Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed347 Observation ID: 1

Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward Locality: J.Amos/R.Simpson, Woodville

Date Desc.: Elevation: 296 metres 09/10/87 Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6660350 AMG zone: 55 Runoff: No Data 781300 Datum: AGD66 Easting/Lat.: 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 DataPattern Type:No DataMorph. Type:No DataRelief:No DataElem. Type:HillslopeSlope Category:Gently inclinedSlope:2 %Aspect:180 degrees

Surface Soil Condition (dry): Self-mulching

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

**Vegetation:** 

#### **Surface Coarse Fragments:**

<u>Profi</u>	le M	orph	<u> 10lc</u>	ogy
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A11 0 - 0.1 m Dark reddish brown (5YR3/3-Moist); Reddish brown (5YR4/3-Dry); ; Light clay; Strong grade of structure, 5-10 mm, Granular; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 7 (pH meter); Few, very fine

(0-1mm) roots;

A12 0.1 - 0.25 m Dark reddish brown (5YR3/3-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm,

Subangular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 7.8 (pH

meter); Few, very fine (0-1mm) roots;

A13 0.25 - 0.55 m Dark reddish brown (5YR3/3-Moist); ; Medium clay; Moderate grade of structure, 100-200 mm,

Columnar; Weak 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; Rigid consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field

pH 9 (pH meter); Few, very fine (0-1mm) roots;

A14 0.55 - 0.9 m Dark reddish brown (5YR3/3-Moist); ; Medium clay; Moderate grade of structure, 100-200 mm,

Columnar; Weak 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; Rigid consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2%), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9 (pH meter); Few,

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

B2 0.9 - 1.9 m Dark red (2.5YR3/6-Moist); ; Medium heavy clay; Moderate grade of structure, 50-100 mm,

Lenticular, Moderate grade of structure, 10-20 mm, Subangular 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%, medium gravelly, 6-20mm, rounded, Quartz, coarse fragments; Very few (0 - 2%), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9 (pH meter);

Gradual, Smooth change to -

C 1.9 - 3.06 m Pale yellow (2.5Y7/4-Moist); , 5YR56, 20-50% , 15-30mm, Prominent; Medium clay; Massive

grade of structure; Weak grade of structure, 5-10 mm, Cast; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Coarse (6 -

20 mm), Veins; Field pH 8.5 (pH meter);

#### **Morphological Notes**

A11 Easternmost site, gilgai transect. This core shows more granular material at the top than

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A12 uginous sandstone fragments occur down to 90cm. The carbonate segregations

commence at 30cm, and slickensides at 35cm. Rounded quartz pebble at 105cm, also some angular ironstone fragments in full depth of core 2. Colour two at 250 also inc ludes faunal mixing. Scattered fragments of basalt at 180; deeper material is saprolitic.

#### **Observation Notes**

Parent Rock: residual, from basalt, Purlawaugh Formation

### **Site Notes**

A13

Sites 347-352 are spaced at 2m intervals; 353 is 90m from 352. 347 is at the crest of a puff.

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## **Laboratory Test Results:**

Laboratory	1631116	Suits.								
Depth	pН	1:5 EC		hangeable		NI-	Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (	Acidity +)/ka			%
						······ (	.,9			,,
0 - 0.1	7.2A	0.122A	21.77B	14.79	1.39	0.5				
0.1 - 0.2	7.82A	0.088A	23.22B	17.52	0.7	1.16				
0.3 - 0.4	9A	0.185A	16.92B	26.57	0.39	3.23				
0.7 - 0.8	9.2A	0.519A	8.04B	33.67	0.33	9.5				
1.2 - 1.3	9.02A	0.93A	6.62B	35.15	0.32	12.6				
2.5 - 2.6	8.82A	0.885A	7.33B	43.31	0.19	14.61				
Depth	CaCO3	Organic	Avail.	Total	Total	Tota	ıl Bulk	Par	ticle Size	Analysis
		C	Р	Р	N	K	Density	GV	CS FS	Silt Clay
m	%	%	mg/kg	%	%	%	Mg/m3		%	•
0 - 0.1	<0.1B	2.21C	12.3J							
0.1 - 0.2	<0.1B	1.34C	2.7J							
0.3 - 0.4	2.8B	0.85C	<1J							
0.7 - 0.8	5B	0.52C	<1J							
1.2 - 1.3	9.3B	0.34C	<1J							
2.5 - 2.6	24.6B	1.51C	7.1J							
Depth	COLE		Grav	imetric/Vo	olumetric \	Water Co	ntents		K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar 15	Bar		
m				g/	g - m3/m	13			mm/h	mm/h
0 04										
0 - 0.1										
0.1 - 0.2										
0.3 - 0.4										

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 15A2\_MG Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts 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 EC of 1:5 soil/water extract 3A1 4A1 pH of 1:5 soil/water suspension

5A2 Chloride - 1:5 soil/water extract, automated colour

Total organic carbon - high frequency induction furnace, infrared Water soluble nitrate - automated colour 6B3

7B1

9B1 Bicarbonate-extractable phosphorus - manual colour