

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed044 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b>	W.T. Ward	<b>Locality:</b>	stock route, near Bundaroo
<b>Date Desc.:</b>	10/12/86	<b>Elevation:</b>	227 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6672600 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	763800 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 plain	<b>Slope Category:</b>	Level
<b>Slope:</b>	0 %	<b>Aspect:</b>	No Data

**Surface Soil Condition (dry):** Self-mulching, Trampled

#### 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:** 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); ; Heavy clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7.5 (pH meter); Few, very fine (0-
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); ; Medium heavy clay; Strong 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; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.75 m	Dark brown (7.5YR3/2-Moist); , 7.5YR74, 0-2% , 0-5mm, Faint; Medium heavy clay; Moderate grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) 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 8.7 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.75 - 1 m	Dark reddish grey (5YR4/2-Moist); , 5YR63, 2-10% , 5-15mm, Distinct; , 7.5YR32, 2-10% , 5-15mm, Faint; Medium clay; Weak grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Very few (0 - 2 %), Gypseous, Fine (0 - 2 mm), Crystals; Field pH 9 (pH meter);
B22	1 - 1.9 m	Brown (7.5YR5/4-Moist); , N30, 2-10% , 0-5mm, Prominent; , 7.5YR52, 0-2% , 0-5mm, Distinct; Medium clay; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter);
B23	1.9 - 2.9 m	Brown (7.5YR4/2-Moist); , 2.5YR44, 2-10% , 0-5mm, Distinct; , 7.5YR62, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; Moderate 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; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter);

#### Morphological Notes

A11 Sample 070-080cm appeared to be very tough and could not be fractured using the

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A12      .5YR4/4 cast granules occur below 120cm. A horizon could be subdivided on structure (below 20cm). Profile typifies oldest planar surface?

**Observation Notes**

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

**Site Notes**

2.4 km NE along stockroute, near fence line crossing stock route. Seedbed prepared in fields on either side. Not many cracks.

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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	6.96A	0.132A	19.26B	8.73	2.46	0.76			
0 - 0.1	6.77A	0.162A	20.43B	9.719999	1	1.44			
0.1 - 0.2	8.43A	0.155A	21.87B	11.94	0.62	2.82			
0.3 - 0.4	9.2A	0.298A	20.27B	11.28	0.47	6.19			
0.7 - 0.8	8.96A	0.575A	21.29B	12.9	0.89	8.61			
1.2 - 1.3	8.96A	0.639A	22.7B	14.57	1.09	8.93			
2.5 - 2.6	8.72A	0.62A	22.05B	16.37	1.21	9.62			

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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