

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed131 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b>	K.J. Smith	<b>Locality:</b>	Green Timbers
<b>Date Desc.:</b>	22/05/85	<b>Elevation:</b>	220 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6660800 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	762100 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>	165 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>	Ug5.12
		<b>Great Soil Group:</b>	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); ; Light medium clay; Strong grade of structure, 2-5 mm, Granular; Earthy fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 8.3 (pH meter); Few, fine (1-2mm) roots; Sharp, Smooth change to -
A12	0.08 - 0.25 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); ; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, subangular tabular, Basalt, coarse fragments; Field pH 8.7 (pH meter);
A13	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); ; Medium heavy 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; Weak consistence; 0-2%, medium gravelly, 6-20mm, angular platy, Basalt, coarse fragments; Field pH
A14	0.55 - 0.85 m	Very dark grey (10YR3/1-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; 2-10%, medium gravelly, 6-20mm, angular, Basalt, coarse fragments; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
C	0.85 - 1.58 m	Brown (10YR5/3-Moist); , 10YR64, 10-20% , 15-30mm, Distinct; , 10YR82, 2-10% , 30-mm, Prominent; Light medium clay; Massive grade of structure; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 50-90%, coarse gravelly, 20-60mm, angular tabular, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Very coarse (20 - 60 mm), Soft segregations; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Veins; Field pH 8.8 (pH meter);

#### Morphological Notes

A11p	Smith and Ward. Horizon designation according to new rules. Ap shearvane, penetrometer and tensile strength not measureable. A1 contains quartz coarse fragments. 131.04 ped faces tend towards slicks, but no proper slicks are developed.
A12	05 shearvanes and penetrometer do not penetrate. Carbonate nodules are uniform throughout. 131.05 is stony light medium clay. Fresher rock below 130, 2.5Y5/0.

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Parent Rock: residual, basalt, sand Nandewar Volcanics

**Site Notes**

A large number of waterworn quartz gravels up to 100mm diameter and coated with iron occur on the surface. There are also large basalt lumps to 200mm diameter. The surface is very good self mulching. Stones are sarsens (GMR) or ?aboriginal

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Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
						Cmol	(+)/kg		
0 - 0.02	7.99A	0.127A	49.42B	7.14	1.87	0.15			
0 - 0.08	8.17A	0.128A	54.06B	8.82	1.81	0.15			
0.1 - 0.2	8.52A	0.144A	57.61B	9.27	0.76	0.26			
0.3 - 0.4	8.61A	0.137A	55.8B	10.02	0.53	0.52			
0.7 - 0.8	8.91A	0.148A	51.65B	10.41	0.47	1.49			
1.2 - 1.3	9.03A	0.217A	47.9B	15.45	0.55	3.06			

[illegible]

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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