Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed159** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: D. McGarry
Date Desc.: 14/03/85
Map Ref.: Sheet No. : 8837_N 1:50000
Northing/Long.: 6656500 AMG zone: 55
Easting/Lat.: 742800 Datum: AGD66
Locality: camping reserve, near Glen Arvon
Elevation: 194 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: Levee
Slope: 0 %
Pattern Type: No Data
Relief: No Data
Slope Category: Moderately inclined
Aspect: No Data

Surface Soil Condition (dry): Surface crust

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified
Mapping Unit: N/A
Principal Profile Form: Gn2.82
Great Soil Group: Grey clay

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.04 m	Very dark greyish brown (10YR3/2-Moist); Brown (10YR5/3-Dry); ; Light clay; Moderate grade of structure, 2-5 mm, Angular blocky; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Few, fine (1-2mm) roots; Sharp, Smooth change to -
A12	0.04 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); Very dark greyish brown (10YR3/2-Dry); ; 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; Field pH 6.7 (pH meter); Common, very fine (0-1mm) roots;
A13	0.1 - 0.2 m	Very dark greyish brown (10YR3/2-Moist); ; Light clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; Field pH 6.8 (pH meter); Common, very fine (0-1mm) roots; Clear, Smooth change to -
C1	0.2 - 0.55 m	Yellowish brown (10YR5/4-Moist); , 10YR32, 2-10% , 5-15mm, Faint; , 10YR21, 0-2% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, rounded, Charcoal, coarse fragments; Field pH 6.8 (pH meter); Common, very fine (0-1mm) roots;
C2	0.55 - 1 m	Dark brown (7.5YR3/2-Moist); , 10YR33, 20-50% , 5-15mm, Faint; Light clay; Weak grade of structure, 100-200 mm, Subangular blocky; Weak grade of structure, 2-5 mm, Cast; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7.6 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
2A1	1 - 1.4 m	Very dark greyish brown (10YR3/2-Moist); , 10YR31, 10-20% , 5-15mm, Faint; Fine sandy light clay; Weak grade of structure, 20-50 mm, Prismatic; Weak grade of structure, 2-5 mm, Cast; 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 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
2C	1.4 - 2.85 m	Brown (10YR4/3-Moist); , 10YR31, 10-20% , 15-30mm, Faint; , 10YR21, 0-2% , 0-5mm, Distinct; Light clay; Weak grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, rounded, Charcoal, coarse fragments; Field pH 7.2 (pH meter); Few, very fine (0-1mm) roots;

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Morphological Notes

A11 Flood level on trees +3m. This could put 1m of flood water on adjoining terrace. The soil is recent alluvial with slight soil development at several levels. Possibly Gn4.52 due to rough peds in B.

Observation Notes

Parent Rock: alluvial sediment, clay, floodplain, Namoi

Site Notes

Flood level on trees +3m. This would put 1m of flood water on adjoining terrace.

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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	7.2A	0.188A	18.37B	11.12	1.94	0.18				
0 - 0.04	7.03A	0.129A	16.86B	9.66	1.57	0.38				
0.04 - 0.1	7.08A	0.086A	16.08B	9.809999	1.26	0.28				
0.1 - 0.2	7.37A	0.05A	19.02B	9.73	0.79	0.35				
0.3 - 0.4	7.51A	0.048A	18.75B	9.5	0.59	0.27				
0.7 - 0.8	7.52A	0.048A	15.41B	8.49	0.54	0.21				
1.2 - 1.3	7.62A	0.043A	17.08B	9.64	0.61	0.33				
2.5 - 2.6	7.52A	0.04A	13.32B	8.530001	0.5	0.31				

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	1.98C									31	42
0 - 0.04	<0.1B	2.43C	145.2J								28.1	40.6
0.04 - 0.1	<0.1B	1.89C	120J								29.1	43.2
0.1 - 0.2	<0.1B	1.39C	76.7J								31.9	43.6
0.3 - 0.4	<0.1B	0.97C	46J								27	39.6
0.7 - 0.8	<0.1B	0.78C	44.4J								18.7	34.6
1.2 - 1.3	<0.1B	0.81C	59.9J								23.2	40
2.5 - 2.6	<0.1B	0.48C	57.1J								19.1	34.8

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 - 0.04										
0.04 - 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
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method