

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed185 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b> W.T. Ward	<b>Locality:</b> J.R. Armitage, Gruie
<b>Date Desc.:</b> 03/02/86	<b>Elevation:</b> 226 metres
<b>Map Ref.:</b> Sheet No. : 8837_N 1:50000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6653500 AMG zone: 55	<b>Runoff:</b> No Data
<b>Easting/Lat.:</b> 766000 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> Very gently sloped
<b>Slope:</b> 0 %	<b>Aspect:</b> No Data

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

#### 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> Ug6.1
	<b>Great Soil Group:</b> Grey clay

**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); Dark brown (7.5YR3/2-Dry); , 10YR53, 0-2% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 10-20 mm, Platy; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); , 10YR74, 0-2% , 0-5mm, Faint; Medium heavy clay; Massive grade of structure; Earthy fabric; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.65 m	Dark brown (7.5YR3/2-Moist); , 10YR84, 0-2% , 5-15mm, Distinct; , 7.5YR44, 0-2% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 50-100 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8 (pH meter); Gradual, Smooth change to -
B2	0.65 - 1.05 m	Dark brown (7.5YR3/2-Moist); , 10YR84, 0-2% , 0-5mm, Faint; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
2B21	1.05 - 2 m	Light yellowish brown (10YR6/4-Moist); , 7.5YR32, 2-10% , 5-15mm, Faint; , 10YR84, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Weak grade of structure, 20-50 mm, Lenticular; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
2B22	2 - 2.75 m	Dark reddish brown (5YR3/3-Moist); , 7.5YR32, 2-10% , 5-15mm, Faint; , 10YR53, 0-2% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 2-5 mm, Cast; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.8 (pH meter);

#### Morphological Notes

A11	Lime occurs generally as sand size nodules (very small). Patches of sand in small pockets start at about 50cm. Weathered depositional banding at 105 indicate buried soil below. I think this is a relatively young sandy wash (to 105cm) over a
A12	prior soil like that seen in gravel pit near Spring Creek, Wee Waa road.

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**Site Notes**

Red soil ridge 1km north, running east-west. Very wide discontinuous cracks. Crusting surface. Heavily grazed and dry site with Noogoora burr, thistles and dock.

Parent Rock: , , first terraced fan

**Observation ID: 1**

**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	7.96A	0.074A	14.83B	10.13	1.53	0.51			
0 - 0.1	8.3A	0.105A	16.43B	12.27	1.28	1.38			
0.1 - 0.2	8.95A	0.203A	18B	15.8	0.64	2.35			
0.3 - 0.4	9.13A	0.215A	11.45B	18.64	0.54	4.53			
0.7 - 0.8	9.57A	0.706A	5.05B	20.26	0.65	10.27			
1.2 - 1.3	8.82A	0.96A	6.56B	24.01	0.76	12.49			
2.5 - 2.6	9.46A	0.74A	6.65B	24.7	0.7	12			

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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