

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed085 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.E. Heape	Locality:	Lewis J. Griffiths, Myall Valley West
Date Desc.:	07/04/86	Elevation:	308 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6667300 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	780200 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:	0 %	Aspect:	90 degrees

Surface Soil Condition (dry): Firm, Trampled

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Dy2.53
		Great Soil Group:	Solodic soil

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.13 m	Brown (7.5YR4/2-Moist); Dark brown (10YR3/3-Dry); ; Loamy sand; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Sharp, Wavy change to -
A21	0.13 - 0.25 m	Brown (10YR5/3-Moist); , 7.5YR42, 0-2% , 5-15mm, Distinct; , 10YR21, 0-2% , 5-15mm, Distinct; Loamy sand; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Very weak consistence; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Field pH 6 (pH meter); Few, very fine (0-1mm)
A22	0.25 - 0.41 m	Greyish brown (10YR5/2-Moist); , 5YR41, 10-20% , 0-5mm, Distinct; , 7.5YR32, 0-2% , 5-15mm, Distinct; Sandy loam; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Very weak consistence; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Field pH 6 (pH meter); Clear, Smooth change to -
B2	0.41 - 0.8 m	Greyish brown (10YR5/2-Moist); , 10YR63, 2-10% , 5-15mm, Distinct; , 5YR44, 2-10% , 5-15mm, Distinct; Fine sandy light clay; Weak grade of structure, 50-100 mm, Prismatic; Weak grade of structure, 10-20 mm, Angular blocky; Earthy fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; Field pH 8 (pH meter); Clear, Smooth change to -
C	0.8 - 1.61 m	Brown (10YR5/3-Moist); , N20, 0-2% , 0-5mm, Distinct; , 7.5YR44, 0-2% , 0-5mm, Distinct; Sandy loam; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8 (pH meter); Abrupt, Smooth change to -
2B2	1.61 - 2.7 m	Yellowish brown (10YR5/4-Moist); , 5YR56, 2-10% , 5-15mm, Distinct; , 10YR82, 0-2% , 5-15mm, Distinct; Light clay; Weak grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Very strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter); Abrupt, Smooth change to -

Morphological Notes

A1 There is some evidence of a thin (2-3cm) surface horizon enriched with forest litter, but it is too disturbed to sample - so we include it with the 0-10 layer. From 13cm the A2 becomes progressively more bleached, but only 1 chip in Munsell

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A21 terms. From 34-40cm there are 6 or 8 horizontal bands of organic-stained sand (each 1-2mm thick). Cause may be rising/falling water table (?). At 270cm the clayey sand changes abruptly to mottled grey clay which may be a buried B layer. Un
A22 sure whether the rock comp 2 is correct, i.e. whether this is in situ or colluvium.

Observation Notes

Parent Rock: alluvial sediment, mixed texture, non-calcareous, sandstone Pilliga Sandstone

Site Notes

Slope <1/2 . Erosion gully 50m north of site. Contour bank near site. Check landform, topography, ? donga.

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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	6.94A	0.048A	2.27B	0.97	0.52	0.06			
0 - 0.1	5.83A	0.175A	1.64B	0.61	0.45	0.04			
0.13 - 0.2	5.96A	0.035A	0.44B	0.29	0.23	<0.01			
0.3 - 0.4	6.68A	0.037A	3.01B	0.56	0.24	<0.01			
0.7 - 0.8	7.9A	0.03A	8.36B	6.6	0.56	0.36			
1.2 - 1.3	8.92A	0.033A	3.46B	7.63	0.56	2.63			
2.5 - 2.6	9.11A	9.100001E-3.05B	5.52	0.33	5.07				
		02A							

Depth m	CaCO3	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	1.34C									6.2 7.5
0 - 0.1	<0.1B	1.5C	31.7J								9.6 9.4
0.13 - 0.2	<0.1B	0.29C	19J								9.6 6.8
0.3 - 0.4	<0.1B	0.37C	1J								11.2 9.5
0.7 - 0.8	<0.1B	0.08C	<1J								8 32
1.2 - 1.3	<0.1B	0.04C	1.7J								5.4 26.7
2.5 - 2.6	<0.1B	0.03C	10.9J								2.7 27.1

[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