

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** na022 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	D. McGarry	Locality:	University of Sydney, I.A.Watson Research Farm
Date Desc.:	24/02/88	Elevation:	226 metres
Map Ref.:	Sheet No. : 8837_S 1:50000	Rainfall:	No Data
Northing/Long.:	6647400 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	770610 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:	Hillslope	Slope Category:	Very gently sloped
Slope:	1 %	Aspect:	150 degrees

Surface Soil Condition (dry): Surface crust, Recently cultivated

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:	Black earth

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.08 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); , 10YR86, 0-2% , 0-5mm, Distinct; Clay loam; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A12p	0.08 - 0.2 m	Very dark grey (10YR3/1-Moist); ; Clay loam; Massive grade of structure; Earthy fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
A13	0.2 - 0.37 m	Very dark grey (10YR3/1-Moist); , N20, 0-2% , 5-15mm, Distinct; Clay loam; Moderate grade of structure, 2-5 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.37 - 0.55 m	Greyish brown (10YR5/2-Moist); , 10YR31, 2-10% , 5-15mm, Prominent; Medium clay; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8 (pH meter);
B22	0.55 - 0.8 m	Greyish brown (10YR5/2-Moist); , 10YR31, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8.5 (pH meter); Clear, Smooth change to -
B23	0.8 - 1.4 m	Greyish brown (10YR5/2-Moist); , 10YR31, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, Consolidated rock (unidentified), coarse fragments; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (pH meter); Diffuse, Smooth change to -
C	1.4 - 2 m	Greyish brown (10YR5/2-Moist); , 10YR31, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 10-20 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; 20-50%, coarse gravelly, 20-60mm, angular, Sandstone, coarse fragments; Common (10 - 20 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Field pH 8.5 (pH meter); Sharp, Smooth change to -

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D1	2 - 3.05 m	Light grey (10YR7/1-Moist); , N20, 2-10% , 0-5mm, Distinct; Silty clay; Moderate 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; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (pH meter);
D2	3.05 - 3.8 m	Light grey (10YR7/1-Moist); ; Silty clay; Moderate 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; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Veins; Field pH 8.5 (pH meter);
D3	3.8 - 4.1 m	Light grey (10YR7/1-Moist); , N20, 2-10% , 0-5mm, Distinct; Silty clay; Strong grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Many (20 - 50 %), Calcareous, Very coarse (20 - 60 mm), Veins; Field pH 8.5 (pH meter);

Morphological Notes

A11p	The second colour in na02201 is sand grains, perhaps washed downslope. Na02202 is a weak to moderate plough pan. The organic material in na02203 is a burnt (carbon) tree root. Na02204 is 50:50 A and B, but is described as if B dominant. Na0
A12p	2207 has abundant angular sandstone pieces - so is termed C, and sampled. Core sample from 312 to 373cm was not found, so a sample was taken at 400-410cm. (The comment is mute on this point but it seems that the missing part of the core was
A13	later found and sampled, see profile). Na02208 has moderately pedal clay in broad vertical bands, associated with carbonate in pockets and bands. Na02209 is 50:50 carbonate band (vertical) and grey clay. The top of the profile is possibly
B21	colluvium from sandy beds at higher levels. Carbonate-rich Rolling Downs marl extends from 30-200cm. It includes angular red (2.5YR5/6) sandstone and rounded quartz fragments from 140-160cm, resting sharply on light grey (N7/) soapy siltsto
B22	nes, with a prominent thick vein of white (10YR8/1) carbonate to 429cm. The soil is poorly described as a black earth: more appropriately, no suitable group.

Observation Notes

Parent Rock: residual, clay, marl Rolling Downs Group

Site Notes

On a higher level than na017, with chalk and ferruginized stones scattered on the surface. A weak sandy clay crust covers the surface.

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[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
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method