

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed149 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: Robin Gourley, Blue Hills
Date Desc.: 23/01/86	Elevation: 221 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6658350 AMG zone: 55	Runoff: No Data
Easting/Lat.: 763550 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: Terrace flat	Slope Category: Level
Slope: 0 %	Aspect: 180 degrees

Surface Soil Condition (dry): Self-mulching, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Ug6.1
	Great Soil Group: Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Medium clay; Moderate grade of structure, 5-10 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.1 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Field pH 8.3 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Very dark greyish brown (10YR3/2-Moist); , 10YR42, 0-2% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 10-20 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 0.95 m	Very dark greyish brown (10YR3/2-Moist); , 10YR53, 0-2% , 0-5mm, Faint; , 10YR74, 0-2% , 0-5mm, Distinct; Medium heavy clay; Massive grade of structure; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.95 - 1.9 m	Reddish brown (5YR4/4-Moist); , 5YR64, 0-2% , 15-30mm, Distinct; , 5YR31, 2-10% , 15-30mm, Prominent; Light medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Cast; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.8 (pH meter);
B22	1.9 - 2.83 m	Reddish brown (5YR4/4-Moist); , 5YR31, 2-10% , 15-30mm, Distinct; , 7.5YR62, 0-2% , 15-30mm, Prominent; Medium clay; Moderate grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.8 (pH meter);

Morphological Notes

A11p 149.02 is close to massive, ?cultivation pan. 250-260 is more like B2 than C. This resembles Myall Vale pH plots. MVPH. The sand in cracks suggests a younger alluvial addition. Soft lime at top of B 100-130, nodules below 200 ?suggest two l

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A12 lime events? The lime seems to occur as peaks on a continuous distribution with depth in B.

Observation Notes

Parent Rock: alluvial sediment, mixed texture, with lime, parna on third fan

Site Notes

Sand over clay. Drill depth uncertain.

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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 - 0.02	8.08A	0.125A	19.25B	11.59	2.04	0.6			
0 - 0.1	8.03A	0.22A	22.09B	13.07	1.55	1.14			
0.1 - 0.2	8.67A	0.103A	18.07B	13.16	0.97	1.86			
0.3 - 0.4	9.23A	0.245A	15.21B	16.87	0.64	3.79			
0.7 - 0.8	9.5A	0.528A	7.35B	16.42	0.68	9.05			
1.2 - 1.3	9.42A	0.767A	5.81B	14.72	0.68	8.71			
2.5 - 2.6	9.33A	0.895A	7.14B	20.31	0.77	12.38			

Depth	CaCO3	Organic C	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle Size		Analysis	
								GV	CS	FS %	Silt Clay
m	%	%									
0 - 0.02	0.1B	1.02C									20.1 45.5
0 - 0.1	0.2B	1.29C	12.4J								18.3 44.3
0.1 - 0.2	<0.1B	0.73C	8.4J								20.4 41.9
0.3 - 0.4	1.6B	0.59C	2.9J								22.8 44.4
0.7 - 0.8	1.5B	0.39C	8.7J								22.5 44.8
1.2 - 1.3	1.7B	0.17C	14.3J								17.6 37.8
2.5 - 2.6	1.8B	0.18C	4.6J								21.2 53.4

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