

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed351 **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.: 07/10/87	Elevation: 296 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6660350 AMG zone: 55	Runoff: No Data
Easting/Lat.: 781290 Datum: AGD66	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 Data	Pattern Type: No Data
Morph. Type: No Data	Relief: No Data
Elem. Type: Hillslope	Slope Category: Very gently sloped
Slope: 2 %	Aspect: 180 degrees

Surface Soil Condition (dry): Self-mulching

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Ug5.15
	Great Soil Group: Brown clay

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 brown (5YR3/3-Dry); ; Light medium clay; Moderate grade of structure, 10-20 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; Strong consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark reddish brown (5YR3/2-Moist); ; Medium clay; Strong grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 10-20 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; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz, coarse fragments; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Dark reddish brown (5YR3/3-Moist); , 5YR32, 10-20% , 15-30mm, Faint; Medium clay; Moderate 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; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 0.9 m	Reddish brown (5YR4/3-Moist); , 5YR32, 10-20% , 15-30mm, Faint; Light medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Weak grade of structure, 50-100 mm, Lenticular; 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; Diffuse, Smooth change to -
B2	0.9 - 2 m	Yellowish red (5YR4/6-Moist); ; Light medium clay; Weak grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 50-100 mm, Lenticular; 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, subangular, Ironstone, coarse fragments; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
C1	2 - 3 m	Pale yellow (2.5Y7/4-Moist); , 5YR46, 20-50% , 15-30mm, Prominent; Light clay; Massive grade of structure; Weak grade of structure, 2-5 mm, Cast; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8.8 (pH meter);

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C2 3 - 3.54 m Light grey (2.5Y7/2-Moist); , 10YR56, 2-10% , 5-15mm, Distinct; Light clay; Massive grade of structure; Weak grade of structure, 2-5 mm, Cast; Few (<1 per 100mm²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 8.8 (pH meter);

Morphological Notes

A11 In 35101 the granular structure is mostly in the top 2cm. Note layer of stone (?a stoneline) at 50cm. Is this a stratigraphic break? Other small stones are scattered through the top 90cm, several are dense black ironstones. Pieces of Garawi
A12 Ila Volcanics appear at 175. Very prominent faunal activity in parent material. The quartz and other rock pebbles above 90cm show that the soil includes some pedis sediment.

Observation Notes

Parent Rock: residual, from basalt, with colluvium from sandstone, non-calcareous Purlawaugh Formation

Site Notes

Sites 347-352 are spaced at 2m intervals; 353 is 90m from 352. 351 is in the hollow mid-way between two puffs.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
						Cmol (+)/kg			
0 - 0.1	6.71A	0.097A	14.67B	13.07	0.85	0.64			
0.1 - 0.2	7.63A	0.067A	20.15B	18.46	0.42	2.06			
0.3 - 0.4	8.92A	0.235A	18.59B	27.88	0.41	5.17			
0.7 - 0.8	8.91A	0.814A	10.67B	29.94	0.36	10.79			
1.2 - 1.3	9.02A	0.83A	8.68B	30.49	0.24	10.83			
2.5 - 2.6	8.75A	1.009A	7.9B	36.86	0.18	15.96			
3.4 - 3.5	8.74A	0.955A	5.36B	35.99	0.12	16.36			

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis		
								GV	CS	FS
m	%	%	mg/kg	%	%	%	Mg/m3			
0 - 0.1	<0.1B	2.47C	15J							
0.1 - 0.2	<0.1B	1.75C	4.3J							
0.3 - 0.4	1.9B	1.14C	<1J							
0.7 - 0.8	2.3B	0.9C	<1J							
1.2 - 1.3	10.2B	0.18C	<1J							
2.5 - 2.6	10B	0.45C	4.8J							
3.4 - 3.5	7.5B	0.48C	2.1J							

[illegible]

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,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