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

Project Code: EDGEROI Site ID: ed200 Observation ID: 1

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

Site Information

Desc. By: Date Desc.: Locality: G.M. Roberts C. Freer, Aloomba Elevation: 16/10/85 204 metres Sheet No.: 8837_N 1:50000 Map Ref.: Rainfall: No Data Northing/Long.: 6651250 AMG zone: 55 Runoff: No Data Easting/Lat.: 759200 Datum: AGD66 Drainage: No Data

Geology

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

Land Form

Rel/Slope Class: No Data Pattern Type: Flood plain Morph. Type: Elem. Type: No Data Relief: No Data No Data Slope Category: Level No Data Slope: 0 % Aspect:

Surface Soil Condition (dry): Firm, Trampled

Erosion:

Soil Classification

Australian Soil Classification: Mapping Unit: N/A Principal Profile Form: Db1.13 **ASC Confidence: Great Soil Group:** Alluvial soil

Confidence level not specified

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage

Vegetation:

Surface Coarse Fragments:

Profile Morphology

Profile	<u> Morphology</u>	
A11	0 - 0.1 m	Dark greyish brown (10YR4/2-Moist); Very pale brown (10YR7/3-Dry); , 10YR31, 10-20% , 5-15mm, Distinct; Silty clay loam; Weak grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, angular tabular, Sandstone, coarse fragments; Field pH 7.2 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (10YR3/3-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.5 m	Dark greyish brown (10YR4/2-Moist); , 10YR63, 2-10% , 0-5mm, Faint; Medium clay; Moderate grade of structure, 2-5 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 8.7 (pH meter); Common, very fine (0-1mm) roots; Clear, Smooth change
B2	0.5 - 0.7 m	Dark brown (10YR3/3-Moist); , 10YR54, 10-20% , 5-15mm, Distinct; Medium heavy 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; Strong consistence; Field pH 8.7 (pH meter); Common, very fine (0-1mm) roots; Clear, Smooth change to -
2A1	0.7 - 0.9 m	Dark brown (10YR3/3-Moist); , 10YR43, 10-20% , 15-30mm, Distinct; Silty clay loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8.7 (pH meter); Gradual, Smooth change to -
2B21	0.9 - 1.9 m	Dark brown (10YR3/3-Moist); , 10YR53, 10-20% , 15-30mm, Distinct; , 10YR31, 0-2% , 5-15mm, Faint; Medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm),

Nodules; Field pH 8.7 (pH meter);

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Dark brown (10YR3/3-Moist); , 10YR53, 10-20% , 15-30mm, Distinct; , 10YR31, 0-2% , 15-2B22 1.9 - 2.73 m

30mm, Faint; Medium heavy clay; Weak grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Field pH 8.7 (pH meter);

Morphological Notes

A few cast granules in 200.03. Carbonate in fine earth below 80cm. The infilled material

is very fine silt in fine bands. The horizon differentiation between .05 and .06 is based

solely on texture. Evident depositional foreset bedding at 16

A12

Observation Notes

Parent Rock: alluvial sediment, mixed texture, non-calcareous, first terraced fan, Namoi

Site Notes

Proline. Dense at depth. 60 degrees mag.to house at top of slope, car bodies nearby. Vegetation identification doubtful, should be repeated.

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Laboratory Test Results:

Depth	рН	1:5 EC		hangeable	Cations K	E: Na	xchangeable Acidity	CEC		ECEC	ESP
m		dS/m	Ca	Mg	N.	Cmol (+)/					%
0 - 0.02	6.97A	0.188A	14.56B	12.27	1.67	1.09					
0 - 0.1	7.93A	0.113A	12.01B	9.940001	0.71	1.94					
0.1 - 0.2	8.5A	0.111A	15.58B	9.8	0.49	3.31					
0.3 - 0.4	9.12A	0.296A	14.55B	11.3	0.38	7.74					
0.6 - 0.7	8.19A	1.883A	8.55B	11.87	0.4	9.14					
0.7 - 0.8	8.34A	1.784A	7.47B	11.29	0.4	9.91					
1.2 - 1.3	9.53A	0.832A	5.99B	10.58	0.43	13.83					
2.5 - 2.6	9.51A	0.542A	3.94B	11.02	0.49	21.34					
Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Pa	rticle	Size	Analysis
		С	Р	P	N	K	Density	G۷	CS	FS	Silt Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%	
0 - 0.02	<0.1B	2.85C									31.8 50.4
0 - 0.02	<0.1B	0.95C	43.4J								28 41
0.1 - 0.2	<0.1B	0.33C 0.78C	27.4J								28.3 42.3
0.3 - 0.4	<0.1B	0.75C	18.5J								29.7 44.6
0.6 - 0.7	2.5B	0.33C	19J								30 40.9
0.7 - 0.8	1.5B	0.19C	18.6J								30.1 39.4
1.2 - 1.3	2.9B	0.12C	19.6J								27.7 42.4
2.5 - 2.6	0.3B	0.12C	40.6J								27.3 56.1
2.0 2.0	0.00	5.120	10.00								27.0 00.1
Depth	COLE					Water Conte			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 E	Bar	mm	/h	mm/h

^{0 - 0.02}

^{0 - 0.02} 0 - 0.1 0.1 - 0.2 0.3 - 0.4

^{0.6 - 0.7} 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