

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed135 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: N.A.(Tony) Barrett, Yera
Date Desc.: 19/12/86	Elevation: 253 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6660400 AMG zone: 55	Runoff: No Data
Easting/Lat.: 773100 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: 1 %	Aspect: 15 degrees

Surface Soil Condition (dry): Surface crust, Poached

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Ug5.34
	Great Soil Group: Grey 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 brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Light clay; Moderate grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); , N90, 0-2% , 0-5mm, Faint; Light medium clay; Weak grade of structure, 50-100 mm, Prismatic; Moderate grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Rough-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 %), Gypseous, Fine (0 - 2 mm), Crystals; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Dark brown (7.5YR3/2-Moist); , 7.5YR62, 0-2% , 0-5mm, Distinct; , N90, 0-2% , 0-5mm, Faint; Light medium clay; Moderate grade of structure, 20-50 mm, Prismatic; 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; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Very few (0 - 2 %), Gypseous, Fine (0 - 2 mm), Crystals; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B21k	0.55 - 1.1 m	Dark reddish brown (5YR3/3-Moist); , 7.5YR74, 0-2% , 5-15mm, Prominent; , 7.5YR44, 0-2% , 0-5mm, Faint; Medium clay; Moderate grade of structure, 50-100 mm, Lenticular; Weak 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; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B22	1.1 - 1.8 m	Brown (7.5YR4/4-Moist); , N20, 0-2% , 0-5mm, Prominent; Medium clay; Weak grade of structure, 100-200 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
R	1.8 - 2.6 m	Rock

Morphological Notes

A11 The granular structured topsoil is at the surface. Very sandy rough fabric of surface soil. The gypsum is probably cementing the whole A1.2 horizon. A sharp contact marked by coarse gravel at approx. 180cm. 250-260cm sample is of tertiary s

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A12 andstone (parent rock). Prominent manganese stain at 120cm. Note surface gypsum:
query aeolian. Soil retained.

Observation Notes

Parent Rock: residual, from sandstone, non-calcareous, sandstone Tertiary beds

Site Notes

Cracks might have been obscured by cattle. Sandstone intersected at approximately 2 meters. ?alluvium on sandstone.

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Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
						Cmol	(+)/kg		
0 - 0.02	6.82A	0.045A	7.81B	3.93	1.07	0.08			
0 - 0.1	6.59A	0.101A	6.6B	3.9	1.13	0.17			
0.1 - 0.2	7.08A	0.053A	9B	4.14	0.47	0.24			
0.3 - 0.4	8.71A	<0.1A	13.87B	10.62	0.25	1.27			
0.7 - 0.8	9.33A	0.26A	9.55B	12.33	0.19	2.92			
1.2 - 1.3	7.21A	0.486A	7.44B	12.22	0.16	4.28			
2.5 - 2.6	5.1A	0.404A	6.74B	13.19	0.17	4.41			

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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
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method