Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed032 Observation ID: 1

Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward Locality: Paul Owens, Old Edgeroi

Date Desc.: Elevation: 14/07/86 280 metres Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6674550 AMG zone: 55 Runoff: No Data 779100 Datum: AGD66 Easting/Lat.: Drainage: No Data

<u>Geology</u>

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 DataPattern Type:No DataMorph. Type:No DataRelief:No Data

Elem. Type: Terrace flat Slope Category: Very gently sloped

Slope: 0 % Aspect: No Data

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

Erosion:

Soil Classification

 Australian Soil Classification:
 Mapping Unit:
 N/A

 N/A
 Principal Profile Form:
 Ug5.15

 ASC Confidence:
 Great Soil Group:
 Brown clay

Confidence level not specified

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p 0 - 0.1 m Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Medium clay; Moderate grade of structure, <2 mm, Granular; Moderate 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,

Moderately moist; Very firm consistence; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;

Clear, Smooth change to -

A12 0.1 - 0.25 m Dark brown (7.5YR3/2-Moist); ; Medium clay; Moderate 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, Moderately moist; Strong consistence; Field pH 9 (pH meter); Few, very fine (0-

1mm) roots;

A13 0.25 - 0.55 m Dark brown (7.5YR3/2-Moist); , 10YR73, 2-10% , 0-5mm, Distinct; Medium clay; Moderate 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, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9.5 (pH meter); Few, very

fine (0-1mm) roots;

A14 0.55 - 1 m Dark reddish brown (5YR3/2-Moist); , 10YR73, 2-10% , 5-15mm, Distinct; , 10YR73, 0-2% , 0-

5mm, Faint; Medium clay; Moderate 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, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change

to -

B2 1 - 1.35 m Reddish brown (5YR4/4-Moist); , 7.5YR32, 2-10% , 15-30mm, Distinct; , 5YR54, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 50-100 mm, Angular blocky; Moderate grade of

Distinct; Medium clay; Weak grade of structure, 50-100 mm, Angular blocky; Moderate 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, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Basalt, coarse fragments; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9.5 (pH meter); Few, very fine (0-1mm) roots;

Clear, Smooth change to -

C 1.35 - 2.3 m Brown (7.5YR5/4-Moist); , 5YR33, 2-10% , 5-15mm, Prominent; Silty clay; Weak grade of

structure, 50-100 mm, Angular blocky; Massive grade of structure; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 9 (pH meter); Gradual, Smooth change to -

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D 2.3 - 2.85 m Brown (7.5YR4/4-Moist); , 10YR73, 2-10% , 5-15mm, Distinct; Medium clay; Weak grade of

structure, 50-100 mm, Angular blocky; Massive grade of structure; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; 20-50%, coarse gravelly, 20-60mm, rounded, Basalt, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules;

Field pH 9 (pH meter);

Morphological Notes

A11p 30-40 and 70-80 fizz in fine earth; carbonate colour at 120-130 is 7.5YR5/4. Massive

?silts below 135 grade into basal gravels at 230. These silty sediments contain a very

few thin carbonate concretionary lamellae below 180. Compare Aloomba

. Subsoil relatively weakly weathered, depositional lamellae at 150.

Observation Notes

Parent Rock: alluvial sediment, mixed texture, non-calcareous, silt second (brown parna) terraced

Site Notes

A12

Q. A sandier version with largish carbonate nodules. Core includes various gravels towards base including basalt. Sorghum, strip cropped, stubble ripped, with scattered trees.

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Laboratory Test Results:

Depth	pН	1:5 EC		changeable Cations		Exchangeable		CEC		ECEC		ESP
m		dS/m	Ca	Mg	К	Na Cmol (+	Acidity +)/kg					%
0 - 0.02	8.38A	0.139A	29.97B	12.33	2.53	0.16						
0 - 0.1	8.18A	0.193A	25.23B	15.36	1.7	0.61						
0.1 - 0.2	8.72A	0.172A	24.29B	17.64	0.76	1.26						
0.3 - 0.4	9.18A	0.248A	16.4B	22.73	0.66	4.12						
0.7 - 0.8	9.56A	0.439A	7.23B	26.15	0.77	9.64						
1.2 - 1.3	9.6A	0.532A	4.03B	17.84	0.49	8.54						
2 - 2.1	9.55A	0.494A	4.2B	24.28	0.44	9.55						
2.5 - 2.6	9.72A	0.434A	3.31B	17.09	0.39	7.35						
Domth	CaCO3	Ormania	Avail	Total	Total	Tota	.i D.dk		article	C:	Amaluai	_
Depth	CaCOS	Organic C	Avail. P	P	N	K	ıl Bulk Density	GV	CS	FS	Analysi: Silt	
m	%	%	mg/kg	%	%	%	Mg/m3	GV	C3	%	Siit	Clay
0 - 0.02	0.2B	1.56C									18.1	50.2
0 - 0.1	0.6B	1.73C	27.7J								19.5	50.5
0.1 - 0.2	2.7B	1.12C	5.8J								18.8	51.4
0.3 - 0.4	5.3B	0.74C	1.2J								18.8	50.5
0.7 - 0.8	6.1B	0.57C	5.5J								20.5	50.5
1.2 - 1.3	3.9B	0.2C	15.9J								16.1	33
2 - 2.1	2.1B	0.17C	10.8J								25.7	37.7
2.5 - 2.6	4.4B	0.13C	15.4J								14.5	28.9
Depth	COLE Gravimetric/Volumetric Water Contents K sat									K unsa	t	
- 1		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar		Bar				-
m					g - m3/m				mm	/h	mm/h	

0 - 0.02

0 - 0.02 0 - 0.1 0.1 - 0.2 0.3 - 0.4 0.7 - 0.8 1.2 - 1.3 2 - 2.1 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