Project Name: Soil Studies in the Lower Namoi Valley

Project Code: EDGEROI Site ID: ed120 Observation ID: 1

Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward Locality: Forestry Commission of NSW, Bobbiwaa State Forest

Date Desc.: Elevation: 26/06/86 323 metres Map Ref.: Sheet No.: 8837 N 1:50000 Rainfall: No Data Northing/Long.: 6662600 AMG zone: 55 Runoff: No Data Easting/Lat.: 780200 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: Pediment Slope Category: Gently inclined
Slope: 2 % Aspect: 200 degrees

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification: Mapping Unit: N/A
N/A Principal Profile Form: Uc4.11

ASC Confidence: Great Soil Group: Siliceous sand

Confidence level not specified

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

Dark greyish brown (10YR4/2-Moist); Greyish brown (10YR5/2-Dry); , 10YR54, 0-2% , 0-5mm, Distinct; Loamy sand; Weak grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure; Sandy (grains prominent) fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 5.5 (pH meter); Few,

very fine (0-1mm) roots; Clear, Smooth change to -

A21 0.1 - 0.25 m Yellowish brown (10YR5/4-Moist); , 7.5YR54, 2-10% , 5-15mm, Distinct; Sand; Single grain

grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 5.5 (pH meter); Few,

very fine (0-1mm) roots;

A22 0.25 - 0.55 m Light yellowish brown (10YR6/4-Moist); , 10YR53, 2-10% , 5-15mm, Faint; , 7.5YR58, 0-2% , 0-

5mm, Distinct; Sand; Single grain grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence;

Field pH 5.8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -

A23 0.55 - 0.94 m Light yellowish brown (10YR6/4-Moist); , 10YR72, 10-20% , 5-15mm, Distinct; , 5YR58, 0-2% ,

5-15mm, Distinct; Loamy sand; Single grain grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 5.8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -

C 0.94 - 2.76 m Reddish yellow (7.5YR6/8-Moist); , 10YR81, 2-10% , 5-15mm, Distinct; Loamy sand; Massive

grade of structure; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm)

macropores, Moderately moist; Rigid consistence; Field pH 6.5 (pH meter);

Morphological Notes

A11 The surface "crust" is weak, and the sand also occurs in worm burrows in 0-10. A2

extends to 94cm and rests on weathered rock. Expected B horizon is not present. Grey

and yellowish brown weathered rock continues to 276. A2 structure best te

A21 rmed single-grain than massive. Field texture of 12005 estimated from lab results.

Observation Notes

Parent Rock: residual, sandstone, Pilliga Sandstone

Site Notes

Soft after 50mm rain. Topography easy sloping as part of general easy undulating. 0-94 sand, mottled, porous at base with iron concretions. Also one specimen veg ?119. Plus Eucalyptus trachyphloia (sample). Base of A2 is possibly 94 or 96,

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Laboratory Test Results:

Depth	рН	1:5 EC		hangeable		NI-	Exchangea		c	ECEC	: 1	ESP
m		dS/m	Ca	Mg	K	Na Acidity Cmol (+)/kg						%
0 - 0.02	5.29A	0.031A		0.33	0.18	<0.01						
0 - 0.1	4.86A	0.069A	-	0.11	0.13	<0.01						
0.1 - 0.2	4.91A	0.028A	-	<0.1	0.17	<0.01						
0.3 - 0.4	5.66A	0.01A	<0.1B	0.48	0.19	0.03						
0.7 - 0.8	5.86A	0.03A	<0.1B	1.07	0.34	0.33						
1.2 - 1.3	5.8A	0.058A	<0.1B	1.22	0.17	0.73						
Depth	CaCO3	Organic	Avail.	Total	Total	Tota	al Bu	lk	Particle	Size	Analysis	S
-		C	Р	Р	N	K	Dens	ity GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/n	n3		%		
0 - 0.02	<0.1B	3.61C									2.8	5.6
0 - 0.1	<0.1B	0.98C	12J								3.7	8.4
0.1 - 0.2	<0.1B	0.34C	<1J								4.3	9.5
0.3 - 0.4	<0.1B	0.23C	<1J								4.5	10.2
0.7 - 0.8	<0.1B	0.11C	1J								4.5	13.4
1.2 - 1.3	<0.1B	0.04C	<1J								5.6	12.3
Depth	COLE	COLE Gravimetric/Volumetric Water Contents							Ks	at	K unsa	t
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar				
m				g	/g - m3/m	13			mm	ı/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

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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 Silt (%) - Coventry and Fett pipette method