

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed344 **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> 19/08/87	<b>Elevation:</b> 291 metres
<b>Map Ref.:</b> Sheet No. : 8837_N 1:50000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6656250 AMG zone: 55	<b>Runoff:</b> No Data
<b>Easting/Lat.:</b> 780350 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> Pediment	<b>Slope Category:</b> No Data
<b>Slope:</b> %	<b>Aspect:</b> 360 degrees

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

#### 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> N/A
	<b>Great Soil Group:</b> Solodic soil

#### Site Disturbance:

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A1	0 - 0.1 m	Dark greyish brown (10YR4/2-Moist); Pale brown (10YR6/3-Dry); ; Sand; Massive grade of structure; Weak grade of structure, 2-5 mm, Granular; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
A21	0.1 - 0.2 m	Greyish brown (10YR5/2-Moist); ; Loamy sand; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 5.8 (pH meter); Few, very fine (0-1mm) roots;
A22c	0.2 - 0.3 m	Light brownish grey (10YR6/2-Moist); ; Loamy sand; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
B21	0.3 - 0.55 m	Yellowish brown (10YR5/4-Moist); , 10YR42, 10-20% , 15-30mm, Distinct; , 10YR72, 0-2% , 5-15mm, Prominent; Light clay; Moderate grade of structure, 100-200 mm, Prismatic; Weak grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
B22	0.55 - 1 m	Strong brown (7.5YR5/6-Moist); , 10YR52, 20-50% , 15-30mm, Prominent; , 10YR62, 0-2% , 0-5mm, Prominent; Light medium clay; Weak grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
B23	1 - 1.4 m	Brown (7.5YR4/4-Moist); , 10YR62, 2-10% , 5-15mm, Distinct; , 7.5YR54, 2-10% , 5-15mm, Distinct; Light clay; Weak grade of structure, 100-200 mm, Angular blocky; Weak grade of structure, 2-5 mm, Cast; Sandy (grains prominent) fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -

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C	1.4 - 2.4 m	Light grey (10YR7/2-Moist); , 10YR53, 2-10% , 5-15mm, Prominent; Light clay; Massive grade of structure; Sandy (grains prominent) fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8.5 (pH meter); Diffuse, Smooth change to -
2A	2.4 - 3.05 m	Greyish brown (2.5Y5/2-Moist); , 10YR63, 0-2% , 5-15mm, Distinct; Light clay; Moderate grade of structure, 100-200 mm, Lenticular; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Veins; Field pH 8.8 (pH meter);
2B2	3.05 - 3.7 m	Greyish brown (10YR5/2-Moist); , 10YR64, 2-10% , 5-15mm, Distinct; Light medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Veins; Field pH 8.8 (pH meter); Diffuse, Smooth change to -
2C	3.7 - 4.71 m	Strong brown (7.5YR5/6-Moist); , 2.5Y52, 20-50% , 15-30mm, Prominent; Light clay; Massive grade of structure; Smooth-ped fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, medium gravelly, 6-20mm, rounded, Consolidated rock (unidentified), coarse fragments; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5

### **Morphological Notes**

A1	The A2 biscuity structure is probably induced by drilling into a hardset massive horizon; note sandy fabric. A2c grades to 10YR7/2 at base. 70-80 has few flecks 5YR5/4 in centre of peds, some cast granules in worm channels, and several sma
A21	ll black charcoal fragments. Break at 240 from sandier to clayier and limier is clear; stone in crack at 255. The stain of unknown origin at 250-260 is probably from weathering, but it is in the mass of the material, not in cracks. The carb
A22c	onate occurs as veins and nodules, and as coatings on slickensided faces. 280-310 shows a carbonate-coated fissure with inwashed sand, suggesting a prismatic structure, the remnant of a buried soil. 344.09 has very few mn stains. At 380, 34
B21	4.09 grades to biscuity structure, sandier clay overlying gravelly clay and gravel at 435cm, which stops hole. A second drill hole reached gravel at the same level and continued in it to 471cm, where drilling had to stop. The most useful s
B22	ample from all this is from 400-410. The gravels contain basalt (?Garawilla) and other stones. A stone in situ at 374cm also. I believe that the material below 240 cm is a buried soil, see horizon designations.

### **Observation Notes**

Parent Rock: , , colluvium, thick, with basalt

### **Site Notes**

Site 344 is ca 350m from 343. The surface is hard-setting to loose, with abundant coarse sand. Margaret Heape provides these comments on the vegetation on the transect: Several changes in the number and variety of species take place downslo

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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