

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed205 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	W.T. Ward	Locality:	Forestry Commission of NSW, Killarney State Forest
Date Desc.:	05/02/86	Elevation:	290 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6651200 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	773400 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:	Hillcrest	Slope Category:	Gently inclined
Slope:	2 %	Aspect:	170 degrees

Surface Soil Condition (dry): Surface crust

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Dr5.12
		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	Dark reddish brown (5YR3/2-Moist); Dark reddish brown (5YR3/2-Dry); ; Loamy sand; Single grain grade of structure, <2 mm; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.2 m	Dark reddish brown (5YR3/3-Moist); ; Loamy sand; Single grain grade of structure, <2 mm; Sandy (grains prominent) fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 2-10%, cobbly, 60-200mm, angular platy, Ironstone, coarse fragments; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Wavy change
B21	0.2 - 0.37 m	Red (2.5YR4/6-Moist); ; Medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 5.5 (pH meter); Clear, Wavy change to -
B22	0.37 - 0.65 m	Dark red (2.5YR3/6-Moist); , 10YR56, 0-2% , 5-15mm, Distinct; , 10YR52, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B23	0.65 - 1.3 m	Strong brown (7.5YR5/8-Moist); , 10YR83, 20-50% , 0-5mm, Prominent; , 7.5YR46, 0-2% , 0-5mm, Distinct; Clayey coarse sand; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Few cutans, <10% of ped faces or walls coated; Field pH 7 (pH meter);
B24	1.3 - 2.34 m	Strong brown (7.5YR5/6-Moist); , 2.5Y62, 20-50% , 30-mm, Prominent; , 2.5YR44, 0-2% , 5-15mm, Distinct; Clayey coarse sand; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Field pH 8.5 (pH meter); Few, medium (2-5mm) roots; Clear, Smooth change to -

Morphological Notes

A11 Sand infilling crack in 50-60 is 7.5YR5/6. 70-80 is finely speckled weathered sandstone (yellow and very pale brown). Root mat on harder sandstone at 130cm, drilling continued to 234, but rock continues from 130-234.

Observation Notes

Parent Rock: alluvial sediment, sandstone, Pilliga Sandstone

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Target 205 is inaccessible due to dense bush, so site is positioned as near as possible on the same physiographic unit, i.e. a hill crest. Stone line (ants?) at 25cm. Stones are flags of ferruginous sandstone. No tensile test sample taken,

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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	4.95A	0.027A	0.35B	0.18	0.26	0.01			
0 - 0.1	4.51A	0.102A	0.1B	0.38	0.23	0.04			
0.1 - 0.2	4.4A	0.063A	<0.1B	0.1	0.14	0.02			
0.3 - 0.4	5.27A	0.018A	<0.1B	0.95	0.09	0.03			
0.5 - 0.6	5.83A	0.033A	<0.1B	6.29	0.18	0.67			
0.7 - 0.8	6A	0.036A	<0.1B	3.29	0.06	0.38			
1.2 - 1.3	8.19A	0.233A	<0.1B	16.7	0.37	2.83			

Depth m	CaCO3 %	Organic C %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle Size		Analysis	
								GV	CS	Silt %	Clay
0 - 0.02	<0.1B	4.27C								4.6	12.1
0 - 0.1	<0.1B	3.33C	4.1J							4.2	14.2
0.1 - 0.2	<0.1B	2.01C	1.1J							5	14.7
0.3 - 0.4	<0.1B	0.51C	<1J							7.4	30.6
0.5 - 0.6	<0.1B	0.42C	<1J							6	54.2
0.7 - 0.8	<0.1B	0.14C	<1J							10.7	24.4
1.2 - 1.3	<0.1B	0.22C	7J							12.9	20.6

[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