

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed243 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality:
Date Desc.: 06/08/87	Elevation: 241 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6665450 AMG zone: 55	Runoff: No Data
Easting/Lat.: 769250 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 plain	Slope Category: Level
Slope: 0 %	Aspect: No Data

Surface Soil Condition (dry):

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: Grey clay

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Very dark brown (10YR2/2-Moist); Very dark greyish brown (10YR3/2-Dry); , 10YR51, 0-2% , 5-15mm, Distinct; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Cast; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Very dark brown (10YR2/2-Moist); ; Medium heavy clay; Weak 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 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.7 m	Very dark brown (10YR2/2-Moist); , 10YR62, 2-10% , 0-5mm, Faint; Medium heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.7 - 1 m	Dark brown (7.5YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
B22	1 - 1.65 m	Brown (10YR4/3-Moist); , 10YR31, 0-2% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 50-100 mm, Prismatic; Weak grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
B23	1.65 - 2.3 m	Dark grey (10YR4/1-Moist); ; Heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
C	2.3 - 3.24 m	Brown (7.5YR4/2-Moist); ; Heavy clay; Moderate grade of structure, 100-200 mm, Lenticular; Weak grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;

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Morphological Notes

A11 Edgeroi Rubbish dump (Fitz), physical measures not taken. Soil moist. Fitz takes 30-40, 90-100, 70-80, 135-145 (of our 120-130), 190-200, 227- 237, 390-300, 312-322. Slicks occur below 150. Both organic and humus stains at 120-130. Very few

A12 very tiny carbonate nodules at 200-210; manganese coats have a metallic appearance; abundant roots on slick faces; carbonate falls off in volume at 180cm. Very few 10YR5/8 faunal mixing at 250-260. Basaltic gravel band, soft weathered, at

A13 310 (basal gravels), on clay at 235. Quick pH shows alkaline profile over acid. Carbonate flecks begin at 24cm. The bleach in 243.01 is in a faunal passage. Some smooth, rounded quartz grains in all horizons.

Observation Notes

Parent Rock: alluvial sediment, clay, fifth (eroded) fan

Site Notes

This is the profile taken during Fitzpatrick's visit. The site number was at first given in error to the Waugan 'stratigraphic' hole.

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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	7.45A	0.129A	25.47B	6.52	1.03	1.43			
0.1 - 0.2	8.66A	0.188A	31.01B	7.82	0.48	2.7			
0.3 - 0.4	9.1A	0.24A	28.25B	7.74	0.34	6.01			
0.7 - 0.8	8.89A	0.603A	24.51B	7.8	0.33	7.77			
1.2 - 1.3	8.68A	0.7219999A	25B	9.66	0.47	8.85			
2 - 2.1	7.26A	0.504A	25.58B	8.37	0.42	9.26			
2.5 - 2.6	6.3A	0.434A	23.66B	8.24	0.4	9.67			

Depth m	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
0 - 0.1	<0.1B	2.03C	16.5J								
0.1 - 0.2	0.5B	1.35C	3.6J								
0.3 - 0.4	1.4B	0.98C	<1J								
0.7 - 0.8	3.3B	0.46C	1.2J								
1.2 - 1.3	1.8B	0.09C	2.9J								
2 - 2.1	<0.1B	0.15C	3.1J								
2.5 - 2.6	<0.1B	0.15C	<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