

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed082 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	D. McGarry	Locality:	Keith R. Hall, Mirrabooka
Date Desc.:	03/07/86	Elevation:	256 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6667700 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	771900 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 plain	Slope Category:	Very gently sloped
Slope:	0 %	Aspect:	No Data

Surface Soil Condition (dry): Surface crust, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.15
		Great Soil Group:	Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.12 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); ; Medium clay; Moderate grade of structure, <2 mm, Granular; 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 8 (pH meter); Abrupt, Smooth
A12	0.12 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; 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; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Very dark greyish brown (10YR3/2-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) 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); Few, very fine (0-1mm) roots;
A14	0.55 - 1 m	Very dark greyish brown (10YR3/2-Moist); , 10YR53, 2-10% , 15-30mm, Prominent; , 10YR82, 0-2% , 5-15mm, Distinct; Medium clay; Weak grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 20-50 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; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	1 - 1.9 m	Dark brown (7.5YR3/2-Moist); , 10YR82, 2-10% , 5-15mm, Prominent; , 10YR21, 0-2% , 5-15mm, Distinct; Medium heavy clay; Weak grade of structure, 50-100 mm, Lenticular; Weak grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Few (2 - 10 %), Gypseous, Fine (0 - 2 mm), Crystals; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter);
B22	1.9 - 2.66 m	Dark brown (10YR3/3-Moist); , N20, 2-10% , 0-5mm, Prominent; Medium heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; Weak grade of structure, 10-20 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 2-10%, coarse gravelly, 20-60mm, subrounded, Consolidated rock (unidentified), coarse fragments; Field pH 7.8 (pH meter);

Morphological Notes

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A11p The carbonate in layer 03 is fine earth. Gypsum in layer 05 occupies faunal
passageways and is only present from 100-140cm. Note dark B2 main colour. From
A12 5cm) quartzite stones. Not a good example of Ug5.15 as subsoil is too dark. Resembles
profile at Edgeroi rubbish dump.

Observation Notes

Parent Rock: alluvial sediment, clay, mixed texture, non-calcareous fifth (eroded) fan

Site Notes

Water worn basalt gravels and decomposed gravel at 200-260cm, quite rounded. Flat site with wheat stubble next to a small gully leading into Galathera Creek. Few waterworn gravels on the surface.

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Exchangeable Cations			Exchangeable Acidity Na Cmol (+)/kg	CEC	ECEC	ESP %
			Ca	Mg	K				
0 - 0.02	8.43A	0.127A	25.62B	4.17	1.02	0.26			
0 - 0.1	7.41A	0.172A	20.66B	4.96	0.97	0.45			
0.12 - 0.2	8.11A	0.086A	20.88B	5.83	0.6	1.05			
0.3 - 0.4	9.14A	0.19A	21.44B	8.35	0.35	2.86			
0.7 - 0.8	9.27A	0.424A	18.1B	11.23	0.31	7.74			
1.2 - 1.3	8.28A	1.671A	20.25B	11.85	0.31	8.42			
2.5 - 2.6	7.29A	0.748A	17.36B	7.75	0.28	6.78			

Depth m	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	FS %	Silt Clay
0 - 0.02	0.7B	1.04C									9.9 35.9
0 - 0.1	0.1B	1.46C	15.6J								9.9 32.9
0.12 - 0.2	<0.1B	0.9C	6.1J								7.9 34.5
0.3 - 0.4	4.8B	0.66C	2.1J								8.8 36.2
0.7 - 0.8	6.5B	0.55C	1.1J								11.5 40.4
1.2 - 1.3	2.9B	0.23C	1.2J								13.1 45.5
2.5 - 2.6	<0.1B	0.11C	3.2J								11.1 42.8

[illegible]

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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