Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **na011** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	D. McGarry	**Locality:**	stock route, near Bingara Rd lime pit
Date Desc.:	22/02/88	**Elevation:**	226 metres
Map Ref.:	Sheet No. : 8837_S 1:50000	**Rainfall:**	No Data
Northing/Long.:	6647000 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	771290 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:	Terrace flat	**Slope Category:**	Level
Slope:	0 %	**Aspect:**	No Data

Surface Soil Condition (dry): Self-mulching, Poached

Erosion:

Soil Classification

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

Mapping Unit: N/A
Principal Profile Form: Ug5.4
Great Soil Group: Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11s	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); Very dark greyish brown (10YR3/2-Dry); ; Medium clay; Weak grade of structure, 10-20 mm, Angular 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, Fine (0 - 2 mm), Nodules; Field pH 7 (pH meter); Common, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Brown (10YR4/3-Moist); ; Medium clay; Weak grade of structure, 10-20 mm, Angular 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, Fine (0 - 2 mm), Nodules; Field pH 7 (pH meter); Common, very fine (0-1mm) roots;
A13	0.25 - 0.75 m	Brown (10YR4/3-Moist); ; Medium clay; Moderate grade of structure, 5-10 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; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 7 (pH meter); Common, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.75 - 1 m	Very dark greyish brown (10YR3/2-Moist); , 10YR32, 10-20% , 15-30mm, Distinct; Light medium clay; Moderate grade of structure, 50-100 mm, Prismatic; Moderate 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; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Common (10 - 20 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
B22k	1 - 1.9 m	Brown (10YR4/3-Moist); , 10YR32, 10-20% , 15-30mm, Distinct; Light medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Many (20 - 50 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B23k	1.9 - 2.7 m	Brown (10YR4/3-Moist); , 10YR32, 2-10% , 0-5mm, Distinct; Light 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; Many (20 - 50 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Field pH 8.5 (pH meter); Diffuse, Smooth change to -

Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **na011** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

C	2.7 - 3.14 m	Brown (7.5YR4/4-Moist); , 10YR21, 0-2% , 0-5mm, Distinct; Light clay; Weak grade of structure, 5-10 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; 0-2%, fine gravelly, 2-6mm, subrounded, Consolidated rock (unidentified), coarse fragments; Field pH 7.5 (pH meter);

Morphological Notes

A11s	Layer 4 has both fine earth and nodular calcium carbonate. There is cast granular structure in level 5, as a third structure. Grant and WTW think the most likely source of the fine earth carbonate in the topsoil is wash from the nearby Roll
A12	ing Downs Formation. Level 7 is much sandier than above - perhaps parent (less weathered) material. MVpH. Mollisol-Vertisol intergrade. Small pebbles include basalt and carbonate.

Observation Notes

Parent Rock: alluvial sediment, from sandstone, clay and basalt, with lime, parna on third fan

Site Notes

Much Stipa. Large ant colony nearby. Site very close to overhead wires. Contact at 286cm with clay (terrace below here). Difficult to do surface measures as surface vegetation is dense, 2cm high.

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** na011 **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	7.2A	0.18A	17.87B	7.09	3.03	0.04				
0 - 0.1	7.46A	0.279A	19.73B	5.53	2.43	<0.01				
0.1 - 0.2	8.02A	0.159A	23.4B	5.64	1.75	0.01				
0.3 - 0.4	8.33A	0.159A	24.7B	9.43	0.98999 99	0.47				
0.7 - 0.8	8.6A	0.212A	13.8B	13.49	0.79	1.46				
1.2 - 1.3	9.13A	0.227A	4.92B	12.58	0.73	2.62				
2.5 - 2.6	9.46A	0.34A	4.35B	13.26	0.75	6.68				
3 - 3.1	9.03A	0.206A	3.45B	7.4	0.75	5.13				

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	4.25C									14.9	35.1
0 - 0.1	<0.1B	2.73C	52.3J								14.4	36.5
0.1 - 0.2	<0.1B	1.62C	9.9J								14.2	42.2
0.3 - 0.4	0.5B	1.02C	4.2J								12	49.2
0.7 - 0.8	11.1B	0.62C	10.7J								11.8	47
1.2 - 1.3	25.6B	0.19C	25.9J								15.3	41.8
2.5 - 2.6	8.2B	0.06C	18.5J								18.6	36.1
3 - 3.1	<0.1B	0.15C	20.6J								9.4	29.3

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										
3 - 3.1										

Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **na011** **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