

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed158 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	D. McGarry	Locality:	W.R.(Rick) Tapp, Fernleigh
Date Desc.:	13/06/86	Elevation:	412 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6657600 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	787700 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:	Terrace plain	Slope Category:	Very gently sloped
Slope:	2 %	Aspect:	0 degrees

Surface Soil Condition (dry): Self-mulching

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.32
		Great Soil Group:	Brown clay

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); ; Light clay; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); ; Light medium clay; Moderate grade of structure, 2-5 mm, Granular; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.35 m	Dark reddish brown (5YR3/3-Moist); , 7.5YR32, 2-10% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 2-10%, medium gravelly, 6-20mm, rounded, Basalt, coarse fragments; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.35 - 1 m	Dark reddish brown (5YR3/3-Moist); , 7.5YR32, 0-2% , 0-5mm, Distinct; , 5YR84, 0-2% , 0-5mm, Distinct; Light medium clay; Weak grade of structure, 100-200 mm, Lenticular; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, Basalt, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
B22	1 - 1.27 m	Yellowish red (5YR4/6-Moist); Reddish brown (5YR4/4-Dry); , 5YR74, 2-10% , 5-15mm, Distinct; Light clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 20-50%, coarse gravelly, 20-60mm, rounded, Basalt, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11	0-4cm has been poached ?by cattle trampling. 158.04 has some rock fragments coated with manganese. 158.05 is stony, with bands of soil, separately in a broken plastic bag. Soil is stony. ? some sandstone in parent material. Kaputar Volcanic
A12	s. Vertisol because of the very weak wedge structure seems unreasonable, so we try mollisol.

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Parent Rock: colluvial sediment, basalt, sandstone Nandewar Volcanics

Site Notes

Access to target impossible due to fence and dense forest. This site is approximately 200m to the west. Drilling ceased at 127cm on heavy cobbles. Basaltic stones on soil surface. Few to common surface stones, but core is relatively stone f

Observation Notes

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Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.02	7.18A	0.092A	17.31B	8	2.86	<0.01			
0 - 0.1	6.7A	0.226A	16.3B	8.91	1.73	0.16			
0.1 - 0.2	7.1A	0.093A	18.81B	12.76	1.28	0.18			
0.3 - 0.4	7.68A	0.068A	22.1B	19.46	0.55	0.68			
0.7 - 0.8	8.55A	0.302A	22.81B	23.42	0.42	1.46			
1.2 - 1.27	8.69A	0.222A	13.33B	14.96	0.35	1.13			

Depth	CaCO ₃	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV CS	Size FS	Analysis Silt Clay
m	%	%	mg/kg	%	%	%	Mg/m ³		%	
0 - 0.02	<0.1B	3.94C								24.3 31.3
0 - 0.1	<0.1B	2.41C	74.6J							20.5 31.9
0.1 - 0.2	<0.1B	1.47C	45.9J							23.5 38.4
0.3 - 0.4	<0.1B	0.91C	1.7J							23 46.4
0.7 - 0.8	3.3B	0.51C	11J							21.9 44.4
1.2 - 1.27	0.6B	0.18C	18.8J							21.5 20

[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