Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed163 Observation ID: 1

Agency Name: **CSIRO** Division of Soils (QLD)

Site Information

Desc. By: D. McGarry Locality: Auscott Ltd. Auscott

Date Desc.: Elevation: 10/05/85 201 metres Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6656200 AMG zone: 55 Runoff: No Data 753800 Datum: AGD66 Easting/Lat.: Drainage: No Data

Geology

ExposureType: Conf. Sub. is Parent. Mat.: Undisturbed soil core No Data **Substrate Material:** Geol. Ref.: No Data No Data

Land Form

Rel/Slope Class: No Data Pattern Type: No Data Morph. Type: No Data Relief: No Data Elem. Type: Slope Category: Terrace flat Level Aspect: No Data Slope: n %

Surface Soil Condition (dry): Self-mulching, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification: N/A Mapping Unit: Principal Profile Form: Ua5.15 ASC Confidence: **Great Soil Group:** Grey clay

Confidence level not specified

Site Disturbance: Cultivation. Irrigated, past or present

Vegetation:

Surface Coarse Fragments:

Profile Morphology

Very dark greyish brown (10YR3/2-Moist); ; Light medium clay; Weak grade of structure, 50-A11p 0 - 0.06 m 100 mm. Subangular blocky: Rough-ped fabric: Medium. (5 - 10) mm crack: Few (<1 per

100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH

8.2 (pH meter);

Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 100-A12 0.06 - 0.25 m

200 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 8.2 (pH

meter).

Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 100-A13 0.25 - 0.55 m

200 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 9 (pH meter);

Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 100-A14 0.55 - 1 m

200 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 9.2 (pH

A15 1 - 1.65 m Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 100-

200 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 9.2 (pH

meter); Diffuse, Tongued change to -

B2 1.65 - 2.85 m Brown (7.5YR4/4-Moist); , 5YR31, 2-10% , 15-30mm, Distinct; Medium clay; Weak grade of

structure, 20-50 mm, Subangular blocky; Rough-ped fabric; 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 %), Argillaceous, Coarse (6 - 20 mm), Veins; Field pH 9.5 (pH meter);

Morphological Notes

Soil moist under surface. The profile is very wet throughout. This may have added to its A11p

almost complete lack of structure, even in the B2 horizon. No carbonate. This profile still

classes as a Ug5.15 since this is how it would appear in a

A12 drv state.

Observation Notes

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

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exc	hangeable	Cations	E	xchangeable	CEC	:	ECEC	ESP
m	-	dS/m	Ca I	Mg	К	Na Cmol (+)	Acidity /kg				%
0 - 0.02	8.81A		23.82B	18.14	2.07	1.72					
0 - 0.06	8.69A		24.05B	23	0.79	1.68					
0.1 - 0.2	8.78A	• • • • • • • •	24.75B	23.35	1.21	2.16					
0.3 - 0.4	9.08A	0.164A	_	24.46	1.03	3.72					
0.7 - 0.8	9.25A		19.15B	25.67	1.11	8.16					
1.2 - 1.3	9.25A		16.21B	24.51	0.87	9.66					
2.5 - 2.6	9.3A	0.507A	13.58B	17.5	0.38	8.79					
Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk				Analysis
	01	C	P	P	N	K	Density	G۷	CS	FS	Silt Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%	
0 - 0.02	<0.1B	0.66C									19.3 67
0 - 0.06	0.1B	0.72C	46.4J								15.8 67.9
0.1 - 0.2	0.1B	0.63C	46.9J								16.6 69
0.3 - 0.4	0.1B	0.49C	39J								16.5 70.1
0.7 - 0.8	0.8B	0.42C	46.7J								18.2 74
1.2 - 1.3	0.5B	0.35C	49.4J								18.5 69
2.5 - 2.6	2B	0.00C	26.2J								20.8 59.8
2.0 2.0	20	0.100	20.20								20.0 00.0
Depth	COLE		Grav	imetric/V	olumetric V	Vater Cont	ents		Ks	at	K unsat
Dopu.	JJ	Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar 15	Bar			311041
m					/g - m3/m				mm	/h	mm/h
				·	-						

^{0 - 0.02} 0 - 0.06 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 Silt (%) - Coventry and Fett pipette method