Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed074** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	G.M. Roberts	**Locality:**	H. and C. Freer, Greenbah
Date Desc.:	30/07/85	**Elevation:**	195 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6668500 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	749800 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): Self-mulching, Recently cultivated

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

A11p	0 - 0.1 m	Dark greyish brown (10YR4/2-Moist); Dark greyish brown (10YR4/2-Dry); ; Medium heavy clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Weak grade of structure, 2-5 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.3 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
A12	0.1 - 0.25 m	Dark greyish brown (10YR4/2-Moist); , 10YR82, 0-2% , 0-5mm, Prominent; Medium 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; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.3 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Dark greyish brown (10YR4/2-Moist); , 10YR82, 0-2% , 0-5mm, Prominent; 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; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1 m	Dark greyish brown (10YR4/2-Moist); , 10YR82, 0-2% , 0-5mm, Prominent; Medium heavy clay; 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; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
B21k	1 - 1.9 m	Brown (7.5YR4/4-Moist); , 10YR82, 2-10% , 5-15mm, Prominent; , 10YR42, 2-10% , 15-30mm, Faint; Medium clay; Massive grade of structure; Weak grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Very few (0 - 2 %), Gypseous, Fine (0 - 2 mm), Crystals; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
B22k	1.9 - 3.01 m	Greyish brown (10YR5/2-Moist); , 5YR56, 2-10% , 5-15mm, Prominent; , 10YR83, 2-10% , 5-15mm, Prominent; Medium clay; Strong 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 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Veins; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter);

Morphological Notes

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A11p	Increase in ferruginous mottles from 200-300cm. Tensile 250-260 too disturbed.

Observation Notes

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

Site Notes

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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	8.31A	0.101A	26.04B	11.33	2.25	1.34				
0 - 0.1	8.31A	0.117A	24.34B	12.33	1.71	1.64				
0.1 - 0.2	8.46A	0.103A	25.3B	11.7	1.42	1.99				
0.3 - 0.4	8.82A	0.122A	24.74B	12.5	0.75	3.46				
0.7 - 0.8	7.86A	1.32A	25.43B	10.71	0.85	5.34				
1.2 - 1.3	8.52A	0.888A	22.48B	13.64	0.93999 99	8.77				
2.5 - 2.6	8.63A	0.616A	24.05B	13.93	1.21	11.93				

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	0.86C									18.7	60.9
0 - 0.1	0.1B	0.86C	57.2J								18.2	56.1
0.1 - 0.2	0.1B	0.64C	41.5J								18.3	56.9
0.3 - 0.4	0.2B	0.51C	24.3J								19.4	56
0.7 - 0.8	0.1B	0.47C	23.9J								18.1	54.7
1.2 - 1.3	1.6B	0.22C	18.2J								17.9	55.6
2.5 - 2.6	0.3B	0.13C	10.5J								14.6	68.8

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										
0.1 - 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