

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed201 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b>	D. McGarry	<b>Locality:</b>	Peter Wall, Woolangabba
<b>Date Desc.:</b>	04/06/86	<b>Elevation:</b>	209 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6651200 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	762000 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>	Level
<b>Slope:</b>	0 %	<b>Aspect:</b>	No Data

**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

A11	0 - 0.1 m	Very dark grey (10YR3/1-Moist); ; Light clay; Weak grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, subangular tabular, Quartz, coarse fragments; Field pH 8.7 (pH meter);
A12	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); , 10YR63, 0-2% , 0-5mm, Distinct; Light medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, subangular tabular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter);
A13	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); , 10YR62, 2-10% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1 m	Very dark grey (10YR3/1-Moist); ; 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; Strong consistence; 0-2%, medium gravelly, 6-20mm, rounded, Basalt, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A15	1 - 1.75 m	Dark grey (10YR4/1-Moist); , 10YR73, 2-10% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Clear, Smooth change to -
B21	1.75 - 2.67 m	Brown (7.5YR5/4-Moist); , 10YR31, 2-10% , 15-30mm, Prominent; Light clay; Weak grade of structure, 50-100 mm, Prismatic; 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 firm consistence; 0-2%, coarse gravelly, 20-60mm, subangular tabular, Consolidated rock (unidentified), coarse fragments; Common (10 - 20 %), Calcareous, Very coarse (20 - 60 mm), Soft segregations; Field pH 9 (pH meter);

#### Morphological Notes

A11 Top 2cm of the profile is loose, but would have been attached to rest of soil in field. Not

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A12                      axis as silting on lens faces (ped faces). From 190 large amounts of soft carbonate  
mainly in vertical channels. From 190 gravels present - various types <1% of total soil  
volume, randomly located. Sand infills continue to 267cm, but dimin  
A13                      ish below 150cm. Similar to MVpH but deeper topsoil.

**Observation Notes**

Parent Rock: alluvial sediment, mixed texture, with lime, parna on third fan

**Site Notes**

Waterworn quartz gravels on surface (80mm dia). This area floods from the stream to the south of here. Good depth of self  
mulching topsoil (8 cm deep).

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**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 - 0.02	8.51A	0.182A	26.78B	12.38	1.94	1.23			
0 - 0.1	8.82A	0.224A	25.95B	12.97	1.51	3.01			
0.1 - 0.2	9.14A	0.256A	23.21B	15.22	1.01	4.61			
0.3 - 0.4	9.28A	0.389A	18.56B	14.67	0.87	7.63			
0.7 - 0.8	9.45A	0.736A	8.73B	15.74	0.93999	12.91			
					99				
1.2 - 1.3	9.57A	0.695A	6.44B	13.3	0.88	11.23			
2.5 - 2.6	9.77A	0.655A	5.07B	10.97	0.55	9.21999			
						9			

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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