

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed033 **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.: 01/07/86	Elevation: 308 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6674400 AMG zone: 55	Runoff: No Data
Easting/Lat.: 781800 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: 280 degrees

Surface Soil Condition (dry): Loose, Trampled

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Db4.23
	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 - 0.11 m	Dark reddish brown (5YR3/2-Moist); Brown (7.5YR4/4-Dry); , 7.5YR44, 2-10% , 15-30mm, Distinct; Sand; Single grain grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) 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 -
A21	0.11 - 0.25 m	Dark reddish brown (5YR3/4-Moist); ; Sand; Single grain grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A22	0.25 - 0.45 m	Reddish brown (5YR4/4-Moist); ; Sand; Single grain grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz, coarse fragments; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
B21	0.45 - 0.6 m	Red (2.5YR4/6-Moist); , 7.5YR56, 20-50% , 30-mm, Prominent; Light clay; Weak grade of structure, 10-20 mm, Lenticular; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
B22	0.6 - 1 m	Red (2.5YR4/6-Moist); , 10YR56, 20-50% , 30-mm, Prominent; , 7.5YR52, 0-2% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
B23	1 - 2.2 m	Red (2.5YR4/6-Moist); , 10YR56, 20-50% , 30-mm, Prominent; , 10YR61, 2-10% , 5-15mm, Prominent; Medium clay; Weak grade of structure, 100-200 mm, Prismatic; 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; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
C	2.2 - 2.8 m	Yellowish red (5YR5/8-Moist); , 10YR76, 20-50% , 30-mm, Prominent; , 10YR62, 2-10% , 0-5mm, Prominent; Medium clay; Weak grade of structure, Angular blocky; Sandy (grains prominent) fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 6 (pH meter);

Morphological Notes

A11 Surface structure is better single-grained than (hard) massive. The soil is coherent and

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A21 ar from 130cm and a slickenside appears at 180cm. The coarse prismatic structure continues to 180cm (a prism face shows on core). The carbonate flecks are in B2 but not in C horizon. In the B2 the carbonate occurs along prism faces and penetrates adjoining soil. Note: A2 present but (after Northcote) not bleached.

A22

Observation Notes

Parent Rock: residual, sandstone, Tertiary beds, weathered

Site Notes

Disturbed site. Vegetation has been pushed. Regrowth of mollee box, cypress and Acacia dearii.

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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	7.4A	0.06A	3.89B	0.57	0.42	0.29			
0 - 0.1	6.29A	0.094A	2.43B	0.35	0.38	0.03			
0.1 - 0.2	5.26A	0.04A	0.73B	0.14	0.18	<0.01			
0.3 - 0.4	5.79A	0.017A	0.85B	0.3	0.13	0.01			
0.45 - 0.5	5.44A	0.03A	2.72B	1.73	0.35	0.37			
0.7 - 0.8	7.35A	0.114A	8.36B	4.75	0.46	1.43			
1.2 - 1.3	8.35A	0.162A	7.11B	4.84	0.3	1.57			
2.5 - 2.6	6.23A	0.152A	7.94B	8.64	0.19	2.98			

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	2.04C									2 7.7
0 - 0.1	<0.1B	0.88C	34.7J								2.2 6.2
0.1 - 0.2	<0.1B	0.57C	10.6J								2.8 6.9
0.3 - 0.4	<0.1B	0.22C	5.5J								2.8 5.7
0.45 - 0.5	<0.1B	0.31C	3.2J								3.1 29.3
0.7 - 0.8	0.1B	0.19C	2.1J								4.7 55.2
1.2 - 1.3	<0.1B	0.14C	<1J								3 34.9
2.5 - 2.6	<0.1B	0.05C	1.7J								6.7 25.8

[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