

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed417 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.E. Heape	Locality:	Bruce Tout, Oakvale
Date Desc.:	10/04/86	Elevation:	270 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6663500 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	774100 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:	270 degrees

Surface Soil Condition (dry): Loose, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Dy4.43
		Great Soil Group:	Solodic soil

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Greyish brown (10YR5/2-Dry); , 10YR31, 0-2% , 5-15mm, Distinct; Sandy clay loam; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Common, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Loamy sand; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Common, very fine (0-1mm) roots; Gradual, Smooth change
A2	0.25 - 0.56 m	Dark brown (10YR3/3-Moist); Light brownish grey (10YR6/2-Dry); ; Loamy sand; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Common, very fine (0-1mm) roots; Sharp, Smooth change to -
B21	0.56 - 0.7 m	Strong brown (7.5YR5/8-Moist); , 10YR52, 20-50% , 15-30mm, Prominent; , 10YR51, 2-10% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 20-50 mm, Angular blocky; Rough-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, medium (2-5mm) roots;
B22	0.7 - 1 m	Strong brown (7.5YR5/8-Moist); , 10YR52, 20-50% , 5-15mm, Prominent; , 10YR51, 2-10% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 20-50 mm, Angular blocky; Rough-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, subrounded, Quartz, coarse fragments; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B23	1 - 2.1 m	Light yellowish brown (10YR6/4-Moist); , 10YR61, 10-20% , 5-15mm, Distinct; , 10YR21, 2-10% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 20-50 mm, Angular blocky; Rough-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), Nodules; Field pH 8.5 (pH meter); Abrupt, Smooth change to -
C1	2.1 - 2.8 m	Light yellowish brown (10YR6/4-Moist); , 2.5Y52, 2-10% , 15-30mm, Prominent; Clayey fine sand; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;

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C2 2.8 - 3.29 m Pale yellow (2.5Y7/4-Moist); ; Loamy sand; Massive grade of structure; Earthy fabric; Few (<1 per 100mm²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11 In the 0-5mm layer there is layered sand and clay, a recent wash. The source of this clay should be sought in the field. A very deep A horizon, with a deep A2. Pronounced bleach on top of the B horizon. By 120-130 the main colour is yellowe
A12 r, whereas it is reddish to 80cm. From 100cm there is some fine, yellow sand in cracks. The break between B and C horizons at 210cm possibly coincided with the basal pedisediment: depositional structure below but no sign of fabric above. Th
A2 ere is both Mn and CaCO₃ in layer 7. Layer 8 is more representative of the sandstone than layer 7. Layer 7 coincides with Mn band. Platy - massive in A except for clayey surface and structureless in A2, hardly subangular blocky. When cores
B21 417, 416, 418, 420 and 419 are laid out together they show: 1- 419 is both redder and more calcareous in the B. Is this a different groundsurface? 2- 420 has red flecks in the peds, but not the others. 3- 417 has more lime than the others,
B22 except 419. 420 has negligible carbonate. 4- 416 and 417 have a bleached A2. 419 has a thin bleached A2. 418 is greyer than 420 in the A horizon. In situ sandstone is visible in 419, 420. Pedisediment contacts are obscure. 416 and 417 are a
B23 like, but 416 has a deeper A. B is drainage-mottled in both. Co-authors McGarry and

Observation Notes

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

Site Notes

Hole located 100 yards off point (nearer fence) because field had a prepared seedbed. Photo site is of seedbed. Erosion channel nearby - water erosion.

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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	6.58A	0.092A	8.41B	2.92	0.72	0.11			
0.1 - 0.2	6.6A	0.028A	2.46B	0.86	0.36	0.05			
0.3 - 0.4	6.82A	0.019A	1.91B	0.66	0.3	0.04			
0.6 - 0.7	8.22A	0.061A	6.23B	6.93	0.93	1.87			
0.7 - 0.8	8.49A	0.11A	7.46B	8.99	0.9	2.52			
1.2 - 1.3	8.61A	0.347A	5.52B	9.45	0.51	3.63			
2.5 - 2.6	9.51A	0.629A	6.16B	14.06	0.32	9.21			
3 - 3.1	9.82A	0.512A	3.45B	6.86	0.11	5.53			

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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