

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed339 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

**Site Information**

<b>Desc. By:</b>	W.T. Ward	<b>Locality:</b>	I.O.(Ian) Falkiner, Murrumbilla
<b>Date Desc.:</b>	17/08/87	<b>Elevation:</b>	332 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6654600 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	780700 Datum: AGD66	<b>Drainage:</b>	No Data

**Geology**

<b>ExposureType:</b>	Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	No Data	<b>Substrate Material:</b>	No Data

**Land Form**

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	No Data	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Pediment	<b>Slope Category:</b>	No Data
<b>Slope:</b>	%	<b>Aspect:</b>	15 degrees

**Surface Soil Condition (dry):** Loose

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>	N/A	<b>Mapping Unit:</b>	N/A
<b>ASC Confidence:</b>	Confidence level not specified	<b>Principal Profile Form:</b>	Dy3.42
		<b>Great Soil Group:</b>	Solodic soil

**Site Disturbance:**

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

A11	0 - 0.1 m	Brown (7.5YR4/2-Moist); Brown (7.5YR4/2-Dry); ; Loamy sand; Massive grade of structure; Weak grade of structure, 2-5 mm, Granular; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; 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;
A12	0.1 - 0.15 m	Brown (7.5YR5/4-Moist); ; Sand; Massive grade of structure; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
A2	0.15 - 0.3 m	Light grey (10YR7/2-Moist); ; Sand; Massive grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Sharp, Wavy change to -
B21	0.3 - 0.55 m	Brown (7.5YR5/4-Moist); , 10YR62, 20-50% , 5-15mm, Prominent; , 7.5YR32, 0-2% , 5-15mm, Distinct; Light clay; Strong grade of structure, 100-200 mm, Prismatic; Weak grade of structure, 50-100 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, subrounded, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Field pH 4.5 (pH meter); Few, coarse (>5mm) roots;
B22	0.55 - 1.2 m	Red (2.5YR4/6-Moist); , 10YR62, 20-50% , 15-30mm, Prominent; , 10YR63, 2-10% , 5-15mm, Prominent; Light clay; Strong grade of structure, 100-200 mm, Prismatic; Weak grade of structure, 50-100 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; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
D1	1.2 - 1.9 m	Greyish brown (10YR5/2-Moist); , 7.5YR64, 10-20% , 0-5mm, Distinct; Light clay; Massive grade of structure; Smooth-ped fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Rigid consistence; Field pH 7.3 (pH meter); Few, very fine (0-1mm) roots;

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D2	1.9 - 3.05 m	Brown (7.5YR5/2-Moist); , 10YR64, 10-20% , 30-mm, Distinct; , 7.5YR42, 0-2% , 5-15mm, Faint; Light clay; Massive grade of structure; Moderate grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots;
D3	3.05 - 4.05 m	Brown (7.5YR5/2-Moist); , 10YR74, 10-20% , 30-mm, Distinct; Clayey sand; Massive grade of structure; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 5.5 (pH meter);
D4	4.05 - 5.05 m	Strong brown (7.5YR5/6-Moist); , 10YR63, 20-50% , 15-30mm, Distinct; , 7.5YR52, 2-10% , 0-5mm, Distinct; Sand; Massive grade of structure; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 5.5 (pH meter);
D5	5.05 - 6.05 m	Light grey (10YR7/2-Moist); ; Clayey sand; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, rounded, Quartz, coarse fragments; Field pH 5.5 (pH meter);
D6	6.05 - 7.3 m	Strong brown (7.5YR5/8-Moist); , 10YR82, 20-50% , 15-30mm, Distinct; Light clay; Massive grade of structure; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, medium gravelly, 6-20mm, subangular, Quartz, coarse fragments; Field pH 5.5 (pH meter); Abrupt, Smooth change to -
R1	7.3 - 7.95 m	Rock
R2	7.95 - 8.41 m	Rock

#### **Morphological Notes**

A11	Faint rusty stains occur in the transition from A1 to A2. The primary B2 colour occurs only in the lower part of the horizon as centres to peds inherited from prior soil condition. Rounded quartz gravels and soft ferruginous gravels at 90cm
A12	mark base of pedis sediment. The lower part of the B2, from 100-120cm, also contains many fine black manganese stains. Note sandy fabric at 130cm and abundant pores. Colour 2 at 250-260 is for sandier patches; the structure at this level see
A2	ms mostly inherited from parent sediment. Pebbles at 590cm; fossil wood at 530 and 580, iron stained. Pores at 580 have prominent white clay cutans. Textures are sandier at 550, and sediment is very porous. Gravel band at 580. Contact with
B21	'typical' Purlawaugh is at 730, overlying material is interbedded sandy (mostly) and clayey facies of Purlawaugh. Fragments 2.5YR3/4 ironstone at 730 and 760. Deepest horizons are coarsely stained rocks rather than soils. No visible calcium
B22	carbonate in this core.

#### **Observation Notes**

Parent Rock: colluvial sediment, from sandstone, non-calcareous, clay Purlawaugh Formation

#### **Site Notes**

Site 339 is ca 350m NNW of 337, on edge of natural forest. Loose surface.

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**Laboratory Analyses Completed for this profile**

15A2_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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