

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed428 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: M.E. Heape	Locality: Bruce Tout, Oakvale
Date Desc.: 02/05/86	Elevation: 308 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6665900 AMG zone: 55	Runoff: No Data
Easting/Lat.: 776500 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: Hillcrest	Slope Category: Gently inclined
Slope: 2 %	Aspect: 70 degrees

Surface Soil Condition (dry): Surface crust

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Ug5.13
	Great Soil Group: Brown clay

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Light medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, <2 mm, Granular; Rough-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded tabular, Consolidated rock (unidentified), coarse fragments; Field pH 8.5 (pH meter); Few, fine (1-2mm) roots;
A12	0.1 - 0.25 m	Very dark brown (10YR2/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Rough-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Basalt, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, fine (1-2mm) roots;
A13	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); , 5YR31, 0-2% , 0-5mm, Faint; Medium heavy clay; Moderate grade of structure, 10-20 mm, Prismatic; 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; Very firm consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Basalt, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Common, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.55 - 0.95 m	Very dark brown (10YR2/2-Moist); , 10YR53, 0-2% , 0-5mm, Faint; Medium heavy clay; Moderate grade of structure, 10-20 mm, Lenticular; 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; 0-2%, medium gravelly, 6-20mm, subrounded, Basalt, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter); Common, very fine (0-1mm) roots;
B22	0.95 - 1.38 m	Reddish brown (5YR4/3-Moist); , 10YR22, 2-10% , 5-15mm, Faint; Medium heavy clay; Moderate grade of structure, 10-20 mm, Lenticular; Weak grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Basalt, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.5 (pH meter);

Morphological Notes

A11 The cause of the second colour is sand in layer 4 and clay in layer 3. There is inwashed silica sand (in a crack) in layer 5. Though rock prevented more sample being collected,

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A12 none was brought up from the bottom of the core. The topsoil is brown, and brown soil appears in cracks in layer 3 and below, suggesting a possible basaltic surface wash. The quartz sands in cracks are below this and may be earlier wash (sample to McTainsh). Residual on basalt talus, 50ft below summit

A13 of basalt hill. Silica sand source needs identification.

Observation Notes

Parent Rock: residual, basalt, Nandewar Volcanics

Site Notes

Boulders of basalt on the ground surface.

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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	8.19A	0.188A	28.18B	7.32	2.18	0.45			
0.1 - 0.2	8.57A	0.168A	35.76B	13.03	1.34	1.06			
0.3 - 0.4	8.87A	0.197A	27.95B	17.49	0.81000	3.04			
					01				
0.7 - 0.8	8.55A	0.752A	27.44B	18.49	0.38	6.49			
1.2 - 1.3	8.51A	0.878A	26.97B	17.6	0.41	6.42			

Depth	CaCO ₃	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	CS	Size FS	Analysis Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.1	1B	2.83C	3.1J									
0.1 - 0.2	3.8B	1.77C	<1J									
0.3 - 0.4	4.4B	1.41C	<1J									
0.7 - 0.8	2.5B	1.32C	1.7J									
1.2 - 1.3	3.9B	0.6C	4.6J									

[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