

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed124 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b> G.M. Roberts	<b>Locality:</b> B.E.(Bruce) Mackey, Wire Lagoon
<b>Date Desc.:</b> 30/03/85	<b>Elevation:</b> 194 metres
<b>Map Ref.:</b> Sheet No. : 8837_N 1:50000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6661300 AMG zone: 55	<b>Runoff:</b> No Data
<b>Easting/Lat.:</b> 742900 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> 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> Brown clay

**Site Disturbance:** Cultivation. Irrigated, past or present

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11	0 - 0.08 m	Dark reddish brown (5YR3/3-Moist); Brown (7.5YR5/4-Dry); ; Fine sandy loam; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Firm consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.08 - 0.3 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/3-Dry); ; Light medium clay; Strong grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A13	0.3 - 0.58 m	Dark yellowish brown (10YR3/4-Moist); Dark yellowish brown (10YR3/4-Dry); , 7.5YR32, 0-2% , 0-5mm, Faint; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Cast; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
B21k	0.58 - 1 m	Brown (7.5YR4/3-Moist); , 10YR83, 10-20% , 15-30mm, Distinct; Light medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Weak grade of structure, 2-5 mm, Cast; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Very firm consistence; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Veins; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B22k	1 - 2 m	Brown (7.5YR4/4-Moist); , 7.5YR42, 20-50% , 15-30mm, Faint; , 10YR83, 10-20% , 5-15mm, Distinct; Silty clay; Moderate grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 5-10 mm, Angular blocky; Rough-ped fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Firm consistence; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Veins; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
C	2 - 2.66 m	Brown (7.5YR4/4-Moist); , 10YR21, 0-2% , 0-5mm, Faint; , 10YR81, 0-2% , 0-5mm, Prominent; Light clay; Weak grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Rough-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Few (2 - 10 %), Gypseous, Medium (2 -6 mm), Crystals; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (pH meter);

#### Morphological Notes

A11 The surface has very many close cracks. The 124.06 carbonate is in horizon but at 225cm. From 240 carbonate drops off and manganese increases. Identified first as mter, the profile is more like low terrace, calcareous, compare pit where we

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A12 collected gravel. We are between two high embankments on either side of road. 250-260 is possibly a burial. 100m N is water bore no. 30266/1,2,3 with BM/FW/421.

**Observation Notes**

Parent Rock: alluvial sediment, mixed texture, with lime, second terraced fan, Namoi

**Site Notes**

Site is between two high embankments on either side of road.

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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	6.62A	0.143A	9.09B	5.06	2.99	0.13			
0 - 0.08	6.82A	0.116A	6.07B	3.22	1.7	0.49			
0.1 - 0.2	7.98A	0.076A	15.63B	7.9	1.16	1.33			
0.3 - 0.4	9.04A	0.122A	14.79B	9.33	0.7	3.1			
0.7 - 0.8	8.76A	0.707A	12.07B	9.75	0.57	4.16			
1.2 - 1.3	8.26A	1.429A	10.18B	11.91	0.5	5.55			
2.5 - 2.6	8.44A	1.479A	8.46B	18.55	0.59	9.54			

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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