Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed232 Observation ID: 1

Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: E. Veldhuis Locality: stock route, at Myall Vale

Date Desc.: Elevation: 10/05/85 200 metres Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6654700 AMG zone: 55 Runoff: No Data 750250 Datum: AGD66 Easting/Lat.: Drainage: No Data

Geology

ExposureType: Conf. Sub. is Parent. Mat.: Undisturbed soil core No Data **Substrate Material:** Geol. Ref.: No Data No Data

Land Form

Rel/Slope Class: No Data Pattern Type: No Data Morph. Type: No Data Relief: No Data

Very gently sloped Elem. Type: Slope Category: Terrace flat Aspect: 190 degrees Slope: 1 %

Surface Soil Condition (dry): Surface crust, Poached

Erosion:

Soil Classification

Australian Soil Classification: N/A Mapping Unit: Principal Profile Form: Ua5.15 ASC Confidence: **Great Soil Group:** Grey clay

Confidence level not specified

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

Very dark greyish brown (10YR3/2-Moist); Dark greyish brown (10YR4/2-Dry); , 10YR31, 2- $0 - 0.1 \, \text{m}$ 10%, 0-5mm, Distinct; Light clay; Moderate grade of structure, 2-5 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores,

Moderately moist; Very firm consistence; Field pH 6.5 (pH meter); Common, very fine (0-1mm)

Very dark greyish brown (10YR3/2-Moist); Dark greyish brown (10YR4/2-Dry); , 10YR31, 2-Δ12 0.1 - 0.22 m

10%, 0-5mm, Distinct; Light medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Very firm

consistence; Field pH 7 (pH meter); Common, very fine (0-1mm) roots; Abrupt, Smooth change

Very dark grey (10YR3/1-Moist); , 10YR43, 0-2% , 0-5mm, Distinct; Light clay; Weak grade of 2A11 0.22 - 0.55 m

structure, 20-50 mm, Subangular blocky; Weak grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7.6 (pH meter);

Common, coarse (>5mm) roots;

2A12 0.55 - 0.82 m Dark brown (10YR3/3-Moist); , 10YR31, 20-50% , 5-15mm, Distinct; , 10YR52, 0-2% , 0-5mm,

Distinct; Light medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smoothped fabric: Earthy fabric: Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence, 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH

8.2 (pH meter); Common, very fine (0-1mm) roots; Clear, Smooth change to

Brown (7.5YR4/4-Moist); , 10YR31, 10-20% , 0-5mm, Distinct; , 10YR53, 2-10% , 5-15mm, 2B21 0.82 - 1.35 m

Distinct; Light clay; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20

mm), Nodules; Field pH 8.2 (pH meter); Common, very fine (0-1mm) roots;

2B22 1.35 - 2.99 m Strong brown (7.5YR5/6-Moist); , 5YR34, 10-20% , 0-5mm, Faint; , 10YR31, 0-2% , 0-5mm,

Distinct; Light clay; Weak grade of structure, 100-200 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm)

macropores, Moderately moist; Firm consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots:

Morphological Notes Observation Notes

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Parent Rock: alluvial sediment, clay, second terraced fan, Namoi **Site Notes**

The hole is further from the river than shown on the photo.

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Laboratory Test Results:

Depth	рН	1:5 EC		hangeable			Exchangeable	CEC		ECEC	ESP
m		dS/m	Ca	Mg	К	Na Cmol (+	Acidity)/kg				%
0 - 0.02	6.81A	0.265A	15.93B	9.67	4.24	0.11					
0 - 0.1	6.83A	0.173A	12.79B	9.32	3.56	0.22					
0.1 - 0.2	7.43A	0.088A	14.12B 8	3.469999	2.36	0.23					
0.3 - 0.4	7.99A	0.075A	20.29B	13.02	1.31	0.39					
0.7 - 0.8	8.78A	0.095A	16.83B	16.43	1.16	0.79					
1.2 - 1.3	8.8A	0.172A	15.24B	18.46	0.65	0.82					
2.5 - 2.6	8.53A	0.076A	12.36B	17.54	0.42	0.71					
Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Pa	rticle	Size	Analysis
•		Č	Р	Р	N	K	Density	G۷	cs	FS	Silt Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%	
0 - 0.02	<0.1B										25.7 42.5
0 - 0.1	<0.1B	_	224.4J								27.8 42
0.1 - 0.2	<0.1B	1.49C	134.9J								27.2 40.2
0.3 - 0.4	<0.1B	1.2C	124.7J								25.4 48.6
0.7 - 0.8	0.2B	0.69C	64.3J								26.4 49.2
1.2 - 1.3	2.8B	0.37C	32.6J								32.4 43.3
2.5 - 2.6	0.1B	0.11C	20.2J								25.9 34.6
Depth	COLE		Grav	vimetric/V	olumetric V	Vater Con	tents		K s	at	K unsat
m		Sat.	0.05 Bar	0.1 Bar g/	0.5 Bar g - m3/m	1 Bar 3	5 Bar 15	Bar	mm	/h	mm/h

0 - 0.02 0 - 0.1 0.1 - 0.2

0.3 - 0.4 0.7 - 0.8 1.2 - 1.3 2.5 - 2.6

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Laboratory Analyses Completed for this profile

15A2_CA Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 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 Silt (%) - Coventry and Fett pipette method