Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed183** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	G.M. Roberts	**Locality:**	G. Darling, Midgee
Date Desc.:	01/05/85	**Elevation:**	209 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6653700 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	760700 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, Trampled

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: Grey 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 greyish brown (10YR4/2-Moist); Greyish brown (10YR5/2-Dry); ; Medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); ; Medium heavy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Dark grey (10YR4/1-Moist); ; Medium heavy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, rounded tabular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 0.8 m	Very dark grey (10YR3/1-Moist); , 10YR81, 0-2% , 5-15mm, Distinct; , 10YR63, 0-2% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 20-50 mm, Platy; Moderate grade of structure, 10-20 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; 0-2%, fine gravelly, 2-6mm, rounded tabular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.8 - 1.31 m	Brown (10YR4/3-Moist); , 10YR41, 20-50% , 15-30mm, Prominent; , 10YR64, 2-10% , 0-5mm, Prominent; Medium heavy clay; Moderate grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Common, very fine (0-1mm) roots; Diffuse, Tongued change to -
B22	1.31 - 2.67 m	Light brownish grey (10YR6/2-Moist); , 10YR41, 10-20% , 15-30mm, Distinct; , 7.5YR66, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 50-100 mm, Prismatic; Strong grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.7 (pH meter);

Morphological Notes

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A11 No phosphate value was reported for ed18306. The value shown was selected by MEP.
Field pH for sample 6 estimated from lab pH.

Observation Notes

Parent Rock: , , parna on third fan

Site Notes

Surface cracks filled by cattle trampling. Few waterworn gravels up to 6cm diameter on surface. Composition silcrete, basalt, volcanic (? rhyolite), heavily iron-coated.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m	Cmol (+)/kg							%
0 - 0.02	7.73A	0.124A	17.84B	16.06	2.82	0.36				
0 - 0.1	7.94A	0.137A	21.21B	15.82	1.74	0.79				
0.1 - 0.2	8.36A	0.084A	21.85B	18.91	1.07	1.26				
0.3 - 0.4	8.77A	0.142A	19.78B	20.96	0.8100001	2.84				
0.7 - 0.8	9A	0.349A	14.83B	22.62	0.9899999	6				
1.2 - 1.3	8.93A	0.534A	12.69B	23.36	1.2	7.02				
2.5 - 2.6	9.01A	0.519A	10.27B	23.45	0.85	6.93				

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	<0.1B	1.84C									15.3	52.8
0 - 0.1	0.1B	0.97C	1.7J								16	54.3
0.1 - 0.2	<0.1B	0.79C	<1J								18.1	47.7
0.3 - 0.4	0.2B	0.66C	1.7J								18.3	48.6
0.7 - 0.8	0.9B	0.54C	10.7J								21.9	48.2
1.2 - 1.3	0.8B	0.31C	2.2J								25.9	54.4
2.5 - 2.6	3.8B	0.03C	2J								16.1	53.5

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										
0.1 - 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