

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed102 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b>	M.E. Heape	<b>Locality:</b>	W.G.(George) Baxter, Smithfield
<b>Date Desc.:</b>	30/04/86	<b>Elevation:</b>	320 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6665100 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	778700 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>	Very gently sloped
<b>Slope:</b>	1 %	<b>Aspect:</b>	270 degrees

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

#### 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>	Dy4.42
		<b>Great Soil Group:</b>	Solonchak

**Site Disturbance:** Complete clearing. Pasture, native or improved, cultivated at some stage

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); ; Loamy sand; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6.5 (pH meter); Common, very fine (0-1mm) roots;
A12	0.1 - 0.28 m	Dark brown (7.5YR3/2-Moist); ; Loamy sand; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A2	0.28 - 0.34 m	Brown (7.5YR5/4-Moist); ; Sand; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
B2	0.34 - 0.77 m	Reddish brown (5YR5/4-Moist); , 10YR73, 0-2% , 5-15mm, Distinct; Light clay; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
C1	0.77 - 1 m	Greyish brown (10YR5/2-Moist); , 7.5YR32, 0-2% , 5-15mm, Distinct; , 2.5Y84, 2-10% , 30-mm, Prominent; Light clay; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
C2	1 - 2.02 m	Brown (7.5YR4/4-Moist); ; Coarse sand; Massive grade of structure; Moderately moist; Field pH 8 (pH meter);

#### Morphological Notes

A11	Layer 3 is the A2, and layer 4 is the top of the B2. Layer 5 is in the boundary from B2 to C horizon. There are many fragments (decayed stones) of sandstone in layer 5. From 100cm, the profile is pure sandstone - hard, brittle and brownish/
A12	dark red.

#### Observation Notes

Parent Rock: residual, sandstone, from sandstone, non-calcareous Pilliga Sandstone

#### Site Notes

0-100 sand, soft, wet on brownish then yellowish brown sandy clay. At 202 hole stops in feldspathic sandstone. At 200 there is thin root mat in a rock fissure.

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Project Code: EDCERO1 Site ID: 3a  
Agency Name: CSIRO Division of Soils (QLD)

**Laboratory Test Results:**

Depth m	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
		dS/m	Ca	Mg	K	Na Cmol (+)/kg			Acidity
0 - 0.02	6.09A	0.034A	0.8B	0.63	0.22	0.97			
0 - 0.1	5.55A	0.242A	<0.1B	0.56	0.41	0.06			
0.1 - 0.2	4.6A	0.069A	<0.1B	0.45	0.42	0.04			
0.28 - 0.34	5.5A	0.04A	<0.1B	0.57	0.27	0.22			
0.34 - 0.4	5.66A	0.086A	<0.1B	5.46	0.47	1.77			
0.7 - 0.8	6.4A	0.132A	<0.1B	15.56	0.66	3.2			
1.2 - 1.3	8.16A	0.047A	<0.1B	2.95	0.16	0.92			

Depth  m	CaCO <sub>3</sub>	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
	%	%	mg/kg	%	%	%	Mg/m <sup>3</sup>	GV	CS	FS %	Silt Clay
0 - 0.02	<0.1B	2.33C									3.6    8
0 - 0.1	<0.1B	2.22C	13.2J								6.1    10.8
0.1 - 0.2	<0.1B	1.16C	4.1J								5       10.6
0.28 - 0.34	<0.1B	0.57C	2.4J								5.8    7.1
0.34 - 0.4	<0.1B	0.58C	<1J								6       21.8
0.7 - 0.8	<0.1B	0.17C	<1J								6.9    31.2
1.2 - 1.3	<0.1B	<0.01C	<1J								9.5    8.6

[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