**Project Name:** Soil Studies in the Lower Namoi Valley

**Project Code: EDGEROI** Site ID: ed228 Observation ID: 1

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

Site Information

Desc. By: D. McGarry Locality: Department of Agriculture, Myall Vale Research

Station

Date Desc.: 27/04/85 Elevation: 200 metres Map Ref.: Sheet No.: 8837\_N 1:50000 Rainfall: No Data Northing/Long.: 6656300 AMG zone: 55 Runoff: No Data 751400 Datum: AGD66 Easting/Lat.: Drainage: No Data

Geology

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

**Land Form** 

Rel/Slope Class: No Data Pattern Type: No Data No Data Morph. Type: No Data Relief: Elem. Type: Terrace flat Slope Category: Level Slope: Aspect: No Data

Surface Soil Condition (dry): Surface crust, Recently cultivated

**Erosion:** 

**Soil Classification** 

Australian Soil Classification: Mapping Unit: N/A Uq5.15 **Principal Profile Form:** ASC Confidence: **Great Soil Group:** Grey clay

Confidence level not specified

Site Disturbance: Cultivation. Irrigated, past or present

Vegetation:

**Surface Coarse Fragments:** 

**Profile Morphology** 

A11 0 - 0.08 m Very dark greyish brown (10YR3/2-Moist); ; Light medium clay; Moderate grade of structure, 2-5 mm, Granular; Earthy fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores,

Moderately moist; Weak consistence; Field pH 8.2 (pH meter); Few, very fine (0-1mm) roots;

Abrupt, Wavy change to -

A12 0.08 - 0.25 m Very dark grevish brown (10YR3/2-Moist): Light medium clay: Moderate grade of structure.

10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.7 (pH

meter); Few, very fine (0-1mm) roots;

A13 0.25 - 0.55 m Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Moderate grade of structure, 20-50

mm. Lenticular: Moderate grade of structure, 10-20 mm. Angular blocky: Smooth-ped fabric: Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores,

Moderately moist; Firm consistence; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;

A14 0.55 - 1.15 m Very dark greyish brown (10YR3/2-Moist); , 10YR74, 0-2% , 0-5mm, Faint; Medium clay;

Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 10-20 mm, Angular blocky: Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots; Diffuse,

Smooth change to -

Brown (10YR4/3-Moist): . 10YR31. 0-2% . 5-15mm. Faint: . N20. 0-2% . 0-5mm. Distinct: Medium B21 1.15 - 1.9 m

clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Very few (0 - 2 %), Argillaceous, Coarse (6 - 20 mm), Veins; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.3 (pH meter); Few, very fine (0-1mm) roots;

Brown (10YR4/3-Moist); , 5YR46, 2-10% , 5-15mm, Distinct; , N20, 0-2% , 0-5mm, Distinct; Light B22 1.9 - 2.93 m

medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Field pH

8.1 (pH meter);

**Morphological Notes** 

**Observation Notes** 

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

Site Notes

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## **Laboratory Test Results:**

Depth	рН	1:5 EC		changeable			Exchangeable	CEC	ECI	EC ESP	
m		dS/m	Ca	Mg	K	Na Cmol (	Acidity +)/kg			%	
0 - 0.02	8.46A	0.255A	24.65B	11.74	1.6	0.85					
0 - 0.08	8.2A	0.219A	25.54B	10.97	1.46	0.93999 99					
0.1 - 0.2	8.43A	0.17A	24.64B	12.13	1.48	0.98					
0.3 - 0.4	8.65A	0.152A	23.37B	12.35	0.85	1.57					
0.7 - 0.8	8.9A	0.222A	19.94B	14.2	0.79	4.33					
1.2 - 1.3	8.96A	0.317A	16.78B	13.81	0.79	6.48					
2.5 - 2.6	8.95A	0.279A	16.5B	12.81	8.0	5.5					
Depth	CaCO3	Organic	Avail.	Total	Tota					e Analysis	
	0/	C	P	P	N	K		GV	CS FS		
m	%	%	mg/kg	%	%	%	Mg/m3		%	0	
0 - 0.02	0.1B	0.86C								20.2 59	
0 - 0.08	0.2B	1.03C	45.3J							21.2 56.8	
0.1 - 0.2	0.2B	0.89C	38.9J							21.2 58	
0.3 - 0.4	0.6B	0.63C	10.3J							20.6 58.2	
0.7 - 0.8	0.9B	0.54C	23.9J							21.5 58.6	
1.2 - 1.3	0.6B	0.36C	35.3J							24.3 59.9	
2.5 - 2.6	0.4B	0.23C	25.6J							23.3 57.8	
Depth	COLE										
m		Sat.	0.05 Bar		0.5 Baı g - m3/		5 Bar 15	Bar	mm/h	mm/h	

<sup>0 - 0.02</sup> 0 - 0.08 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