

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed008 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: Ian Keene, Mulgamah
Date Desc.: 31/10/85	Elevation: 215 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6677500 AMG zone: 55	Runoff: No Data
Easting/Lat.: 761200 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: Level
Slope: 0 %	Aspect: No Data

Surface Soil Condition (dry): Self-mulching, 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 - 0.09 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); ; Light medium clay; Moderate grade of structure, 5-10 mm, Granular; Strong grade of structure, 20-50 mm, Platy; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; 2-10%, fine gravelly, 2-6mm, angular, Quartz, coarse fragments; Field pH 6.7 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
A12	0.09 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 50-100 mm, Platy; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Field pH 6.7 (pH meter); Common, very fine (0-1mm) roots;
A13	0.25 - 0.65 m	Very dark grey (10YR3/1-Moist); , 10YR83, 0-2% , 0-5mm, Faint; Medium heavy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.65 - 1 m	Reddish brown (5YR4/4-Moist); , 5YR31, 2-10% , 5-15mm, Distinct; , 10YR81, 0-2% , 0-5mm, Distinct; Light medium clay; Weak grade of structure, 100-200 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.7 (pH meter);
B22	1 - 1.85 m	Yellowish red (5YR4/6-Moist); , 7.5YR32, 2-10% , 0-5mm, Faint; Light clay; Weak grade of structure, 100-200 mm, Subangular blocky; Moderate 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; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 8.2 (pH meter); Diffuse, Smooth change to -
2B2	1.85 - 2.64 m	Dark brown (7.5YR3/2-Moist); , 10YR83, 0-2% , 5-15mm, Faint; , 10YR83, 0-2% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 100-200 mm, Lenticular; 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; Firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8.2 (pH meter);

Morphological Notes

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A11p Noel Duhaylungsod with Ward and McGarry. Platy peds in .01 broken from material like 10-20cm. Looks like MVpH. Des says pedality degree .03 is 1, slick development .05 is 1. There is a buried B2 below 185cm, determined on colour change; ora

A12 nge/brown above to very dark brown beneath. >185cm is whole coloured. Evidence of burial supported by structure improvement and cracks infilled with sand. Is this MVpH over Bulyeroi-Helebah?

Observation Notes

Parent Rock: alluvial sediment, clay, parna on fourth fan

Site Notes

Fallow. Few waterworn quartz gravels on surface up to 60mm diameter.

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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 - 0.02	7.46A	0.09A	26.41B	12.36	1.85	1.19			
0 - 0.09	7.33A	0.142A	22.43B	14.3	1	1.49			
0.1 - 0.2	8.18A	0.083A	24.75B	13.5	0.37	2.53			
0.3 - 0.4	8.89A	0.201A	23.91B	13.87	0.23	5.92			
0.7 - 0.8	7.98A	2.89A	23.99B	16.18	0.86	13.11			
1.2 - 1.3	8.58A	1.673A	25.39B	18.59	1.09	16.82			
2.5 - 2.6	8.87A	1.249A	22.7B	15.5	0.72	15.07			

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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