Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed188 Observation ID: 1

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

Site Information

Desc. By: E. Veldhuis Locality: R.M.(Ross) Fordham, Wonga Plains

Date Desc.: Elevation: 20/04/85 291 metres Sheet No.: 8837 N 1:50000 Map Ref.: Rainfall: No Data Northing/Long.: 6653200 AMG zone: 55 Runoff: No Data 774300 Datum: AGD66 No Data Easting/Lat.: Drainage:

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: Very gently sloped Slope Category: Terrace plain Aspect: 310 degrees Slope: 1 %

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification: N/A Mapping Unit: Principal Profile Form: Dr5.12 ASC Confidence: **Great Soil Group:** Solodic soil

Confidence level not specified

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

0 - 0.1 m Very dark grey (10YR3/1-Moist); Dark greyish brown (10YR4/2-Dry); , 10YR33, 2-10% , 0-5mm, Faint; Clayey sand; Weak grade of structure, 2-5 mm, Granular; Rough-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 0-2%, fine gravelly, 2-6mm, subrounded tabular, Quartz, coarse fragments; Field

pH 5.8 (pH meter); Many, fine (1-2mm) roots; Clear, Smooth change to -

Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/4-Dry); ; Clayey sand; Weak grade of structure, A12 0.1 - 0.27 m

5-10 mm, Subangular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz, coarse fragments; Field pH 5.8 (pH meter); Common, fine (1-2mm) roots;

Clear, Smooth change to

A13 0.27 - 0.4 m Dark brown (7.5YR3/2-Moist); Brown (7.5YR5/4-Dry); Clayey sand; Weak grade of structure,

10-20 mm, Subangular blocky; Rough-ped fabric; Few (<1 per 100mm2) Fine (1-2mm) macropores. Moderately moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz, coarse fragments; Field pH 5.8 (pH meter); Few, very fine (0-1mm) roots; Sharp,

Smooth change to -

B21t Dark red (7.5R3/6-Moist); , 7.5YR42, 2-10% , 0-5mm, Distinct; Light medium clay; Massive grade 0.4 - 0.5 m

of structure; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, medium gravelly, 6-20mm, subrounded tabular, Quartz, coarse fragments;

Field pH 5.8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to

Yellowish red (5YR4/6-Moist); ; Light clay; Massive grade of structure; Rough-ped fabric; Many B22 0.5 - 1.1 m

(>5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Very strong consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Field pH 6.8 (pH meter); Few, very fine (0-1mm) roots; Gradual,

Smooth change to -

B23 1.1 - 1.85 m Dark red (2.5YR3/6-Moist); , N50, 2-10% , 15-30mm, Distinct; Coarse sand; Massive grade of

structure; Rough-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, medium gravelly, 6-20mm, subrounded,

Quartz, coarse fragments; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;

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B24 1.85 - 2.53 m

Dark red (10R3/6-Moist); , 5YR51, 2-10% , 5-15mm, Prominent; Clayey sand; Massive grade of structure; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz,

coarse fragments; Field pH 6.8 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

The 30 to 40cm layer is a little lighter in colour than the layer above but is not sufficiently A11

light to be called an A2 horizon. At 40cm on top of the textured B horizon there is a

shallow layer of gravel composed of ironstone and quartz.

A12 Site is near crest of lateritic jumpup.

Observation Notes

Parent Rock: , , Pilliga Sandstone, weathered

Site Notes

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Laboratory Test Results:

Depth	pН	1:5 EC		hangeable			Exchangeable	e CE	3	ECEC		ESP
m		dS/m	Ca I	Mg	K	Na Cmol (Acidity					%
		uo/III				Cilioi	(+)/Kg					/0
0 - 0.02	5.77A	0.055A	2.7B	1.99	0.73	<0.01						
0 - 0.1	5.83A	0.072A	1.6B	1.26	0.7	0.04						
0.1 - 0.2	5.68A	0.041A	1.38B	1.28	0.49	0.03						
0.3 - 0.4	5.84A	0.033A	0.36B	1.28	0.21	0.17						
0.4 - 0.5	5.91A	0.065A	0.28B	5.47	0.52	1.01						
0.7 - 0.8	5.92A	0.315A	<0.1B	6.48	0.5	1.77						
1.2 - 1.3	6A	0.526A	<0.1B	5.83	0.52	2.27						
2.4 - 2.5	5.39A	0.589A	<0.1B	3.55	0.36	1.85						
Depth	CaCO3	Organic	Avail.	Total	Total	Tot	al Bulk		Particle	Size	Analysis	
_ op		C	P	P	N	K			CS	FS	Silt	
m	%	%	mg/kg	%	%	%				%		,
0 - 0.02	<0.1B	3.62C									7.2	17.4
0 - 0.1	<0.1B	2.3C	8J								7.7	18.6
0.1 - 0.2	<0.1B	1.67C	4.9J								7.5	19.2
0.3 - 0.4	<0.1B	0.78C	4.6J								7.3	15.3
0.4 - 0.5	<0.1B	0.68C	3J								6.2	46.7
0.7 - 0.8	<0.1B	0.29C	<1J								10	37.4
1.2 - 1.3	<0.1B	0.15C	<1J								11.3	33.9
2.4 - 2.5	<0.1B	0.22C	<1J								9.5	38
Depth	n COLE Gravimetric/Volumetric Water Contents K sat								at	K unsa	t	
		Sat.	0.05 Bar		0.5 Bar	1 Bar	5 Bar	15 Bar		_	_	
m				g	/g - m3/m	13			mm	ı/h	mm/h	

^{0 - 0.02}

^{0 - 0.02} 0 - 0.1 0.1 - 0.2 0.3 - 0.4 0.4 - 0.5 0.7 - 0.8 1.2 - 1.3 2.4 - 2.5

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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