

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed429 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.E. Heape	Locality:	Bruce Tout, Oakvale
Date Desc.:	01/04/86	Elevation:	300 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6665800 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	778300 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:	300 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:	Dy3.23
		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

A1	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Brown (10YR5/3-Dry); ; Sandy loam; Moderate grade of structure, 5-10 mm, Granular; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 6.5 (pH meter); Common, very fine (0-1mm) roots; Abrupt, Wavy change
A2	0.1 - 0.16 m	Dark brown (10YR3/3-Moist); ; Sandy clay loam; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
B21	0.16 - 0.25 m	Dark reddish grey (5YR4/2-Moist); , 5YR71, 0-2% , 5-15mm, Distinct; , 10YR54, 0-2% , 0-5mm, Distinct; Sandy clay loam; Strong grade of structure, 100-200 mm, Columnar; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
B22	0.25 - 0.55 m	Brown (7.5YR4/4-Moist); , 7.5YR42, 10-20% , 15-30mm, Faint; Light medium clay; Strong grade of structure, 100-200 mm, Columnar; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Rigid consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
B23	0.55 - 1.15 m	Brown (7.5YR5/4-Moist); ; Light clay; Moderate grade of structure, 100-200 mm, Columnar; Smooth-ped fabric; Moderately moist; Rigid consistence; 0-2%, medium gravelly, 6-20mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change
B24g	1.15 - 1.7 m	Red (2.5YR4/6-Moist); , N60, 2-10% , 5-15mm, Distinct; Light medium clay; Weak grade of structure, Columnar; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Rigid consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (pH meter); Gradual, Smooth change to -
C	1.7 - 2.43 m	Light yellowish brown (2.5Y6/4-Moist); ; Sand; Massive grade of structure; Moderately moist; Rigid consistence; Field pH 8.5 (pH meter);

Morphological Notes

A1	At 120-130 2.5YR4/6 is less than 2%. At 170 core enters in situ sandstone. No sign of any break pedisidiment to sandstone, probably obscured by weathering. Note high pH in sandstone query because of low topographic position. Topsoil is a cl
A2	ayey sandy loam.

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Observation Notes

Parent Rock: colluvial sediment, from sandstone, with lime, sandstone Pilliga Sandstone

Site Notes

Hole was stopped short of sample depth because we hit sandstone (Jurassic sandstone, biscuity fracture).

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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		%
							(+)/kg		
0 - 0.1	6.46A	0.049A	2.45B	0.88	0.73	0.1			
0.1 - 0.16	6.51A	0.058A	1.13B	1.03	0.43	0.22			
0.16 - 0.2	6.59A	8.899999E-02A	3.71B	5.86	0.3	1.98			
0.3 - 0.4	6.74A	0.199A	3.35B	7.91	0.22	3.25			
0.7 - 0.8	9.27A	0.61A	4.6B	12.26	0.49	5.11			
1.2 - 1.3	9.28A	0.714A	4.49B	12.78	0.53	6			
2.33 - 2.43	9.18A	0.368A	2.39B	6.53	0.19	3.31			

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle		Size	Analysis	
								GV	CS		FS	Silt
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.1	<0.1B	0.9C	13.3J									
0.1 - 0.16	<0.1B	0.68C	12.6J									
0.16 - 0.2	<0.1B	0.51C	4.9J									
0.3 - 0.4	<0.1B	0.33C	2.9J									
0.7 - 0.8	1.3B	0.18C	5.4J									
1.2 - 1.3	4.4B	0.09C	13.2J									
2.33 - 2.43	<0.1B	<0.01C	<1J									

[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