

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed039 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	D. McGarry	Locality:	Frank O'Neill, Llano
Date Desc.:	14/07/86	Elevation:	193 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6672900 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	750000 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:	Level
Slope:	0 %	Aspect:	No Data

Surface Soil Condition (dry): Surface crust, Poached

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.4
		Great Soil Group:	Grey clay

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.04 m	Very dark greyish brown (10YR3/2-Moist); Grey (10YR6/1-Dry); ; Light clay; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 6.7 (pH meter); Common, very fine (0-1mm) roots; Clear, Smooth change to -
A12	0.04 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); Dark grey (10YR4/1-Dry); ; Medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 7 (pH meter); Common, very fine (0-1mm) roots;
A13	0.1 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
A14	0.25 - 0.5 m	Very dark grey (10YR3/1-Moist); , 10YR81, 0-2% , 0-5mm, Distinct; Heavy clay; Moderate grade of structure, 10-20 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.5 - 1 m	Very dark greyish brown (10YR3/2-Moist); , N20, 2-10% , 0-5mm, Distinct; , 10YR81, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter);
B22	1 - 1.9 m	Dark brown (10YR3/3-Moist); , 10YR31, 10-20% , 0-5mm, Distinct; , 10YR81, 2-10% , 15-30mm, Distinct; Medium heavy clay; Strong grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (pH meter);

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B23 1.9 - 2.78 m Dark brown (10YR3/3-Moist); , 10YR31, 2-10% , 0-5mm, Distinct; , 10YR81, 2-10% , 30-mm, Distinct; Medium heavy clay; Strong grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 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; Few (2 - 10 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Field pH 8.5 (pH meter);

Morphological Notes

A11 This profile does not have a self mulching top - nor does it have a crust, but it is hard setting. It is not as hard as the surface in site 41. Profile cracked to 32cm. Gypsum begins at 50cm, to 65cm. Manganese stain begins at 65cm and finishes at 130cm.

A12

Observation Notes

Parent Rock: alluvial sediment, clay, parna on fourth fan

Site Notes

Photosite looking SSE towards Auscott.

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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	7.73A	0.071A	12.55B	6.6	0.78	1.93			
0 - 0.04	7.14A	0.238A	10.31B	7.5	0.68	1.82			
0.04 - 0.1	7.99A	0.101A	13.97B	8.36	0.55	2.59			
0.1 - 0.2	8.21A	0.12A	17.03B	9.309999	0.5	3.49			
0.3 - 0.4	8.98A	0.47A	17.38B	10.39	0.53	6.14			
0.7 - 0.8	8.5A	0.878A	19.53B	12.72	0.86	7.89			
1.2 - 1.3	8.65A	0.948A	21.66B	14.2	1.08	9.74			
2.5 - 2.6	8.64A	1.019A	22.97B	14.08	1.06	11.04			

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle		Size	Analysis	
m	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	FS	Silt	Clay
										%		
0 - 0.02	<0.1B	0.71C									21.9	35.7
0 - 0.04	0.1B	0.94C	11.8J								19.8	32.4
0.04 - 0.1	<0.1B	0.65C	3J								22.4	32.6
0.1 - 0.2	<0.1B	0.6C	<1J								25.4	39.5
0.3 - 0.4	0.7B	0.54C	<1J								27.8	43
0.7 - 0.8	0.8B	0.2C	5.6J								21.6	52.7
1.2 - 1.3	1.6B	0.04C	1.1J								17.7	61.4
2.5 - 2.6	1.3B	0.05C	<1J								14.3	63.6

[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