gaining water. Top slope of pediment. Looking uphill, slope 1 degree.

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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 - 0.04	6.33A	0.238A	10.67B	3.51	3.06	0.04			
0.04 - 0.1	6.38A	0.14A	8.35B	2.81	3.1	0.04			
0.1 - 0.2	7.09A	0.1A	7.64B	2.44	2.59	0.05			
0.3 - 0.4	7.9A	0.112A	9.969999	3.14	2.43	0.06			
			B						
0.7 - 0.8	8.58A	0.13A	9.71B	5.43	1.89	0.23			
1.2 - 1.3	8.85A	0.19A	6.83B	8.17	0.49	0.88			
2.5 - 2.6	8.76A	0.513A	2.91B	7.59	0.35	2.41			
3.5 - 3.6	5.01A	0.611A	1.89B	13.12	0.18	6.75			

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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