

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed077 **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 Bald Hill
<b>Date Desc.:</b> 11/03/85	<b>Elevation:</b> 211 metres
<b>Map Ref.:</b> Sheet No. : 8837_N 1:50000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6668000 AMG zone: 55	<b>Runoff:</b> No Data
<b>Easting/Lat.:</b> 758200 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):** Surface crust

#### 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> Ug5.15
	<b>Great Soil Group:</b> Grey clay

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11p	0 - 0.04 m	Brown (10YR5/3-Moist); Very pale brown (10YR7/3-Dry); , 10YR42, 10-20% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Quartz, coarse fragments; Field pH 7 (pH meter); Common, fine (1-2mm) roots; Clear, Smooth change to -
A12	0.04 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded tabular, Basalt, coarse fragments; Field pH 7.7 (pH meter); Common, very fine (0-1mm) roots;
A13	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); , 10YR73, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 10-20 mm, Subangular 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 7.5 (pH meter); Common, very fine (0-1mm) roots;
A14	0.25 - 0.65 m	Very dark greyish brown (10YR3/2-Moist); , 10YR73, 2-10% , 5-15mm, Distinct; Medium heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8.5 (pH meter); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.65 - 1 m	Reddish brown (5YR4/3-Moist); , 7.5YR32, 10-20% , 5-15mm, Faint; , 10YR73, 0-2% , 15-30mm, Distinct; Medium heavy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
B22	1 - 2.4 m	Dark reddish brown (5YR3/3-Moist); , 10YR32, 2-10% , 5-15mm, Distinct; , 2.5YR48, 0-2% , 0-5mm, Prominent; Light medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Weak consistence; Very few (0 - 2 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8.3 (pH meter); Diffuse, Smooth change to -

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C      2.4 - 3.45 m      Reddish brown (5YR4/3-Moist); , 5YR58, 20-50% , 15-30mm, Distinct; , 10YR31, 0-2% , 0-5mm, Distinct; Coarse sandy clay loam; Massive grade of structure; Moderate grade of structure, 5-10 mm, Angular blocky; Sandy (grains prominent) fabric; Moderately moist; Weak consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter);

**Morphological Notes**

A11p      0-4cm surface wash including road metal with basalt. Field pH for sample 7 estimated from lab pH.

**Observation Notes**

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

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**Laboratory Test Results:**

Depth m	pH	1:5 EC dS/m	Exchangeable Cations			Exchangeable Acidity Na Cmol (+)/kg	CEC	ECEC	ESP %
			Ca	Mg	K				
0 - 0.02	7.79A	0.114A	22.82B	8.309999	2.22	0.46			
0 - 0.04	7.39A	0.129A	17.16B	7.88	0.8	7.03			
0.04 - 0.1	7.54A	0.107A	26.25B	10.14	1.21	1.28			
0.1 - 0.2	8.09A	0.084A	27.31B	11.46	0.8	2.05			
0.3 - 0.4	9A	0.218A	23.99B	11	0.65	4.69			
0.7 - 0.8	9.1A	0.319A	22.48B	11.17	0.98	9.15			
1.2 - 1.3	8.6A	0.921A	29.09B	13.37	1.13	10.93			
2.5 - 2.6	8.85A	0.737A	17.44B	7.23	0.75	6.83			

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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