Soil Studies in the Lower Namoi Valley **Project Name:**

Project Code: EDGEROI Site ID: Observation ID: 1 ed242

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

Site Information

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

Desc. By: Date Desc.: Elevation: 06/08/87 320 metres Sheet No.: 8837_N 1:50000 Map Ref.: Rainfall: No Data Northing/Long.: 6660800 AMG zone: 55 Runoff: No Data Easting/Lat.: 782700 Datum: AGD66 Drainage: No Data

Geology

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

Land Form

Rel/Slope Class: No Data Pattern Type: No Data Morph. Type: Elem. Type: No Data Relief: No Data

Pediment **Slope Category:** Very gently sloped Slope: 1 % Aspect: 180 degrees

Surface Soil Condition (dry): Hardsetting, Trampled

Erosion:

Soil Classification

Australian Soil Classification: Mapping Unit: N/A Principal Profile Form: Ua5.15 **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:

Surface Coarse Fragments.											
	Profile	Morphology									
	A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark yellowish brown (10YR3/4-Dry); ; Light clay; Strong grade of structure, 20-50 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; Field pH 7.5 (pH meter); Common, very fine (0-1mm) roots;								
	A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); ; Light clay; Weak grade of structure, 100-200 mm, Prismatic; Strong 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 8 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -								
	B21	0.25 - 0.55 m	Brown (7.5YR4/3-Moist); , 7.5YR32, 2-10% , 15-30mm, Prominent; Light clay; Weak grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 10-20 mm, Platy; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;								
	B22	0.55 - 1 m	Brown (7.5YR4/4-Moist); , 7.5YR32, 0-2% , 5-15mm, Distinct; Light 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; Common (10 - 20 %), Calcareous, Very coarse (20 - 60 mm), Soft segregations; Field pH 8.8								
	B23	1 - 1.35 m	Reddish brown (5YR4/4-Moist); , 7.5YR32, 0-2% , 5-15mm, Distinct; Light medium clay; Weak grade of structure, 50-100 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, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter); Diffuse, Smooth change to -								
	C1	1.35 - 1.9 m	Light yellowish brown (2.5Y6/4-Moist); , 7.5YR54, 2-10% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter); Diffuse, Smooth change to -								
	C2	1.9 - 2.9 m	Light grey (5Y7/2-Moist); , 10YR64, 10-20% , 5-15mm, Prominent; Light clay; Massive grade of structure; Massive grade of structure; Fine, (0 - 5) mm crack; Moderately moist; Very firm								

consistence; Field pH 8.5 (pH meter); Diffuse, Smooth change to -

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White (5Y8/2-Moist); , 10YR66, 20-50% , 15-30mm, Prominent; , 5YR21, 0-2% , 0-5mm, Distinct; 2.9 - 3.5 m

Light clay; Massive grade of structure; Fine, (0 - 5) mm crack; Moderately moist; Field pH 8.5

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

Morphological Notes

A few small rounded fragments of quartz at 20-25cm. Carbonate-rich B2 over

weathered parent material with manganese at 140cm. A grey horizon with nodules of manganese (3% abundance) lies between the B2 and C horizons and justifies the addit

A12

ional sample. C2 apedal rather than structureless, simply fissile and fractured weathering parent rock with soft manganese stains to 290cm, where the stains become

much less frequent and a biscuitty structure appears. Parent rock: Garawilla

B21 Volcanics.

Observation Notes

Parent Rock: residual, intensely weathered, tuff Garrawilla Volcanics

Many dead trees here. A native pasture on pediment surface. A dam NE of 242 is sandy pedisediment over Garawilla basalt and tuff; immediately to the E is a sandy rise with cypress which I think is solodic soil on sandstone in situ.

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Laboratory Test Results:

Depth	рН	1:5 EC		hangeable			Exchangeabl	e CE	3	ECEC	: 1	ESP
m		dS/m	Ca	Mg	К	Na Cmol (Acidity +)/kg					%
0 - 0.1	7.66A	0.106A	11.98B	8.45	0.84	0.24						
0.1 - 0.2	8.36A	0.094A	17.63B	14.46	0.63	0.64						
0.3 - 0.4	9.09A	0.171A	10.8B	17.83	0.33	1.86						
0.7 - 0.8	9.39A	0.415A	4.84B	18.24	0.23	5.32						
1.2 - 1.3	9.24A	0.567A	4.56B	16.75	0.23	6.39						
1.7 - 1.8	8.88A	0.554A	3.43B	17.02	0.21	6.4						
2.5 - 2.6	8.35A	0.634A	2.68B	17.46	0.12	6.62						
3.4 - 3.5	8.85A	0.527A	1.55B	12.86	0.08	4.46						
Depth	CaCO3	Organic	Avail.	Total	Total	Tota	al Bulk	ı	Particle	Size	Analysis	3
		С	Р	Р	N	K		, GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.1	0.1B	1.66C	4.4J								7.8	27.8
0.1 - 0.2	<0.1B		1.6J								7.2	38.7
0.3 - 0.4	3.9B	0.71C	<1J								7.3	36.6
0.7 - 0.8	8.8B	0.26C	<1J								9.1	35.1
1.2 - 1.3	4.9B	0.15C	<1J								7.8	33.8
1.7 - 1.8	<0.1B	0.05C	<1J								8.2	35.4
2.5 - 2.6	<0.1B		1.4J								17.5	
3.4 - 3.5	<0.1B	0.1C	<1J								15.3	28.5
Depth	COLE		Gravimetric/Volumetric Water Contents						Ks	at	K unsa	t
m		Sat.	0.05 Bar	0.1 Bar g/	0.5 Bar /g - m3/m	1 Bar 3	5 Bar	15 Bar	mm	ı/h	mm/h	

^{0 - 0.1} 0.1 - 0.2 0.3 - 0.4 0.7 - 0.8 1.2 - 1.3 1.7 - 1.8 2.5 - 2.6 3.4 - 3.5

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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