

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed052 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: Des Gordon, Moema State Forest
Date Desc.: 04/07/86	Elevation: 363 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6671900 AMG zone: 55	Runoff: No Data
Easting/Lat.: 785800 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: Very gently sloped
Slope: 1 %	Aspect: 165 degrees

Surface Soil Condition (dry): Loose

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Dy5.42
	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 brown (7.5YR3/2-Moist); Dark greyish brown (10YR4/2-Dry); ; Sand; Single grain grade of structure; Weak grade of structure, 2-5 mm, Granular; Sandy (grains prominent) fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); ; Sand; Single grain grade of structure; Weak grade of structure, 20-50 mm, Angular blocky; Sandy (grains prominent) fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.45 m	Dark reddish brown (5YR3/2-Moist); , N20, 0-2% , 0-5mm, Distinct; Sand; Single grain grade of structure; Weak grade of structure, 20-50 mm, Angular blocky; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
A2	0.45 - 0.8 m	White (10YR8/2-Moist); , 10YR62, 0-2% , 5-15mm; , 5YR33, 0-2% , 5-15mm, Distinct; Sand; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 2-10%, coarse gravelly, 20-60mm, subrounded, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Sharp, Wavy change to -
B21	0.8 - 1.05 m	Yellowish red (5YR4/6-Moist); , 7.5YR54, 20-50% , 15-30mm, Prominent; , 10YR62, 2-10% , 5-15mm, Prominent; Light clay; Moderate grade of structure, 100-200 mm, Prismatic; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Very few (0 - 2 %), Ferruginous, Medium (2 -6 mm), Nodules; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
B22	1.05 - 2.3 m	Yellowish red (5YR5/6-Moist); , 7.5YR56, 2-10% , 5-15mm, Prominent; , 10YR61, 10-20% , 5-15mm, Prominent; Light clay; Weak grade of structure, Prismatic; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 6.5 (pH meter); Diffuse, Smooth change to -

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2.3 - 3.27 m Yellowish brown (10YR5/4-Moist); , 10YR72, 20-50% , 30-mm, Prominent; , 5YR44, 0-2% , 5-15mm, Distinct; Clayey sand; Massive grade of structure; Smooth-ped fabric; Few (<1 per 100mm²) Very fine (0.075-1mm) macropores, Rigid consistence; Very few (0 - 2 %), Ferruginous, Medium (2 -6 mm), Nodules; Field pH 7.5 (pH meter);

Morphological Notes

A11 A dark and moist surface grading easily through brownish colours to A2. "n" colcause 70-80 is detached pieces of B2 horizon is olated in A2. A tendency to biscuitty structure below 150. The primary red colours become more convincing below 200cm but are not seen below 250.

Observation Notes

Parent Rock: residual, sandstone, Pilliga Sandstone, weathered

Site Notes

Cattle tracks at site. Possibly hardset when dry. Open eucalypt forest with cypress emergents. Vegetation is relatively undisturbed. Light textured soil on deeply weathered sandstone (nodular podzolic). Mosses observed but not collected.

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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	5.22A	0.042A	1.13B	0.56	0.26	0.19			
0 - 0.1	4.71A	0.129A	0.2B	0.23	0.3	<0.01			
0.1 - 0.2	4.5A	0.067A	<0.1B	<0.1	0.2	<0.01			
0.3 - 0.4	5.19A	0.022A	<0.1B	<0.1	0.24	<0.01			
0.7 - 0.8	5.67A	0.023A	<0.1B	0.16	0.05	0.21			
0.8 - 0.9	5.46A	0.072A	<0.1B	1.71	0.05	1.19			
1.2 - 1.3	5.07A	0.213A	<0.1B	2.53	0.08	1.88			
2.5 - 2.6	6.21A	0.166A	<0.1B	2.06	0.02	1.55			

Depth m	CaCO ₃	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
	%	%	Mg/kg	%	%	%	Mg/m ³	GV	CS	FS %	Silt Clay
0 - 0.02	<0.1B	4.82C									2.9 8.5
0 - 0.1	<0.1B	2.52C	15.8J								3.3 8.8
0.1 - 0.2	<0.1B	1.5C	5.1J								3.5 8.5
0.3 - 0.4	<0.1B	0.8C	1.1J								3.4 9
0.7 - 0.8	<0.1B	0.19C	<1J								5.5 6.6
0.8 - 0.9	<0.1B	0.11C	<1J								3.9 21.3
1.2 - 1.3	<0.1B	0.1C	<1J								3.4 29.7
2.5 - 2.6	<0.1B	0.04C	<1J								2.9 18

[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