Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed426 Observation ID: 1

Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: M.E. Heape Locality: Bruce Tout, Oakvale

Date Desc.: 01/04/86 Elevation: 276 metres Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6666700 AMG zone: 55 Runoff: No Data 775100 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 DataPattern Type:No DataMorph. Type:No DataRelief:No DataElem. Type:PedimentSlope Category:LevelSlope:0 %Aspect:340 degrees

Surface Soil Condition (dry): Self-mulching, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification: Mapping Unit: N/A
N/A
Principal Profile Form: Gn2.83
ASC Confidence: Great Soil Group: Alluvial soil

Confidence level not specified

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p 0 - 0.08 m Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); Clay loam; Strong grade of structure, 5-10 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2)

Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 7.5 (pH

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

A12 0.08 - 0.25 m Brown (7.5YR4/2-Moist); ; Clay loam; Moderate grade of structure, 20-50 mm, Subangular

blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 7.5 (pH meter); Few, very fine (0-

1mm) roots;

A13 0.25 - 0.6 m Dark brown (7.5YR3/2-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Subangular

blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, coarse gravelly, 20-60mm, subrounded, Quartz, coarse fragments; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;

Diffuse, Smooth change to -

B21 0.6 - 1 m Dark reddish grey (5YR4/2-Moist); , 5YR21, 2-10% , 5-15mm, Distinct; Heavy clay; Weak grade

of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, coarse gravelly, 20-60mm, subrounded, Consolidated rock (unidentified), coarse fragments; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (pH meter);

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

B22 1 - 1.83 m Reddish brown (5YR4/3-Moist); , 5YR32, 0-2% , 0-5mm, Faint; Light medium clay; Massive

grade of structure; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, coarse gravelly, 20-60mm, subrounded, Consolidated rock (unidentified), coarse fragments; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Soft

segregations: Field pH 9 (pH meter): Few. very fine (0-1mm) roots:

Morphological Notes

A11p Core somewhat fragmented by Proline and stones. Second core is composed of two

bites with some topsoil rubble included. Looks more like a gravelly MVpH than black earth

or grey clay.

Observation Notes

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

Site Notes

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Large gravel pit located just next to site - stones are rounded and subrounded. Stopped drilling at 183 cm because of heavy gravels.

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Laboratory Test Results:

Laboratory rest itesuits.													
Depth	рН	1:5 EC	Exchangeable (Cations K	Na	Exchangeable Acidity	CEC		ECEC		ESP	
m		dS/m	Ca	wig	K	Cmol (+)						%	
0 - 0.08	6.91A		22.13B	6.27	2.79	0.7							
0.1 - 0.2	7.54A		11.53B	4.89	0.89	0.68							
0.3 - 0.4	8.72A		13.25B	11.43	0.92	1.71							
0.7 - 0.8	9.44A	0.372A		16.07	0.56	5.96							
1.2 - 1.3	9.4A	0.721A	4.07B	14.74	0.91	8.41							
Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Pa	rticle	Size	Analys	is	
		C	P	Р	N	K	Density	GV	CS	FS	•	Clay	
m	%	%	mg/kg	%	%	%	Mg/m3 [°]			%		•	
0 - 0.08	0.1B	3.01C	40.4J										
0.1 - 0.2	0.1B	1.13C	10.2J										
0.3 - 0.4	0.1B	0.64C	3.3J										
0.7 - 0.8	3.1B	0.36C	10.1J										
1.2 - 1.3	3.1B	0.1C	6.2J										
Depth	COLE	OLE Gravimetric/Volumetric Wa				Vater Cont	ater Contents			K sat		K unsat	
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar 15 B	3ar					
m				g/	/g - m3/m	3			mm	/h	mm/ł	1	
0 - 0.08													
0.1 - 0.2													
0.3 - 0.4													
07-08													

0.7 - 0.8 1.2 - 1.3

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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 15A2_MG Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts 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 EC of 1:5 soil/water extract 3A1 4A1 pH of 1:5 soil/water suspension

5A2 Chloride - 1:5 soil/water extract, automated colour

Total organic carbon - high frequency induction furnace, infrared Water soluble nitrate - automated colour 6B3

7B1

9B1 Bicarbonate-extractable phosphorus - manual colour