Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed110 Observation ID: 1

Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward Locality: Auscott Ltd, Auscott

Date Desc.: Elevation: 08/12/86 199 metres Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6663400 AMG zone: 55 Runoff: No Data 752600 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:
 Terrace flat
 Slope Category:
 Level

 Slope:
 0 %
 Aspect:
 No Data

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

**Erosion:** 

**Soil Classification** 

Australian Soil Classification: Mapping Unit: N/A
N/A Principal Profile Form: Ug5.23
ASC Confidence: Great Soil Group: Grey clay

Confidence level not specified

Site Disturbance: Cultivation. Irrigated, past or present

**Vegetation:** 

**Surface Coarse Fragments:** 

**Profile Morphology** 

A11p 0 - 0.1 m Dark brown (7.5YR3/2-Moist); Dark grey (10YR4/1-Dry); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 8.5 (pH meter); Few, very fine

(0-1mm) roots; Clear, Smooth change to -

A12 0.1 - 0.25 m Dark brown (7.5YR3/2-Moist); ; Medium 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; Very firm consistence; Field pH 8.5 (pH meter);

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

A13 0.25 - 0.55 m Brown (7.5YR4/2-Moist); ; Medium heavy clay; 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; Field pH 8.5 (pH meter); Few, very

fine (0-1mm) roots;

A14 0.55 - 1 m Brown (7.5YR4/2-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Lenticular;

Moderate grade of structure, 2-5 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; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;

A15 1 - 1.3 m Brown (7.5YR4/4-Moist); , 7.5YR42, 20-50% , 5-15mm, Distinct; Medium clay; Moderate grade

of structure, 2-5 mm, Lenticular; Moderate grade of structure, 2-5 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 %), Calcareous, Medium (2 -6

mm), Nodules; Field pH 8.5 (pH meter); Clear, Smooth change to -

B2 1.3 - 2.84 m Brown (7.5YR4/4-Moist); ; Light medium clay; Moderate grade of structure, 2-5 mm, Lenticular;

Moderate grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Firm consistence; Very few (0 - 2%), Calcareous, Medium (2 -6 mm),

Nodules; Field pH 9 (pH meter);

**Morphological Notes** 

At 96cm a small lens of inwashed sand suggests that some part of the topsoil may be of

recent alluvial origin. In B2 horizon there are some patches of diffuse carbonate. Vuspe

or vusch? Darker colours below 260cm are possibly manganese.

**Observation Notes** 

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Site Notes
Crackspace 300.

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## **Laboratory Test Results:**

Depth				Exchangeable Cations			xchangeable	CEC	ECEC	ESP
Борин	P			Mg	K	Na	Acidity	020	2020	20.
m		dS/m		_		Cmol (+)	/kg			%
0 - 0.02	8.6A	0.1514	27.36B	14.42	2.02	2.05				
0 - 0.02	8.19A	0.131A 0.2A	27.30B 23.97B	15.14	1.9	1.77				
0.1 - 0.2	8.22A	-	22.03B	14.07	1.63	1.77				
0.1 - 0.2	8.57A		24.79B	13.69	1.05	2.95				
0.7 - 0.8	8.68A		22.7B	13.94	1.11	5.16				
1.2 - 1.3	8.62A		21.24B	14.64	1.26	6.86				
2.5 - 2.6	8.97A		22.06B	15.62	1.29	8.2				
2.0 2.0	0.0.7.	01.007.			0	0.2				
Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Parti		Analysis
	%	C %	P	P %	N %	K %	Density	GV C	S FS %	Silt Clay
m	70	70	mg/kg	70	70	70	Mg/m3		70	
0 - 0.02	<0.1B	0.73C								20.2 62
0 - 0.02	0.1B	0.73C	42.7J							18.6 62.8
0.1 - 0.2	0.1B	0.66C	39.2J							18.2 62.1
0.3 - 0.4	<0.1B		36.4J							19.4 62.8
0.7 - 0.8	<0.1B		57.4J							19.2 60
1.2 - 1.3	0.2B	0.35C	49.1J							19 61.9
2.5 - 2.6	1B	0.14C	17.5J							14.7 65.4
2.0 2.0	,,,	0.110	11.00							11.7 00.1
Donth	COLE		Crow	imatria/\/-	dumatria W	Vater Cont	onto		K sat	K unsat
Depth	COLE	Sat.	0.05 Bar	0.1 Bar	olumetric v 0.5 Bar	vater Cont 1 Bar		Bar	n Sat	n unsat
m		Jai.	U.UO Ddf		g-m3/m		3 Dai 13		mm/h	mm/h
				J	_					

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