

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed337 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: I.O.(Ian) Falkiner, Murrumbilla
Date Desc.: 13/03/87	Elevation: 343 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6654300 AMG zone: 55	Runoff: No Data
Easting/Lat.: 780800 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: Pediment	Slope Category: Gently inclined
Slope: 2 %	Aspect: 20 degrees

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Dy4.13
	Great Soil Group: Solodic soil

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage, Cultivation. Rainfed,

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.05 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Loamy sand; Weak grade of structure, 2-5 mm, Granular; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6.5 (pH meter); Common, very fine (0-1mm) roots; Abrupt, Smooth change to -
B21	0.05 - 0.1 m	Yellowish brown (10YR5/4-Moist); , 7.5YR32, 10-20% , 0-5mm, Prominent; Light clay; Strong grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 6.8 (pH meter); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
B22	0.1 - 0.25 m	Yellowish brown (10YR5/6-Moist); , 7.5YR32, 2-10% , 0-5mm, Prominent; , 5YR48, 0-2% , 5-15mm, Distinct; Light clay; Strong grade of structure, 50-100 mm, Prismatic; Strong grade of structure, 20-50 mm, Angular blocky; Rough-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;
B23	0.25 - 0.6 m	Yellowish brown (10YR5/6-Moist); , 7.5YR32, 2-10% , 0-5mm, Distinct; , 5YR48, 0-2% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 50-100 mm, Prismatic; Strong 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; Very strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B24k	0.6 - 1 m	Yellowish brown (10YR5/6-Moist); , 10R34, 10-20% , 5-15mm, Prominent; 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; Very strong consistence; 2-10%, coarse gravelly, 20-60mm, subangular platy, Ironstone, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
B25k	1 - 1.45 m	Dark red (7.5R3/6-Moist); , 10YR52, 0-2% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Lenticular; Weak grade of structure, 5-10 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; 0-2%, medium gravelly, 6-20mm, subangular platy, Ironstone, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9 (pH meter); Abrupt, Smooth change to -

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed337 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

D1	1.45 - 3.05 m	Light grey (2.5Y7/2-Moist); , 2.5Y72, 20-50% , 0-5mm, Prominent; , 7.5YR56, 2-10% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Weak grade of structure, 5-10 mm, Angular blocky; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Field pH 9 (pH meter);
D2	3.05 - 3.83 m	Light grey (2.5Y7/2-Moist); , 10YR43, 10-20% , 15-30mm, Distinct; Loamy sand; Massive grade of structure; Massive grade of structure; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Field pH 6 (pH meter);

Morphological Notes

A1	The angular blocky at 70-80 becomes wedge at 120-130. Prior red soil is prominent at 120-130, suggesting that horizon designation could be C. The red material at 120 has pH of 8. Strong brown colour at 250 is weathering stain in cracks. The
B21	weathered rock, massive at 250 grades up through biscuity to angular blocky at 150-170, with increasing decay. Core finished in basalt rock at 380 cm after passing through decayed rock with horizontal fissures, the fissures commence about
B22	170, and give a biscuity structure. 0-60, surface wash?, 60-145, Purlawaugh, 145+ Garawilla. Soil previously red.

Observation Notes

Parent Rock: prior soil, mudstone, basalt Purlawaugh Formation

Site Notes

This is the first site drilled on the Murrumbilla 'solodic' transect. It is 1 km from the gate into Murrumbilla, south along the fence, and then 120m west. The hole is next to the fence and the site has not been cultivated.

Observation ID: 1

Agency Name: CSIRO Division of Soils (QLD)

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 - 0.05	6.67A	0.263A	10.14B	6.69	1.38	0.02			
0.05 - 0.1	6.82A	0.096A	7.94B	5.67	1.19	0.01			
0.1 - 0.2	7.7A	0.062A	12.3B	10.24	1.18	0.17			
0.3 - 0.4	8.07A	0.064A	10.17B	12.18	0.78	0.46			
0.7 - 0.8	8.85A	0.224A	17.7B	25.45	0.64	2			
1.2 - 1.3	8.83A	0.173A	20.72B	40.52	0.65	4.33			
2.5 - 2.6	8.63A	0.121A	10.06B	26.76	0.44	4.53			
3.5 - 3.6	6.15A	0.122A	8.61B	19.01	0.52	2.94			

[illegible][illegible]

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed337 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

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