

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed023 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

**Site Information**

<b>Desc. By:</b>	W.T. Ward	<b>Locality:</b>	Twynam Pastoral Co., Boolcarrol
<b>Date Desc.:</b>	06/02/86	<b>Elevation:</b>	202 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6675200 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	754200 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, 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>	Brown clay

**Site Disturbance:** Cultivation. Rainfed

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

A11p	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); Dark greyish brown (10YR4/2-Dry); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.1 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); Dark greyish brown (10YR4/2-Dry); ; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Dark brown (7.5YR3/2-Moist); , 10YR72, 0-2% , 0-5mm, Distinct; Heavy clay; Massive grade of structure; 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); Few, very fine (0-1mm) roots;
A14	0.55 - 0.9 m	Dark reddish brown (5YR3/2-Moist); , 7.5YR74, 0-2% , 0-5mm, Distinct; Heavy clay; Weak grade of structure, 100-200 mm, Lenticular; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; 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; Diffuse, Smooth change to -
B21	0.9 - 1.4 m	Dark reddish brown (5YR3/3-Moist); , 7.5YR74, 0-2% , 0-5mm, Distinct; Light medium clay; Weak grade of structure, 100-200 mm, Lenticular; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; 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; Diffuse, Smooth change to -
B22	1.4 - 2.71 m	Dark reddish brown (5YR3/3-Moist); , 7.5YR64, 0-2% , 0-5mm, Faint; Light medium clay; Moderate grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.8 (pH meter);

**Morphological Notes**

A11p A B2d defined in this soil on its shiny fabric beneath a higher, earthy B2. B2d has slicks and wedges.

**Observation Notes**

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**Site Notes**

Manager of Boolcarrol Station would like a copy of chemical results when available. This site is a prepared seedbed. On the red-brown soils of Boolcarrol Farm discs work well but hardly scratch the surface of the red country of Boolcarrol S

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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	8.2A	0.107A	30.39B	10.85	2.19	1.69			
0 - 0.1	8.07A	0.134A	26.74B	15.46	1.81	2.07			
0.1 - 0.2	8.55A	0.231A	28.15B	14.82	1.25	3.74			
0.3 - 0.4	9.14A	0.283A	25.99B	14.79	0.91	6.84			
0.7 - 0.8	9.16A	0.43A	25.03B	16.05	1.11	10.79			
1.2 - 1.3	8.79A	1.002A	24.61B	16.96	1.37	11.6			
2.5 - 2.6	8.96A	0.809A	23.39B	15.5	0.97	9.83			

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle		Size	Analysis	
								GV	CS		FS	Silt
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.02	<0.1B	0.88C									17.6	60.5
0 - 0.1	<0.1B	0.82C	21.6J								18.7	58
0.1 - 0.2	<0.1B	0.69C	14.3J								17.2	57.8
0.3 - 0.4	0.4B	0.47C	12.7J								17.9	58.6
0.7 - 0.8	0.9B	0.34C	21J								19.3	62.5
1.2 - 1.3	0.6B	0.12C	20.5J								19.5	65
2.5 - 2.6	0.2B	0.21C	14.6J								18	56

[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