

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** we002 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:		Locality:	stock route, near Nowley bore
Date Desc.:	09/02/89	Elevation:	175 metres
Map Ref.:	Sheet No. : 8737_N 1:50000	Rainfall:	No Data
Northing/Long.:	6678900 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	717600 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:	No Data	Slope Category:	Gently inclined
Slope:	3 %	Aspect:	45 degrees

Surface Soil Condition (dry): Surface crust

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	N/A
N/A		Principal Profile Form:	N/A
ASC Confidence:		Great Soil Group:	Grey clay
Confidence level not specified			

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11f	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); Dark grey (10YR4/1-Dry); ; Coarse sandy light clay; Weak grade of structure, 50-100 mm, Angular blocky; Strong grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 20-50%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A12f	0.1 - 0.2 m	Very dark greyish brown (10YR3/2-Moist); ; Coarse sandy light clay; Weak grade of structure, 50-100 mm, Angular blocky; Strong grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 20-50%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
A13	0.2 - 0.55 m	Very dark grey (10YR3/1-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Prismatic; 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; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Soft segregations; Field pH 9 (pH meter); Common, very fine (0-1mm) roots;
A14	0.55 - 1 m	Very dark grey (10YR3/1-Moist); , 10YR52, 10-20% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 50-100 mm, Prismatic; Weak 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; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 9 (pH meter);
A15	1 - 1.3 m	Dark grey (10YR4/1-Moist); , 10YR31, 10-20% , 5-15mm, Faint; , 10YR52, 2-10% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Diffuse, Smooth change to -
B2	1.3 - 2.6 m	Greyish brown (10YR5/2-Moist); ; Medium clay; Weak grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 9 (pH meter);

Morphological Notes

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A11f Originally bu004. 0-20cm is coarse sandy cap to ant nest, resting (biotic contact) on original cracked clay, with grits running down into the cracks. Fragments of hard lime are included in the coarse sand/fine grit. Carbonate becomes distinct in the soil at about 45cm, then fades out below 90cm. There are many fine roots at 30-40cm. The coarse sand/fine grit cuts out about 150cm, and below this hard carbonate and some manganese becomes more prominent. I wonder if the soil is now passing into older watersorted parna. The colour at 250cm tends towards 2.5Y5/2. Textures from 30-130cm are medium clay with coarse sand.

A12f

A13

Observation Notes

Parent Rock: alluvial sediment, clay, sand parna on third fan, Namoi

Site Notes

anth =ant hill, with fine gravel pavement. The site generally shows fine gravel on the groundsurface - possibly the remnant of ant hills. This spot is an abandoned ant hill, about 15cm high. An active hill nearby is about 80cm high.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
						Cmol (+)/kg			
0 - 0.1	8.08A	0.145A	9.77B	3.36	1.57	0.13			
0.1 - 0.2	8.41A	0.106A	9.09B	2.98	0.67	0.3			
0.3 - 0.4	8.78A	0.196A	17.55B	10.94	1.41	1.6			
0.7 - 0.8	9.18A	0.272A	10.17B	15.3	1.01	4.72			
1.2 - 1.3	9.34A	0.388A	7.4B	15.06	0.84	8.16			
2.5 - 2.6	9.21A	0.64A	7.35B	14.01	0.68	10.28			

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,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