

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed206 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: K.J. Smith	Locality: Forestry Commission of NSW, Killarney State Forest
Date Desc.: 16/01/87	Elevation: 282 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6650800 AMG zone: 55	Runoff: No Data
Easting/Lat.: 775600 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: Hillslope	Slope Category: Very gently sloped
Slope: 1 %	Aspect: 90 degrees

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Uc5.21
	Great Soil Group: Earthy sand

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.1 m	Dark reddish brown (5YR3/4-Moist); Brown (7.5YR5/4-Dry); ; Sand; Weak grade of structure, 5-10 mm, Subangular blocky; Single grain grade of structure; Rough-ped fabric; Smooth-ped fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 5.2 (pH meter); Few, fine (1-2mm) roots;
A21	0.1 - 0.2 m	Reddish brown (5YR4/4-Moist); Brown (7.5YR5/4-Dry); ; Sand; Weak grade of structure, 5-10 mm, Subangular blocky; Single grain grade of structure; Rough-ped fabric; Smooth-ped fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 0-2%, fine gravelly, 2-6mm, rounded tabular, Ironstone, coarse fragments; Field pH 5 (pH meter); Few, fine (1-2mm) roots;
A22	0.2 - 0.4 m	Reddish brown (5YR4/4-Moist); , N20, 2-10% , 5-15mm, Distinct; Sand; Massive grade of structure; Earthy fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, rounded tabular, Ironstone, coarse fragments; Field pH 5.7 (pH meter); Few, medium (2-5mm) roots;
B2	0.4 - 0.53 m	Red (2.5YR4/6-Moist); , 10R46, 2-10% , 0-5mm, Distinct; , N20, 0-2% , 0-5mm, Distinct; Sandy loam; Massive grade of structure; Earthy fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 5.7 (pH meter); Few, fine (1-2mm) roots;
C	0.53 - 1.83 m	Strong brown (7.5YR5/6-Moist); ; Loamy sand; Massive grade of structure; Moderately moist; 90-100%, coarse gravelly, 20-60mm, rounded tabular, Ironstone, coarse fragments; Field pH 5.7 (pH meter);

Morphological Notes

A1	Level.03 has strong evidence of layering: 2-3mm thick, inter layers of red and dark red/black - looks like layers with slightly more or less organic matter. At 55cm there is a fine, weak iron pan, and from there to 90cm there is abundant fe
A21	rruginized sandstone stones bedded in loose sand. At 90cm there is sandstone rock. The A2 is not strongly bleached, but is also more than sporadic. The B2 is a colour B, not textural B. Great Soil Group is an earthy sand/lithosol/red podzol
A22	ic intergrade. 206.05 consisted of 52% wt as gravel >12mm. This was not included in sample sent to Chemistry Lab. Field texture for sample 5 estimated from lab results.

Observation Notes

Parent Rock: regolith, sandstone, from sandstone, non-calcareous Pilliga Sandstone

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Loose, soft surface, mainly sand. 56cm depth ferruginized stones, sharp break. At 183cm hard sandstone was hit and drilling stopped. In second core stoneline occurs at 83cm.

Site Notes

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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	5.25A	0.021A	<0.1B	0.23	0.15	<0.01			
0 - 0.1	5.11A	0.037A	<0.1B	0.19	0.19	0.06			
0.1 - 0.2	5A	0.024A	<0.1B	<0.1	0.2	0.02			
0.3 - 0.4	5.5A	0.019A	<0.1B	0.32	0.25	0.05			
0.4 - 0.5	5.46A	0.019A	0.1B	0.61	0.28	0.1			
0.7 - 0.8	6.17A	0.025A	0.11B	0.93999999	0.18	0.13			

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	2.11C									2.4 6.9
0 - 0.1	0.1B	1.17C	6.7J								2.6 7.5
0.1 - 0.2	<0.1B	0.48C	1.9J								2.9 8.9
0.3 - 0.4	<0.1B	0.55C	<1J								3.5 11.6
0.4 - 0.5	0.1B	0.22C	1J								4.6 16.9
0.7 - 0.8	<0.1B	0.16C	1.8J								3.5 9.4

[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