Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **na010** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	W.T. Ward	**Locality:**	stock route, near Cooyong
Date Desc.:	16/02/88	**Elevation:**	236 metres
Map Ref.:	Sheet No. : 8837_S 1:50000	**Rainfall:**	No Data
Northing/Long.:	6647780 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	771760 Datum: AGD66	**Drainage:**	No Data

Geology

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:	Pediment	**Slope Category:**	Very gently sloped
Slope:	1 %	**Aspect:**	180 degrees

Surface Soil Condition (dry): Surface crust

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified

Mapping Unit: N/A
Principal Profile Form: Uf6.
Great Soil Group: Brown clay

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Light medium clay; Weak grade of structure, 50-100 mm, Prismatic; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6 (pH meter); Common, very fine (0-1mm) roots;
A12	0.1 - 0.2 m	Dark brown (7.5YR3/2-Moist); ; Medium clay; Weak grade of structure, 50-100 mm, Prismatic; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B2	0.2 - 0.65 m	Reddish brown (5YR4/4-Moist); , 7.5YR32, 2-10% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 50-100 mm, Prismatic; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
C1	0.65 - 1 m	Yellowish brown (10YR5/8-Moist); , 5YR44, 20-50% , 30-mm, Prominent; Light clay; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; 20-50%, medium gravelly, 6-20mm, angular platy, Ironstone, coarse fragments; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Veins; Field pH 8.5 (pH meter);
C2	1 - 1.3 m	Yellowish brown (10YR5/4-Moist); , 5YR44, 20-50% , 15-30mm, Prominent; Medium clay; Weak grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; 20-50%, medium gravelly, 6-20mm, angular platy, Ironstone, coarse fragments; Few (2 - 10 %), Calcareous, Very coarse (20 - 60 mm), Soft segregations; Field pH 8.5 (pH meter); Gradual, Smooth change to -
C3	1.3 - 3.21 m	White (10YR8/2-Moist); , 7.5YR66, 20-50% , 0-5mm, Distinct; Light clay; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.5 (pH meter);

Morphological Notes

A11 Ironstone "stains" in C horizon are in fact ironstone plates definitely secondary and in situ, and presumably part of rock sequence to 130cm. The clays below this grade gently (after about 40cm) into soft weathering feldspathic (?) platy sa

Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **na010** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

A12	ndstone which I believe is Rolling Downs Formation. The ironstone could mask the contact between early Tertiary alluvium and Rolling Downs Formation: note the occasional rounded quartz pebble in the ironstone layer the relatively sharp brea
B2	k at 258cm to clayey beds, and the resemblence to the ironstone layer at the Pilliga/Purlawaugh ctonact. No suitable soil taxonomy group was found. Significant gravel in 120-130cm horizon.

Observation Notes

Parent Rock: residual, sandstone, marl Tertiary beds

Site Notes

This is the first drilled hole on I. A. Watson survey. The surface of the soil has microrelief (total 2cm) with weak surface crust on higher and hard setting on lower parts. The surface is grey/red and weakly dispersed.

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** na010 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m				Cmol (+)/kg				%
0 - 0.02	6.86A	0.105A	9.93B	8.030001	1.11	0.16				
0 - 0.1	5.99A	0.2A	8.52B	8.04	0.58	0.4				
0.1 - 0.2	6.81A	0.142A	13.13B	13.14	0.35	0.84				
0.3 - 0.4	8.12A	0.155A	15.08B	13.79	0.25	1.68				
0.7 - 0.8	8.48A	0.501A	11.43B	12.6	0.31	3.06				
1.2 - 1.3	8.38A	0.534A	9.8B	12.35	0.33	1.87				
2.5 - 2.6	8.76A	0.387A	7.38B	10.84	0.23	2.65				

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.02	<0.1B	2.18C									11.7	32.6
0 - 0.1	<0.1B	1.45C	11.4J								11.1	31.9
0.1 - 0.2	<0.1B	0.69C	2.9J								9.4	40
0.3 - 0.4	<0.1B	0.56C	1.9J								8.3	44.7
0.7 - 0.8	5.1B	0.27C	2.4J								12.6	41.8
1.2 - 1.3	2.3B	0.13C	2.2J								9.9	38.6
2.5 - 2.6	20.5B	0.19C	1.4J								13.6	25.9

Depth	COLE	Gravimetric/Volumetric Water Contents							K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar		
m		g/g - m3/m3							mm/h	mm/h
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										

Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **na010** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

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
P10_CF_Z	Silt (%) - Coventry and Fett pipette method