Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed187** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	W.T. Ward	**Locality:**	stock route, north of Buddah
Date Desc.:	04/02/86	**Elevation:**	241 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6653500 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	771400 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 flat	**Slope Category:**	Level
Slope:	0 %	**Aspect:**	No Data

Surface Soil Condition (dry): Surface crust

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified

Mapping Unit: N/A
Principal Profile Form: Dr3.13
Great Soil Group: Solodic soil

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark reddish brown (5YR3/2-Moist); Brown (10YR4/3-Dry); ; Loamy sand; Weak grade of structure, 5-10 mm, Subangular blocky; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); Dark yellowish brown (10YR4/4-Dry); ; Loamy sand; Weak grade of structure, 5-10 mm, Platy; Weak grade of structure, 5-10 mm, Subangular blocky; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.4 m	Dark brown (7.5YR3/4-Moist); Yellowish brown (10YR5/4-Dry); ; Loamy sand; Weak grade of structure, 5-10 mm, Platy; Weak grade of structure, 5-10 mm, Subangular blocky; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
A2	0.4 - 0.65 m	Brown (7.5YR4/2-Moist); Pinkish grey (7.5YR6/2-Dry); , 5YR58, 0-2% , 5-15mm, Prominent; Loamy sand; Weak grade of structure, 5-10 mm, Platy; Weak grade of structure, 5-10 mm, Subangular blocky; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Ferruginous, Medium (2 -6 mm), Nodules; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Sharp, Wavy change to -
B21	0.65 - 1 m	Yellowish red (5YR4/6-Moist); , 10YR56, 10-20% , 15-30mm, Distinct; , 10YR43, 10-20% , 30-mm, Prominent; Medium clay; Moderate grade of structure, 5-10 mm, Platy; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Ferruginous, Medium (2 -6 mm), Nodules; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
B22	1 - 2.3 m	Dark yellowish brown (10YR4/6-Moist); , 5YR33, 2-10% , 5-15mm, Distinct; , 10YR73, 2-10% , 5-15mm, Prominent; Heavy clay; Moderate grade of structure, 10-20 mm, Platy; Earthy 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, subrounded, Quartz, coarse fragments; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -

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B23	2.3 - 2.73 m	Yellowish red (5YR4/6-Moist); , 10YR42, 10-20% , 15-30mm, Distinct; , 10YR43, 2-10% , 5-15mm, Prominent; Medium clay; Weak grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Moderately moist; Few (2 - 10 %), Calcareous, Very coarse (20 - 60 mm), Nodules; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11 A rounded concretion in B2 70-80 is 10R3/3. Possible stratigraphic change at 230 to clayier material. Amount of lime increased below 120-130 to 250-260. Fe concretions continue throughout 120-230, more common near top. The reddish colour at

A12 bottom is ?prior soil.

Observation Notes

Parent Rock: alluvial sediment, sandstone, Tertiary beds, weathered

Site Notes

Site on side of road is disturbed by recent road works.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m	Cmol (+)/kg							%
0 - 0.02	6.35A	0.126A	1.67B	1.13	0.69	<0.01				
0 - 0.1	5.66A	0.095A	2.44B	1.55	0.35	0.07				
0.1 - 0.2	6.22A	0.06A	3.08B	1.1	0.28	0.05				
0.3 - 0.4	5.93A	0.024A	1.71B	0.77	0.3	<0.01				
0.5 - 0.6	6.36A	0.014A	1.55B	0.48	0.27	<0.01				
0.7 - 0.8	7.75A	0.037A	6.22B	5.77	0.96	0.82				
1.2 - 1.3	8.97A	0.139A	7.24B	10.45	1.32	2.4				
2.5 - 2.6	9.39A	0.428A	4.34B	10.61	1.1	6.15				

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.02	<0.1B	0.92C									5.4	9.4
0 - 0.1	<0.1B	0.99C	38.9J								7.6	11.9
0.1 - 0.2	<0.1B	0.85C	38.6J								9.1	13.7
0.3 - 0.4	<0.1B	0.35C	34.7J								9	12.9
0.5 - 0.6	<0.1B	0.17C	20.9J								10.1	9.4
0.7 - 0.8	<0.1B	0.15C	28.3J								8.3	37.9
1.2 - 1.3	<0.1B	0.1C	31.4J								8.7	47.8
2.5 - 2.6	1.6B	0.1C	15.6J								14.4	44.8

Depth	COLE	Gravimetric/Volumetric Water Contents							K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar		
m		g/g - m3/m3							mm/h	mm/h
0 - 0.02										
0 - 0.1										
0.1 - 0.2										
0.3 - 0.4										
0.5 - 0.6										
0.7 - 0.8										
1.2 - 1.3										
2.5 - 2.6										

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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
P10_CF_Z	Silt (%) - Coventry and Fett pipette method