Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed211 Observation ID: 1

Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: M. Korevaar Locality: stock route, at Waugan tank

Date Desc.: Elevation: 02/04/85 208 metres Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6672000 AMG zone: 55 Runoff: No Data 756800 Datum: AGD66 Easting/Lat.: Drainage: No Data

<u>Geology</u>

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

Land Form

Rel/Slope Class: No Data Pattern Type: No Data Morph. Type: No Data Relief: No Data Elem. Type: No Data Slope Category: No Data Slope: % Aspect: No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification: Mapping Unit: N/A
N/A Principal Profile Form: Ug6.4
ASC Confidence: Great Soil Group: Grey clay

Confidence level not specified

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

Dark grey (10YR4/1-Moist); Grey (10YR5/1-Dry); ; Coarse sandy light clay; Massive grade of structure; Earthy fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, fine gravelly, 2-6mm, subrounded tabular, Quartz, coarse fragments; Field pH 6.2 (pH meter); Common, very fine (0-

1mm) roots; Abrupt, Smooth change to -

A12 0.06 - 0.3 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 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 2-10%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 7 (pH meter); Common,

very fine (0-1mm) roots; Abrupt, Smooth change to -

A13 0.3 - 0.55 m Very dark grey (10YR3/1-Moist); , 10YR81, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of

structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, rounded, 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;

A14 0.55 - 1.17 m Brown (7.5YR4/2-Moist); , N30, 0-2% , 0-5mm, Faint; , 10YR72, 0-2% , 0-5mm, Faint; Medium

heavy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Very few (0 - 2%), Gypseous, Medium (2 -6 mm), Crystals; Field pH 8.2 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to

B21 1.17 - 1.74 m Greyish brown (10YR5/2-Moist); , 5R31, 2-10% , 0-5mm, Faint; , 10YR83, 0-2% , 0-5mm, Faint;

Medium clay; Moderate grade of structure, 20-50 mm, Lenticular; Weak 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; Strong consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Very few (0 - 2 %), Gypseous,

Fine (0 - 2 mm), Crystals; Field pH 8.7 (pH meter); Clear, Smooth change to -

B22k 1.74 - 2.63 m Dark reddish brown (5YR3/2-Moist); , 5R31, 2-10% , 0-5mm, Faint; , 10YR82, 2-10% , 15-30mm,

Distinct; Medium clay; Strong 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; Very firm consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Very

few (0 - 2 %), , Fine (0 - 2 mm), Veins; Field pH 8.2 (pH meter);

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Morphological Notes Observation Notes

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

Site Notes

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Laboratory Test Results:

Depth	рН	1:5 EC			ole Cations		Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (-	Acidity +)/kg			%
0 - 0.02	7.17A	0.059A	10.89B	6.59	0.98	1.04				
0 - 0.06	6.59A	0.095A	8.780001 B	4.68	1.14	0.98999 99				
0.1 - 0.2	7.7A	0.085A	18.91B	7.96	0.45	2.7				
0.3 - 0.4	9.03A	0.391A	19.8B	8.41	0.36	5.86				
0.7 - 0.8	7.99A	3.27A	22.93B	11.22	0.87	9.16				
1.2 - 1.3	8.72A	0.82A	28.03B	12.06	0.98999 99	10.18				
2.5 - 2.6	8.8A	0.772A	24.66B	10.77	0.91	10.7				
Depth	CaCO3	Organic C	Avail. P	Tota P	al Tota N	l Tota K	ıl Bulk Density		ticle Size	Analysis Silt Clay
m	%	%	mg/kg	%	%	%	Mg/m3		%	
0 - 0.02	<0.1B	0.93C								20.3 34.5
0 - 0.06	<0.1B	1.86C	38J							19.8 30.4
0.1 - 0.2	<0.1B		3.3J							20.7 41.6
0.3 - 0.4	0.9B	0.54C	<1J							24 44.4
0.7 - 0.8	0.6B	0.12C	7.5J							20.6 55.7
1.2 - 1.3	2.1B	0.16C	7.6J							17.1 59.2
2.5 - 2.6	1.5B	0.07C	5.9J							16.4 56.1
Depth	COLE									
m		Sat.	0.05 Bar		r 0.5 Bar g/g - m3/r		5 Bar 1	5 Bar	mm/h	mm/h

^{0 - 0.02} 0 - 0.06 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