Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed204** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: G.M. Roberts
Date Desc.: 28/04/85
Map Ref.: Sheet No. : 8837_N 1:50000
Northing/Long.: 6651000 AMG zone: 55
Easting/Lat.: 770100 Datum: AGD66
Locality: stock route, near Gruie
Elevation: 247 metres
Rainfall: No Data
Runoff: No Data
Drainage: No Data

Geology

ExposureType: Undisturbed soil core
Geol. Ref.: No Data
Conf. Sub. is Parent. Mat.: No Data
Substrate Material: No Data

Land Form

Rel/Slope Class: No Data
Morph. Type: No Data
Elem. Type: Pediment
Slope: 1 %
Pattern Type: No Data
Relief: No Data
Slope Category: Very gently sloped
Aspect: 260 degrees

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified
Mapping Unit: N/A
Principal Profile Form: Ug5.15
Great Soil Group: Brown clay

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.05 m	Dark reddish brown (5YR3/2-Moist); Dark reddish brown (5YR3/3-Dry); ; Clay loam; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
B21	0.05 - 0.1 m	Dark reddish brown (5YR3/2-Moist); ; Light medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
B22	0.1 - 0.33 m	Dark reddish brown (5YR3/3-Moist); , 10YR82, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 5-10 mm, Subangular 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; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8 (pH meter); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
B23k	0.33 - 0.72 m	Dark reddish brown (5YR3/3-Moist); , 10YR82, 2-10% , 15-30mm, Prominent; Medium heavy clay; Strong 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; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B24	0.72 - 1 m	Yellowish red (5YR4/6-Moist); , 10YR82, 0-2% , 0-5mm, Distinct; , 10YR31, 0-2% , 0-5mm, Distinct; Medium clay; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, rounded, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B25	1 - 1.36 m	Strong brown (7.5YR5/6-Moist); , 7.5YR58, 2-10% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 10-20 mm, Lenticular; Weak grade of structure, 10-20 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 4.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -

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B26	1.36 - 2.1 m	Reddish yellow (7.5YR6/8-Moist); , 10YR84, 20-50% , 30-mm, Prominent; Sandy loam; Massive grade of structure; Single grain grade of structure; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Moderately moist; Weak consistence; Field pH 4.8 (pH meter); Diffuse, Smooth change to -
B27	2.1 - 2.34 m	(N8/0-Moist); , 7.5YR44, 0-2% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Earthy fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 5.2 (pH meter); Clear, Smooth change to -
B28	2.34 - 2.44 m	Strong brown (7.5YR5/8-Moist); , 10YR66, 0-2% , 5-15mm, Distinct; Sandy loam; Massive grade of structure; Earthy fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 4.5 (pH meter); Sharp, Smooth change to -

Morphological Notes

A1	The C horizon could be starting at 190cm but needs deeper drilled hole to decide the question. A layer of fine silty clay or ?weathered mudstone at 230-234. 234-244 was sampled instead of 250-260.

Observation Notes

Parent Rock: residual, sandstone, Tertiary beds

Site Notes

The site was near the fence west of the rail line.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.02	6.25A	0.103A	8.190001 B	3.73	2.11	0.04				
0 - 0.05	7.75A	0.122A	15.62B	9	2.3	0.14				
0.05 - 0.1	8.26A	0.135A	18.3B	9.33	1.75	0.19				
0.1 - 0.2	8.82A	0.145A	21.04B	11.07	1.18	0.33				
0.33 - 0.4	9.12A	0.17A	17.05B	16.61	0.63	1.12				
0.72 - 0.8	9.31A	0.391A	8.95B	22.14	0.39	3.18				
1.2 - 1.3	4.63A	0.732A	3.85B	18.1	0.34	3.6				
1.8 - 1.9	4.37A	0.623A	0.33B	16.18	0.22	3.31				
2.2 - 2.3	4.34A	0.643A	<0.1B	14.5	0.19	2.76				
2.34 - 2.44	4.16A	0.618A	<0.1B	12.04	0.18	2.4				

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 - 0.02	<0.1B	3.54C									10.1	29.8
0 - 0.05	<0.1B	1.76C	10.3J								7.8	35.8
0.05 - 0.1	0.1B	1.37C	3.7J								9.5	38.7
0.1 - 0.2	0.5B	1.09C	<1J								9.3	44.3
0.33 - 0.4	2.4B	0.65C	<1J								8.8	48.5
0.72 - 0.8	2.3B	0.4C	<1J								9.8	45.2
1.2 - 1.3	<0.1B	0.26C	4.3J								13.7	47.9
1.8 - 1.9	<0.1B	0.12C	1.7J								12.1	30.4
2.2 - 2.3	<0.1B	0.05C	<1J								18.1	27.5
2.34 - 2.44	<0.1B	0.06C	1.8J								13.8	23

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 - 0.02									
0 - 0.05									
0.05 - 0.1									
0.1 - 0.2									
0.33 - 0.4									
0.72 - 0.8									
1.2 - 1.3									
1.8 - 1.9									
2.2 - 2.3									
2.34 - 2.44									

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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
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method