

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** na020 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b>	W.T. Ward	<b>Locality:</b>	University of Sydney, I.A.Watson Research Farm
<b>Date Desc.:</b>	25/05/88	<b>Elevation:</b>	221 metres
<b>Map Ref.:</b>	Sheet No. : 8837_S 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6647080 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	769450 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>	Hillslope	<b>Slope Category:</b>	Very gently sloped
<b>Slope:</b>	1 %	<b>Aspect:</b>	180 degrees

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

#### 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>	Ug5.16
		<b>Great Soil Group:</b>	Grey clay

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11p	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); Dark grey (10YR4/1-Dry); ; Light clay; Strong grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Sharp, Smooth change to -
A12x	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); , 7.5YR62, 0-2% , 5-15mm, Distinct; Light clay; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Firm consistence; 0-2%, coarse gravelly, 20-60mm, subrounded, Quartz, coarse fragments; Field pH 6.6 (pH meter);
A13x	0.25 - 0.55 m	Dark brown (7.5YR3/2-Moist); ; Light clay; Weak grade of structure, 50-100 mm, Lenticular; Massive grade of structure; Smooth-ped fabric; Moderately moist; Firm consistence; Field pH 8 (pH meter);
A14	0.55 - 1 m	Dark brown (7.5YR3/2-Moist); , 7.5YR62, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 50-100 mm, Lenticular; Massive grade of structure; Smooth-ped fabric; Moderately moist; Firm consistence; Field pH 8.6 (pH meter); Diffuse, Smooth change to -
2B2	1 - 1.9 m	Grey (10YR5/1-Moist); , 7.5YR32, 0-2% , 5-15mm, Distinct; Light clay; Massive grade of structure; Weak grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.8 (pH meter);
B2	1.9 - 2.89 m	Greyish brown (10YR5/2-Moist); , 7.5YR32, 0-2% , 0-5mm, Distinct; Light clay; Massive grade of structure; Weak grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Moderately moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, angular, Quartz, coarse fragments; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.8 (pH meter);

#### Morphological Notes

A11p	0-10cm structure formed by cultivation. The top metre is very moist through irrigation and difficult to describe well. The dense character above 50cm indicates structural collapse under cultivation. Small stones occur in the profile down to
A12x	150cm. Patches of yellowish brown (10YR5/4) sand occur below 250cm, suggesting transition to parent sediment. Fragments of ironstone occur with angular quartz below 250cm. Field textures and field pH estimated from lab results.

#### Observation Notes

Parent Rock: residual, mixed texture, with lime, Rolling Downs Group

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Slope 1. Tilth suggests that the soil was tilled wet to give big lumps plus fine material. No visible cracks.



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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