Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **na033** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: W.T. Ward
Date Desc.: 12/01/88
Map Ref.: Sheet No. : 8837_S 1:50000
Northing/Long.: 6649240 AMG zone: 55
Easting/Lat.: 745770 Datum: AGD66
Locality: Mrs H. Barton, Round Swamp
Elevation: 201 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: Lunette
Slope: 1 %
Pattern Type: No Data
Relief: No Data
Slope Category: Gently inclined
Aspect: No Data

Surface Soil Condition (dry): Loose

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified
Mapping Unit: N/A
Principal Profile Form: Dy5.61
Great Soil Group: Solodic soil

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Light brown (7.5YR6/4-Moist); Light brown (7.5YR6/4-Dry); ; Coarse sand; Single grain grade of structure, <2 mm; Weak grade of structure, 2-5 mm, Granular; Sandy (grains prominent) fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Loose consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.2 m	Light brown (7.5YR6/4-Moist); ; Coarse sand; Single grain grade of structure, <2 mm; Sandy (grains prominent) fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Loose consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
AC	0.2 - 0.4 m	Very pale brown (10YR7/3-Moist); ; Coarse sand; Single grain grade of structure, <2 mm; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Loose consistence; Field pH 6.5 (pH meter); Gradual, Smooth change to -
2A1	0.4 - 0.55 m	Light brown (7.5YR6/4-Moist); ; Coarse sand; Single grain grade of structure, <2 mm; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Loose consistence; Field pH 6.5 (pH meter); Diffuse, Smooth change to -
2A2	0.55 - 1.14 m	Pinkish grey (7.5YR7/3-Moist); ; Coarse sand; Single grain grade of structure, <2 mm; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 2-10%, coarse gravelly, 20-60mm, rounded, Ironstone, coarse fragments; Very few (0 - 2 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Field pH 7.5 (pH meter); Sharp, Smooth change to -
2B2g	1.14 - 1.55 m	Light brownish grey (2.5Y6/2-Moist); , 2.5Y44, 2-10% , 15-30mm, Distinct; Clayey coarse sand; Moderate grade of structure, 5-10 mm, Platy; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7.5 (pH meter); Abrupt, Smooth change to -
3B2g	1.55 - 2.3 m	Weak red (10R4/4-Moist); , 7.5YR56, 10-20% , 5-15mm, Prominent; , 5Y71, 20-50% , 30-mm, Prominent; Coarse sandy light clay; Massive grade of structure; Smooth-ped fabric; 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 6 (pH meter); Diffuse, Smooth change to -
3C1	2.3 - 3.05 m	Light yellowish brown (10YR6/4-Moist); , 5YR56, 2-10% , 5-15mm, Distinct; , 5Y72, 20-50% , 30-mm, Prominent; Light clay; Massive grade of structure; Smooth-ped fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 4.5 (pH meter);

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3C2	3.05 - 4.05 m	Light yellowish brown (10YR6/4-Moist); , 5Y62, 10-20% , 15-30mm, Prominent; Clayey sand; Massive grade of structure; Smooth-ped fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 5.5 (pH meter);

Morphological Notes

A11	Round Swamp 4. Segregations increase to common (10-20%) at bottom of A2. Definite platy structure, not biscuitty, in B2g. Topmost soil is recent blowing or perhaps animal disturbance. The soil beneath is duplex with A/B contact at 114cm, sh
A12	arp. A stratigraphic break at 155cm, abrupt, separates truncated(?) prior red soil (below) from blown sands (above). Originally a red soil, truncated, buried beneath lunette, gleyed. At 40-50cm a small clayey fragment, firm, subrounded, 3x5
AC	mm, was included. It was possibly blown or tramped in.

Observation Notes

Parent Rock: aeolian sediment, sand, over weathered sands and clayey sands lunette on fifth fan

Site Notes

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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 - 0.1	6.2A	0.069A	1.08B	0.54	0.32	<0.01				
0.1 - 0.2	6.67A	0.027A	0.24B	0.1	0.13	<0.01				
0.3 - 0.4	6.72A	0.017A	0.41B	0.17	0.22	<0.01				
0.4 - 0.5	6.86A	0.016A	0.34B	0.1	0.11	0.01				
0.7 - 0.8	7.89A	0.025A	<0.1B	0.1	0.07	0.01				
1.2 - 1.3	7.77A	0.044A	2.09B	4.62	1.5	0.9899999				
1.7 - 1.8	6.51A	0.055A	1.91B	8.14	1.6	1.26				
2.5 - 2.6	5.73A	0.04A	1.76B	11.77	1.12	1.9				
3.5 - 3.6	5.87A	0.027A	0.34B	2.44	0.2	0.87				

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	0.29C	21.9J								1.5	2.5
0.1 - 0.2	<0.1B	0.16C	20.6J								1.4	2.1
0.3 - 0.4	<0.1B	0.05C	51.9J								1	1.7
0.4 - 0.5	<0.1B	0.05C	33.1J								1.3	1.1
0.7 - 0.8	<0.1B	<0.01C	51.9J								1.6	1.4
1.2 - 1.3	<0.1B	0.03C	16.2J								3.3	20
1.7 - 1.8	<0.1B	0.1C	13.3J								2.2	35.3
2.5 - 2.6	<0.1B	0.04C	2.8J								3	42.8
3.5 - 3.6	<0.1B	<0.01C	4.3J								2.5	16.5

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										
0.4 - 0.5										
0.7 - 0.8										
1.2 - 1.3										
1.7 - 1.8										
2.5 - 2.6										
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