Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **na036** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: W.T. Ward
Date Desc.: 02/02/88
Map Ref.: Sheet No. : 8837_S 1:50000
Northing/Long.: 6649000 AMG zone: 55
Easting/Lat.: 745600 Datum: AGD66
Locality: Mrs H. Barton, Round Swamp
Elevation: 199 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: Lake
Slope: 0 %
Pattern Type: No Data
Relief: No Data
Slope Category: Level
Aspect: No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified
Mapping Unit: N/A
Principal Profile Form: N/A
Great Soil Group: No suitable

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark grey (10YR4/1-Moist); Grey (10YR5/1-Dry); , 10YR61, 2-10% , 0-5mm, Distinct; Light medium clay; Strong grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Ferruginous, Fine (0 - 2 mm), Tubules; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark grey (2.5Y4/1-Moist); , 10YR61, 2-10% , 0-5mm, Distinct; Light clay; Strong grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Ferruginous, Fine (0 - 2 mm), Tubules; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.4 m	Weak red (2.5YR4/1-Moist); , 10YR63, 2-10% , 5-15mm, Prominent; , 2.5Y44, 10-20% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 50-100 mm, Angular blocky; Massive grade of structure; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
2A1	0.4 - 0.9 m	Grey (5Y5/1-Moist); , 2.5Y31, 2-10% , 15-30mm, Distinct; , 10YR52, 10-20% , 5-15mm, Distinct; Light clay; Moderate grade of structure, 50-100 mm, Angular blocky; Massive grade of structure; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Field pH 7.5 (pH meter); Gradual, Smooth change to -
2C	0.9 - 2.5 m	Grey (5Y5/1-Moist); , 2.5Y52, 0-2% , 5-15mm, Faint; Light medium clay; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Field pH 7.5 (pH meter); Abrupt, Smooth change to -
2D1	2.5 - 2.85 m	Light brownish grey (2.5Y6/2-Moist); , 7.5YR44, 10-20% , 0-5mm, Faint; Light medium clay; Massive grade of structure; Earthy fabric; Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter);
2D2	2.85 - 3.35 m	Light brownish grey (2.5Y6/2-Moist); , 7.5YR44, 20-50% , 0-5mm, Prominent; Light clay; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz, coarse fragments; Field pH 8.8 (pH meter);

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2D3	3.35 - 3.64 m	Light brownish grey (2.5Y6/2-Moist); , 7.5YR56, 20-50% , 15-30mm, Prominent; Light clay; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.8 (pH meter);

Morphological Notes

A11	Was originally collected as na006. Sample 07 is not as sandy as the remainder of this horizon which is also laminated or banded. Contact at 250cm separates clay from sandier sediments (with interbedded clays). I believe this is the boundary
A12	between aeolian and local deposits. However 250-350cm could be mixed local and younger material. Note resemblance to sediments at depth below the lunette. A sample taken (in can) for Tony Koppi at 210-220cm to see if there is any evidence
A13	of clay pellets through aeolian deposition. Subrounded quartz pebbles and grits at 200-220cm.

Observation Notes

Parent Rock: aeolian sediment, clay, parna in swamp

Site Notes

Site is 10m from na035, on a puff with sandy surface. Originally numbered na006.

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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	6.7A	0.11A	3.75B	3.02	1.37	0.54				
0.1 - 0.2	6.87A	0.102A	4.74B	4.24	1.83	0.46				
0.3 - 0.4	7.17A	0.068A	6.47B	5.73	1.9	0.51				
0.7 - 0.8	7.67A	0.057A	7.42B	7.11	2.45	0.67				
1.2 - 1.3	7.76A	0.067A	8.99B	10.71	3.63	0.9399999				
2.5 - 2.6	8.64A	0.16A	7.69B	7.13	2.57	0.84				
3.1 - 3.2	8.74A	0.151A	4.78B	4.78	1.68	0.62				
3.5 - 3.6	8.74A	0.167A	7.09B	7.01	2.44	1.07				

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	0.76C	9.3J								8.8	28.2
0.1 - 0.2	<0.1B	0.57C	4.7J								9	35.9
0.3 - 0.4	<0.1B	0.28C	2.3J								8.2	44.8
0.7 - 0.8	<0.1B	0.21C	1.2J								8	49.3
1.2 - 1.3	<0.1B	0.12C	1.1J								11.2	68.3
2.5 - 2.6	0.6B	0.03C	<1J								10.4	46.6
3.1 - 3.2	1B	<0.01C	1J								3.5	34.2
3.5 - 3.6	0.7B	0.02C	2J								22	40.9

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										
3.1 - 3.2										
3.5 - 3.6										

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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