

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed056 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b> W.T. Ward	<b>Locality:</b> Auscott(Togo), Togo
<b>Date Desc.:</b> 08/01/87	<b>Elevation:</b> 193 metres
<b>Map Ref.:</b> Sheet No. : 8837_N 1:50000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6670600 AMG zone: 55	<b>Runoff:</b> No Data
<b>Easting/Lat.:</b> 748500 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> Terrace plain	<b>Slope Category:</b> Level
<b>Slope:</b> 0 %	<b>Aspect:</b> No Data

**Surface Soil Condition (dry):** Self-mulching

#### 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> Ug5.15
	<b>Great Soil Group:</b> Grey clay

**Site Disturbance:** Cultivation. Irrigated, past or present, Complete clearing. Pasture, native or improved, cultivated at some stage,

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11	0 - 0.1 m	Grey (10YR5/1-Moist); Dark grey (10YR4/1-Dry); , 10YR72, 2-10% , 0-5mm, Distinct; Medium heavy clay; Strong grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.2 m	Dark grey (10YR4/1-Moist); ; Medium heavy clay; Strong grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 20-50 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, subangular, Quartz, coarse fragments; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
2A11	0.2 - 0.55 m	Dark grey (10YR4/1-Moist); ; Medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 20-50 mm, Lenticular; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
2A12	0.55 - 1 m	Dark grey (10YR4/1-Moist); , 10YR72, 0-2% , 0-5mm, Distinct; , 10YR72, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 50-100 mm, Angular blocky; Moderate grade of structure, 20-50 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Diffuse, Smooth change to -
2B21	1 - 1.9 m	Brown (7.5YR4/4-Moist); , 10YR72, 0-2% , 5-15mm, Distinct; , 7.5YR42, 2-10% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 20-50 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; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter);
2B22	1.9 - 3.05 m	Brown (7.5YR4/4-Moist); , 10YR73, 0-2% , 5-15mm, Prominent; , 5YR54, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 100-200 mm, Lenticular; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter);

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2B23      3.05 - 3.58 m      Brown (7.5YR4/4-Moist); , 7.5YR42, 0-2% , 5-15mm, Distinct; , 5YR54, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 100-200 mm, Lenticular; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm<sup>2</sup>) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 8.7 (pH meter);

#### **Morphological Notes**

A11      The top 10cm contains thin laminae of sand as well as inwashed sand. At 33cm a small snail shell was found. The subsoil (120-130cm) colour resembles the colour of the MVpH subsoils. Many small manganese flecks occur at 350-358cm, as well as

A12      coarse carbonate nodules at 320-330cm. This profile seems to have relatively thin flood deposits (note sand laminae) over a prior soil like MVpH or alternatively, the oldest alluvium.

#### **Observation Notes**

Parent Rock: alluvial sediment, clay, floodplain

#### **Site Notes**

Small shells on surface due to ponding of Galathera Creek. Some cracks 840mm deep, but average 500mm. The cracks at this site are very big possibly due to extremes in water content. NB. By definition there are 50 cracks per metre as there a



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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
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method