Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed142** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	D. McGarry	**Locality:**	B.E.(Bruce) Mackey, Wire Lagoon
Date Desc.:	30/03/85	**Elevation:**	196 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6658800 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	744300 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 flat	**Slope Category:**	Level
Slope:	0 %	**Aspect:**	No Data

Surface Soil Condition (dry): Surface crust

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified

Mapping Unit: N/A
Principal Profile Form: Ug5.15
Great Soil Group: Black earth

Site Disturbance: Cultivation. Irrigated, past or present

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Very dark grey (10YR3/1-Moist); Dark grey (10YR4/1-Dry); , 10YR84, 0-2% , 0-5mm, Faint; Medium clay; Weak grade of structure, 2-5 mm, Granular; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Common, very fine (0-1mm) roots; Clear, Irregular change to -
A12	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); , N20, 0-2% , 0-5mm, Faint; , 2.5YR46, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, subrounded tabular, Quartz, coarse fragments; Very few (0 - 2 %), Argillaceous, Fine (0 - 2 mm), Soft segregations; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Common, very fine (0-1mm)
A13	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); , 10YR62, 0-2% , 0-5mm, Faint; , 2.5YR46, 0-2% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, subrounded tabular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Very few (0 - 2 %), Argillaceous, Fine (0 - 2 mm), Soft segregations; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1 m	Very dark grey (10YR3/1-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
B21	1 - 1.3 m	Brown (10YR4/3-Moist); , 7.5YR32, 10-20% , 5-15mm, Faint; , 7.5YR64, 0-2% , 0-5mm, Faint; Medium clay; Weak grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Common (10 - 20 %), Argillaceous, Medium (2 -6 mm), Veins; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -

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B22	1.3 - 2.71 m	Brown (7.5YR4/4-Moist); , 5R31, 2-10% , 0-5mm, Faint; , 5YR58, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 20-50 mm, Lenticular; 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 %), Manganiferous, Fine (0 - 2 mm), Veins; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-

Morphological Notes

A11 Medium clay textures show a good example of a very stickiness feel.

Observation Notes

Parent Rock: , , second terraced fan, Namoi

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.02	8.18A	0.2A	28.14B	13.61	2.48	0.48				
0 - 0.1	7.63A	0.211A	27.7B	12.74	2.15	0.96				
0.11 - 0.2	8.42A	0.122A	27.2B	13.33	1.38	1.44				
0.3 - 0.4	8.74A	0.137A	26.47B	15.86	0.96	2.77				
0.7 - 0.8	8.94A	0.253A	20.38B	19.3	1.09	4.8				
1.2 - 1.3	9.17A	0.33A	17.16B	20.84	1.36	7.82				
2.5 - 2.6	9.27A	0.412A	13.7B	16.75	0.86	7.78				

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis				
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.02	0.3B	1.46C									17.3	69.1
0 - 0.1	0.3B	1.66C	85.9J								18.6	68.7
0.11 - 0.2	0.2B	1.21C	59.4J								18.4	70.1
0.3 - 0.4	0.1B	0.92C	48.3J								18.6	74.1
0.7 - 0.8	1.1B	0.75C	58.2J								18.3	73.6
1.2 - 1.3	1.7B	0.56C	56.7J								18.8	72.6
2.5 - 2.6	2.3B	0.14C	31.4J								19	70.8

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.02									
0 - 0.1									
0.11 - 0.2									
0.3 - 0.4									
0.7 - 0.8									
1.2 - 1.3									
2.5 - 2.6									

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca2+,Mg2+,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