

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed058 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b>	D. McGarry	<b>Locality:</b>	P.C.S.(Peter) McDouall, Bald Hill
<b>Date Desc.:</b>	02/04/85	<b>Elevation:</b>	200 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6670500 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	754100 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):** Hardsetting, Poached

#### 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:

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11	0 - 0.05 m	Very dark greyish brown (10YR3/2-Moist); Grey (10YR6/1-Dry); ; Sandy clay loam (Light); Weak grade of structure, 2-5 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular tabular, Quartz, coarse fragments; Field pH 6.5 (pH meter); Common, very fine (0-1mm) roots; Abrupt, Wavy change to -
A12	0.05 - 0.1 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); ; Light medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular tabular, Quartz, coarse fragments; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); ; Medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular tabular, Quartz, coarse fragments; Field pH 8 (pH meter); Common, very fine (0-1mm) roots;
A14	0.25 - 0.65 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); , 10YR82, 0-2% , 0-5mm, Faint; Medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Wavy change to -
A2	0.65 - 0.95 m	Dark greyish brown (10YR4/2-Moist); , N30, 2-10% , 0-5mm, Distinct; , 7.5YR82, 0-2% , 0-5mm, Faint; Medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) 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); Clear, Smooth change to -
B2	0.95 - 1.9 m	Brown (7.5YR4/2-Moist); , 5R31, 0-2% , 0-5mm, Faint; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 9 (pH meter);

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1.9 - 2.75 m      Brown (7.5YR4/2-Moist); , N20, 2-10% , 15-30mm, Distinct; , 7.5YR56, 0-2% , 0-5mm, Distinct; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm<sup>2</sup>) Very fine (0.075-1mm) macropores, Firm consistence; Few (2 - 10 %), Argillaceous, Very coarse (20 - 60 mm), Veins; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9.5 (pH meter);

#### **Morphological Notes**

A11      Large carbonate segregations occur between 200-230cm. Surface layer is lightly dispersed fine sand. It may also be a new deposit of sand but this is believed to be less likely ? Ug5.16.

#### **Observation Notes**

Parent Rock: alluvial sediment, clay, parna on fourth fan

#### **Site Notes**

This pasture is trampled, non-mulching soil. Grasses and herbs are barely recognisable due to grazing.

**Observation ID: 1**

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.02	7.22A	0.057A	5.67B	5.7	0.72	0.96			
0 - 0.05	6.82A	0.1A	5.32B	4.4	0.62	0.9			
0.05 - 0.1	7.41A	0.077A	10.43B	6.3	0.54	1.99			
0.1 - 0.2	8.38A	0.141A	15.12B	8.62	0.41	3.28			
0.3 - 0.4	9.18A	0.554A	18.22B	10.85	0.49	5.35			
0.7 - 0.8	8.52A	1.054A	18.82B	11.44	0.91	6.59			
1.2 - 1.3	8.9A	0.837A	20.48B	11.87	1.09	7.54			
2.5 - 2.6	8.78A	0.849A	23.16B	12.58	0.97	8.03000			

0 - 0.02	<0.1B	1.08C		15.3	26.6
0 - 0.05	<0.1B	1.48C	9.8J	14.4	24.7
0.05 - 0.1	0.1B	0.75C	3.3J	18	34.5
0.1 - 0.2	0.1B	0.63C	1.5J	21.8	40.7
0.3 - 0.4	0.9B	0.47C	1.4J	23.2	48.5
0.7 - 0.8	0.7B	0.18C	9.4J	18.1	48.2
1.2 - 1.3	0.4B	0.05C	6.2J	17.4	56.3
2.5 - 2.6	0.6B	0.08C	3.1J	19	59.9

[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