Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed105** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: D. McGarry
Date Desc.: 10/10/85
Map Ref.: Sheet No. : 8837_N 1:50000
Northing/Long.: 6664700 AMG zone: 55
Easting/Lat.: 786850 Datum: AGD66
Locality: Bill Guest, Glen Cairn
Elevation: 434 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: Hillcrest
Slope: 2 %
Pattern Type: No Data
Relief: No Data
Slope Category: Gently inclined
Aspect: 180 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified
Mapping Unit: N/A
Principal Profile Form: Dr4.22
Great Soil Group: Soloth

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Very dark grey (10YR3/1-Moist); ; Loamy sand; Massive grade of structure; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6 (pH meter); Common, fine (1-2mm) roots;
A12	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); ; Loamy sand; Massive grade of structure; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6 (pH meter); Common, fine (1-2mm) roots; Gradual, Wavy change to -
A2	0.25 - 0.4 m	Strong brown (7.5YR4/6-Moist); , 10YR31, 2-10% , 5-15mm, Prominent; Loamy sand; Massive grade of structure; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 2-10%, medium gravelly, 6-20mm, rounded, Quartz, coarse fragments; Field pH 5.5 (pH meter); Common, fine (1-2mm) roots; Clear, Smooth change to -
B21	0.4 - 0.6 m	Yellowish red (5YR5/6-Moist); , 10YR31, 2-10% , 5-15mm, Distinct; Light clay; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 5.5 (pH meter); Common, fine (1-2mm) roots; Gradual, Smooth change to -
B22	0.6 - 0.95 m	Brownish yellow (10YR6/6-Moist); , 2.5YR46, 10-20% , 15-30mm, Prominent; , 7.5YR62, 2-10% , 5-15mm, Prominent; Medium heavy clay; Strong grade of structure, 50-100 mm, Prismatic; Moderate grade of structure, 5-10 mm, Angular blocky; Earthy fabric; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Common (10 - 20 %), Ferruginous, Coarse (6 - 20 mm), Soft segregations; Field pH 5.5 (pH meter); Few, fine (1-2mm) roots; Sharp, Wavy change to -
B23	0.95 - 1.55 m	Pale brown (10YR6/3-Moist); , 2.5YR46, 10-20% , 15-30mm, Prominent; , 7.5YR62, 2-10% , 5-15mm, Prominent; Clayey coarse sand; Moderate grade of structure, 10-20 mm, Angular blocky; Massive grade of structure; Earthy fabric; Smooth-ped fabric; Medium, (5 - 10) mm crack; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Soft segregations; Field pH 6.2 (pH meter); Few, medium (2-5mm) roots; Sharp, Wavy change to -

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R 1.55 - 2.63 m Rock

Morphological Notes

A11 Large, 25mm waterworn quartz gravels adjacent to break between B22 and B23.

Observation Notes

Parent Rock: residual, sandstone, Pilliga Sandstone, weathered

Site Notes

Site is being cleared of native forest. About 60cm of sand on reddish grading to yellowish subsoil on sandstone encountered in second metre. This sandstone is below structural escarpment of basalt. The col to north is probably veneered with

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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 - 0.02	6.24A	0.03A	5.65B	0.8	0.33	<0.01				
0 - 0.1	6.47A	0.07A	3.64B	1.3	<0.01	0.12				
0.1 - 0.2	5.8A	0.036A	1.68B	0.6	<0.01	0.02				
0.3 - 0.4	5.64A	0.024A	1.15B	0.64	<0.01	0.07				
0.45 - 0.55	5.98A	0.032A	1.13B	2.62	<0.01	0.69				
0.7 - 0.8	5.93A	0.039A	1.1B	6.84	<0.01	1.44				
1.2 - 1.3	6.15A	0.06A	1.09B	6.56	<0.01	1.63				
2.5 - 2.6	8.69A	0.049A	0.45B	2.07	<0.01	0.42				

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	2.43C									4.2	10.6
0 - 0.1	<0.1B	3.15C	4.8J								3.9	13.2
0.1 - 0.2	<0.1B	1.87C	1.7J								3.7	13.6
0.3 - 0.4	<0.1B	0.55C	1.1J								4.3	17.3
0.45 - 0.55	<0.1B	0.42C	1.7J								3.8	41.8
0.7 - 0.8	<0.1B	0.27C	6.1J								4.2	51.1
1.2 - 1.3	<0.1B	0.1C	1.3J								5.4	31.3
2.5 - 2.6	<0.1B	0.01C	1.2J								4.7	11.3

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 - 0.1										
0.1 - 0.2										
0.3 - 0.4										
0.45 - 0.55										
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