Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed415** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	M.E. Heape	**Locality:**	Bruce Tout, Oakvale
Date Desc.:	06/05/86	**Elevation:**	290 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6664300 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	775500 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:	Hillslope	**Slope Category:**	Very gently sloped
Slope:	1 %	**Aspect:**	140 degrees

Surface Soil Condition (dry): Surface crust, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified

Mapping Unit: N/A
Principal Profile Form: Dy4.13
Great Soil Group: Grey clay

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Very dark brown (10YR2/2-Moist); Brown (7.5YR4/2-Dry); ; Clay loam; Moderate grade of structure, 20-50 mm, Granular; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.1 - 0.25 m	Very dark brown (10YR2/2-Moist); ; Clay loam; Moderate grade of structure, 10-20 mm, Platy; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Firm consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.45 m	Brown (10YR4/3-Moist); , 10YR22, 2-10% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 20-50 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; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
B21	0.45 - 1 m	Dark reddish grey (5YR4/2-Moist); , 7.5YR76, 2-10% , 0-5mm, Distinct; Silty clay; Strong grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Rigid consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B22	1 - 1.3 m	Yellowish brown (10YR5/4-Moist); , 5YR31, 0-2% , 0-5mm, Distinct; Silty clay; Weak grade of structure, 50-100 mm, Prismatic; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter); Clear, Smooth
	1.3 - 3.2 m	Light yellowish brown (10YR6/4-Moist); , 10YR52, 2-10% , 5-15mm, Distinct; Sand; Massive grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Very firm consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8 (pH meter);

Morphological Notes

A11 The clay pods in the parent sandstone have white carbonate in them. The associated sandstone has no carbonate. Sandstone in situ is seen at 150 but there is no clear break between pedisediment and parent sediment in situ. Colour 2 in layer

A12 6 is mainly faunal, but there are also infilled root channels and rock fissures. Note that the carbonate in layer 6 is only in the infilled material.

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

Site Notes

Whole landscape is easy undulating (i2). Several pieces of angular and subrounded quartz stones. Some evidence of surface run-off - shallow rills.

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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	6.55A	0.066A	6.42B	4.92	0.77	0.32				
0.1 - 0.2	6.96A	0.065A	8.5B	5.99	0.63	1.03				
0.3 - 0.4	8.89A	0.215A	13.31B	15.5	0.49	2.21				
0.7 - 0.8	9.15A	0.386A	7.47B	14.51	0.35	3.77				
1.2 - 1.3	9.08A	0.56A	5.35B	14.69	0.39	4.6				
2.5 - 2.6	9.35A	0.429A	3.28B	12.51	0.17	3.57				

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.1	<0.1B	1.29C	3.8J									
0.1 - 0.2	<0.1B	0.98C	<1J									
0.3 - 0.4	1.5B	0.47C	<1J									
0.7 - 0.8	6.8B	0.38C	<1J									
1.2 - 1.3	2.6B	0.14C	<1J									
2.5 - 2.6	0.1B	0.04C	<1J									

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.1									
0.1 - 0.2									
0.3 - 0.4									
0.7 - 0.8									
1.2 - 1.3									
2.5 - 2.6									

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca2+,Mg2+,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