

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed104 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	G.M. Roberts	Locality:	Bill Guest, Glen Cairn
Date Desc.:	09/10/85	Elevation:	387 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6664750 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	784200 Datum: AGD66	Drainage:	No Data

Geology

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

Land Form

Rel/Slope Class:	No Data	Pattern Type:	No Data
Morph. Type:	No Data	Relief:	No Data
Elem. Type:	Pediment	Slope Category:	Gently inclined
Slope:	3 %	Aspect:	350 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Dy5.41
		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	Dark reddish brown (5YR2/2-Moist); ; Loamy fine sand; Weak grade of structure, 5-10 mm, Granular; Massive grade of structure; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 5.5 (pH meter); Common, fine (1-2mm) roots;
A12	0.1 - 0.22 m	Dark reddish brown (5YR3/2-Moist); , 10YR21, 2-10% , 5-15mm, Prominent; Loamy sand; Weak grade of structure, 5-10 mm, Granular; Massive grade of structure; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very 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 -
A21	0.22 - 0.4 m	Brown (7.5YR4/2-Moist); , 10YR21, 2-10% , 5-15mm, Prominent; Loamy sand; Single grain grade of structure; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
A22c	0.4 - 0.53 m	Brown (10YR5/3-Moist); ; Sandy loam; Single grain grade of structure; Sandy (grains prominent) fabric; Earthy fabric; Fine, (0 - 5) mm crack; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; 0-2%, coarse gravelly, 20-60mm, subangular tabular, Consolidated rock (unidentified), coarse fragments; Few (2 - 10 %), Ferruginous, Fine (0 - 2 mm), Soft segregations; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
B2t	0.53 - 1.16 m	Greyish brown (10YR5/2-Moist); , 7.5YR46, 10-20% , 15-30mm, Prominent; , 7.5YR82, 10-20% , 15-30mm, Prominent; Light medium 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; Strong consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Common (10 - 20 %), Ferruginous, Coarse (6 - 20 mm), Veins; Field pH 6.4 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
R	1.16 - 1.7 m	Rock

Morphological Notes

A11 Unknown gravel lithology; strong coarse columnar structure at 53cm depth; pH 6.2 at top of B2; tensile strength not determined. Uncertainty about horizon distinctness, shape,

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origin - appear all to be displaced down one.

Observation Notes

Parent Rock: residual, sandstone, Pilliga Sandstone

Site Notes

Landform ? norm. Slope steepens to 5 degrees uphill and ferruginous sandstone flags crop out. Core enters sandstone in second metre.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
						Cmol (+)/kg			
0 - 0.02	6.1A	0.016A	6.24B	0.53	0.69	<0.01			
0 - 0.1	5.64A	0.018A	0.32B	0.17	0.53	0.04			
0.1 - 0.2	5.35A	0.022A	0.33B	0.31	0.44	0.03			
0.3 - 0.4	5.41A	0.019A	<0.1B	0.45	0.36	0.06			
0.4 - 0.53	6.04A	0.055A	<0.1B	3.54	0.58	0.69			
0.7 - 0.8	6.04A	0.163A	0.18B	10.63	2.37	1.71			
1.2 - 1.3	6.53A	0.068A	0.17B	3.24	0.71	0.61			

Depth m	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	FS %	Silt Clay
0 - 0.02	<0.1B	2.13C									4.3 11.8
0 - 0.1	<0.1B	2.04C	9.1J								4.2 12.7
0.1 - 0.2	<0.1B	2.41C	3.2J								4.5 15.2
0.3 - 0.4	<0.1B	1.22C	2.8J								4.4 14
0.4 - 0.53	<0.1B	0.54C	1.9J								4.7 25.4
0.7 - 0.8	<0.1B	0.32C	<1J								5 50.9
1.2 - 1.3	<0.1B	0.03C	<1J								2.8 10.1

[illegible]

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,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