Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed070 Observation ID: 1

Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward Locality: J.G.(John) Wilson, Montana

Date Desc.: Elevation: 27/06/86 419 metres Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6669500 AMG zone: 55 Runoff: No Data 787200 Datum: AGD66 Easting/Lat.: Drainage: No Data

<u>Geology</u>

ExposureType: Undisturbed soil core Conf. Sub. is Parent. Mat.: 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:
 Pediment
 Slope Category:
 Gently inclined

 Slope:
 4 %
 Aspect:
 255 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification: Mapping Unit: N/A
N/A
Principal Profile Form: Gn3.12
ASC Confidence: Great Soil Group: Prairie soil

Confidence level not specified

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11 0 - 0.1 m Dark reddish brown (5YR3/2-Moist); Dark reddish grey (5YR4/2-Dry); ; Clay loam; Strong grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, subangular, Basalt, coarse fragments; Field pH 5.8 (pH meter); Common, fine (1-2mm) roots;

A12 0.1 - 0.25 m Dark reddish brown (5YR3/2-Moist); ; Light clay; Moderate grade of structure, 20-50 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; Weak

consistence; Field pH 6.3 (pH meter); Common, very fine (0-1mm) roots;

A13 0.25 - 0.5 m Dark reddish brown (5YR3/3-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Prismatic;

Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak

consistence; 0-2%, fine gravelly, 2-6mm, subangular, Consolidated rock (unidentified), coarse fragments; Field pH 6.5 (pH meter); Common, very fine (0-1mm) roots; Gradual, Smooth change

B21 0.5 - 1 m Dark reddish brown (5YR3/3-Moist); ; Light medium clay; Weak grade of structure, 20-50 mm,

Prismatic; Moderate grade of structure, 2-5 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; 0-2%, medium gravelly, 6-20mm, subangular, Consolidated rock (unidentified),

coarse fragments; Field pH 6.7 (pH meter); Few, very fine (0-1mm) roots;

B22 1 - 1.8 m Dark reddish brown (5YR3/3-Moist); ; Light medium clay; Weak grade of structure, 20-50 mm,

Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Strong consistence; 2-10%, medium gravelly, 6-20mm, subangular, Consolidated rock (unidentified), coarse fragments; Field pH 7 (pH meter); Few,

very fine (0-1mm) roots; Clear, Smooth change to -

Morphological Notes

A11 Sandstone fragments possibly in core also. Weathering basalt in situ below 180. No

visible lime; weathering rock stained with manganese. WTW guessed brown clay as

great soil group.

Observation Notes

Parent Rock: colluvial sediment, do, colluvium, thin, with basalt

Site Notes

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Groundsurface formed by meshed fan/pediment segments, much surface stone. Pediment or structural bench. Rocks are detached boulders. No cracks. Note chartpen stopped by stone, in stony patches. Access around piggery, then north to gate,

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sou **Laboratory Test Results:**

Depth	pН	1:5 EC		hangeable	Cations K	Na E	Exchangeable	CEC	ECE	C ESP
m		dS/m	Ca	Mg	ĸ	Cmol (+)	Acidity /kg			%
0 - 0.02	6.8A	0.079A	10.56B	4.01	1.74	<0.01				
0 - 0.1	6.03A	0.267A	13.47B	4.37	0.9	< 0.01				
0.1 - 0.2	6.45A	0.099A	12.82B	3.42	0.45	< 0.01				
0.3 - 0.4	6.95A	0.038A	15.77B	4.48	0.27	< 0.01				
0.7 - 0.8	7.08A	0.025A	23.16B	11.9	0.28	0.21				
1.2 - 1.3	7.43A	0.029A	24.63B	13.05	0.37	0.47				
Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk			Analysis
m	%	C %	P mg/kg	P %	N %	K %	Density Mg/m3	GV	CS FS %	Silt Clay
			5 5				J			
0 - 0.02	<0.1B	2.84C								18.7 21.6
0 - 0.1	<0.1B	2.56C	89.8J							22.3 27.8
0.1 - 0.2	<0.1B	1.39C	81.2J							20.3 25.6
0.3 - 0.4	<0.1B	0.96C	64.4J							23.5 29.6
0.7 - 0.8	<0.1B	0.5C	15.4J							19.6 39.1
1.2 - 1.3	<0.1B	0.36C	25.8J							22.5 33
Depth	COLE Gravimetric/Volumetric Water Contents K sat K unsat									K unsat
m		Sat.	0.05 Bar	0.1 Bar g/	0.5 Bar g - m3/m	1 Bar 3	5 Bar 15 B	Bar	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

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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