Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed090** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	W.T. Ward	**Locality:**	Auscott Ltd, Auscott
Date Desc.:	05/01/87	**Elevation:**	194 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6665900 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	745700 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: Ug5.16
Great Soil Group: Grey clay

Site Disturbance: Cultivation. Irrigated, past or present

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); Dark grey (10YR4/1-Dry); , 10YR32, 0-2% , 0-5mm, Faint; Medium clay; Moderate grade of structure, 50-100 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Granular; 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, subangular, Quartz, coarse fragments; 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 -
A12	0.1 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); , 10YR63, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) 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;
A13	0.25 - 0.55 m	Dark grey (10YR4/1-Moist); , 10YR53, 0-2% , 0-5mm, Distinct; , 10YR63, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1.2 m	Dark grey (10YR4/1-Moist); , 10YR63, 0-2% , 0-5mm, Distinct; 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; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
B2	1.2 - 1.9 m	Brown (10YR5/3-Moist); , 10YR41, 10-20% , 0-5mm, Prominent; , 10YR72, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 50-100 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; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Diffuse, Smooth change to -
	1.9 - 2.94 m	Brown (10YR5/3-Moist); , 10YR62, 0-2% , 5-15mm, Prominent; , 10YR42, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 50-100 mm, Lenticular; Weak grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter);

Morphological Notes

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A11p	Some signs of inwashed sand at 110cm. At 120-130cm the core section appeared to be quite massive. The colour in the 250-260cm section is dull greyish- brown, compared to the colour at 120-130cm. This probably due to gleying. Typical older a
A12	lluvium in appearance - deep grey top on dull yellow brown clay. Possibly slightly thickened by levelling.

Observation Notes

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

Site Notes

High terrace. Drill site 75 meters west of target due to water hazard. Drillhole is in cotton mound.

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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	8.57A	0.174A	26.03B	14.43	1.91	1.7				
0 - 0.1	8.37A	0.123A	25.4B	16.12	1.52	1.25				
0.1 - 0.2	8.61A	0.092A	24.59B	16.6	1.51	1.44				
0.3 - 0.4	8.92A	0.158A	22.86B	17.24	1.03	2.26				
0.7 - 0.8	9.11A	0.283A	20.83B	17.49	1.28	5.73				
1.2 - 1.3	8.99A	0.375A	19.9B	17.57	1.33	6.93				
2.5 - 2.6	9.16A	0.405A	18.57B	16.92	1.14	5.79				

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	0.65C									13.1	63.8
0 - 0.1	<0.1B	0.75C	32J								14.7	61.9
0.1 - 0.2	0.1B	0.69C	28.8J								16	64.3
0.3 - 0.4	0.3B	0.49C	7.3J								14.7	63.5
0.7 - 0.8	0.3B	0.44C	32.5J								15.4	64.1
1.2 - 1.3	0.5B	0.35C	41.2J								15	66.2
2.5 - 2.6	2.1B	0.14C	13.7J								17.3	66.1

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