

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed238 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b> W.T. Ward	<b>Locality:</b> I.O.(Ian) Falkiner, Murrumbilla
<b>Date Desc.:</b> 05/08/87	<b>Elevation:</b> 276 metres
<b>Map Ref.:</b> Sheet No. : 8837_N 1:50000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6657000 AMG zone: 55	<b>Runoff:</b> No Data
<b>Easting/Lat.:</b> 778500 Datum: AGD66	<b>Drainage:</b> No Data

#### Geology

<b>ExposureType:</b> Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b> No Data
<b>Geol. Ref.:</b> No Data	<b>Substrate Material:</b> No Data

#### Land Form

<b>Rel/Slope Class:</b> No Data	<b>Pattern Type:</b> No Data
<b>Morph. Type:</b> No Data	<b>Relief:</b> No Data
<b>Elem. Type:</b> Terrace flat	<b>Slope Category:</b> Very gently sloped
<b>Slope:</b> 0 %	<b>Aspect:</b> No Data

**Surface Soil Condition (dry):** Surface crust

#### Erosion:

#### Soil Classification

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

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A1	0 - 0.1 m	Dark reddish grey (5YR4/2-Moist); Brown (7.5YR4/4-Dry); ; Clay loam; Massive grade of structure; Earthy fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
B21	0.1 - 0.25 m	Dark reddish brown (5YR3/4-Moist); ; 5YR32, 2-10% , 5-15mm, Distinct; Light clay; 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; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
B22	0.25 - 0.5 m	Dark reddish brown (5YR3/4-Moist); ; 5YR32, 0-2% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Lenticular; Weak grade of structure, 10-20 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; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B23	0.5 - 1 m	Dark reddish brown (2.5YR3/4-Moist); ; 2.5YR32, 0-2% , 5-15mm, Faint; Medium clay; Strong grade of structure, 100-200 mm, Prismatic; Weak grade of structure, 50-100 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; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
B24	1 - 1.4 m	Dark reddish brown (2.5YR3/4-Moist); ; Medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Weak grade of structure, 50-100 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%, medium gravelly, 6-20mm, subangular, Basalt, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
2B2	1.4 - 2.62 m	Dark reddish brown (2.5YR3/4-Moist); ; Medium heavy clay; Moderate grade of structure, 10-20 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; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter);

#### Morphological Notes

A1 Lower part of B2 has prismatic structure. Bed of rounded and subrounded basalt stones from 140-160cm is underlain by sandier sediment with manganese. Note basalt stones in core. Q terrace.

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**Observation Notes**

Parent Rock: alluvial sediment, mixed texture, with lime, second terraced fan

**Site Notes**

This site is in the headland of a wheat field, near strainer post on fence line. This site is equidistant to 154, 155, 172. Sampled after 10mm of rain. Vegetation mostly weeds including rolypoly. Push tube reaches large stone at 156cm. Grav

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Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.02	6.49A	0.062A	7.06B	5.19	1.51	0.15			
0 - 0.1	5.61A	0.16A	6.71B	4.39	1.03	0.23			
0.1 - 0.2	7.06A	0.124A	16.39B	13.05	0.93	0.989999			
0.3 - 0.4	8.6A	0.109A	13.33B	13.78	0.43	1.78			
0.7 - 0.8	9.17A	0.279A	8.809999B	14.64	0.4	4.05			
1.2 - 1.3	9.28A	0.375A	8.38B	16.26	0.44	6.99			
2.5 - 2.6	9.15A	0.545A	9.86B	22.03	0.57	9.45			

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**Laboratory Analyses Completed for this profile**

15A2_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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