

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed051 **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.: 03/07/86	Elevation: 316 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6672000 AMG zone: 55	Runoff: No Data
Easting/Lat.: 783100 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: Gently inclined
Slope: 2 %	Aspect: 140 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: Dy5.43
	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	Brown (10YR4/3-Moist); Dark yellowish brown (10YR4/4-Dry); , 7.5YR32, 2-10% , 15-30mm, Distinct; Loamy sand; Single grain grade of structure; Weak grade of structure, 2-5 mm, Granular; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 5.5 (pH meter); Few, very fine
A12	0.1 - 0.25 m	Brown (7.5YR4/4-Moist); ; Loamy 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 5.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth
A21	0.25 - 0.44 m	Pale brown (10YR6/3-Moist); , 5YR44, 0-2% , 5-15mm, Distinct; Sand; Single grain grade of structure; Weak grade of structure, 50-100 mm, Angular blocky; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Medium (2 -6 mm), Nodules; Field pH 5.6 (pH meter); Few, very fine (0-1mm) roots; Sharp, Wavy change to -
B21	0.44 - 0.6 m	Light yellowish brown (10YR6/4-Moist); , 10YR62, 20-50% , 15-30mm, Prominent; , 5YR34, 0-2% , 5-15mm, Prominent; Light clay; Moderate grade of structure, 100-200 mm, Prismatic; Moderate 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; Very firm consistence; Very few (0 - 2 %), Ferruginous, Medium (2 -6 mm), Nodules; Field pH 5.6 (pH meter); Few, very fine (0-1mm) roots;
B22	0.6 - 1 m	Dark red (2.5YR3/6-Moist); , 10YR54, 20-50% , 15-30mm, Prominent; , 10YR63, 0-2% , 0-5mm, Prominent; Light medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Moderate 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; Few (2 - 10 %), Ferruginous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B23	1 - 2.2 m	Yellowish brown (10YR5/4-Moist); , 10YR63, 0-2% , 0-5mm, Prominent; , 10YR21, 2-10% , 5-15mm, Prominent; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Diffuse, Smooth change to -

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C 2.2 - 2.69 m Yellowish brown (10YR5/6-Moist); , 10YR53, 0-2% , 0-5mm, Faint; , 10YR74, 2-10% , 15-30mm, Prominent; Medium heavy clay; Moderate grade of structure, 20-50 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; Few (2 - 10 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11 Structure: single grained, weakly coherent in top, not massive. Fe concretions concentrated at base of A2. Band of iron manganese concretions at 200-220 accepted as junction of B2 and C. Prominent lime below B2 which has red-centred peds. L

A12 arge lime concretions to 4 cm across. The red centres do in fact occur at top of B.

Observation Notes

Parent Rock: residual, sandstone, Tertiary beds, weathered

Site Notes

Open cypress forest with ringbarked mollee box.

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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	6A	0.042A	1.09B	0.58	0.29	<0.01			
0 - 0.1	4.83A	0.101A	0.89B	0.15	0.09	0.01			
0.1 - 0.2	4.62A	0.035A	<0.1B	<0.1	0.04	<0.01			
0.3 - 0.4	5.14A	0.017A	0.15B	<0.1	0.03	0.01			
0.44 - 0.5	5.56A	0.046A	1.56B	3.48	0.32	1.15			
0.7 - 0.8	8.29A	0.125A	3.43B	6.83	0.75	2.08			
1.2 - 1.3	8.76A	0.262A	3.42B	8.16	0.86	2.79			
2.5 - 2.6	9.05A	0.448A	2.58B	12.45	0.97	5.49			

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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