

Project Name: Rhynie Soil Survey
Project Code: Rhynie **Site ID:** A1238 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (SA)

Site Information

Desc. By: N.J. McKenzie	Locality:
Date Desc.: 01/11/88	Elevation: 287 metres
Map Ref.: Sheet No. : 6629-18 1:10000	Rainfall: No Data
Northing/Long.: 6216260 AMG zone: 54	Runoff: No Data
Easting/Lat.: 289500 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: Lower-slope	Relief: No Data
Elem. Type: No Data	Slope Category: No Data
Slope: 2 %	Aspect: 90 degrees

Surface Soil Condition (dry): Cracking

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Ug5.38
	Great Soil Group: N/A

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11	0 - 0.1 m	Very dark grey (5YR3/1-Moist); ; Medium heavy clay; Moderate grade of structure, 5-10 mm, Granular; Rough-ped fabric; Dry; Very firm consistence; Field pH 7 (Raupach); Gradual, Smooth change to -
A12	0.1 - 0.2 m	Very dark grey (5YR3/1-Moist); ; 5YR46, 20-50% , 15-30mm, Distinct; Medium heavy clay; Strong grade of structure, 5-10 mm, Granular; Rough-ped fabric; Dry; Very firm consistence; Field pH 8 (Raupach); Gradual, Smooth change to -
B21	0.2 - 0.3 m	Yellowish red (5YR4/8-Moist); ; 5YR31, 20-50% , 15-30mm, Distinct; Medium heavy clay; 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.5 (Raupach);
B21	0.3 - 0.4 m	Yellowish red (5YR4/8-Moist); ; 5YR31, 20-50% , 15-30mm, Distinct; Medium heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.5 (Raupach);
B21	0.4 - 0.5 m	Yellowish red (5YR4/8-Moist); ; 5YR31, 10-20% , 15-30mm, Distinct; Medium heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, prominent; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.5 (Raupach); Abrupt, Smooth change to -
B22	0.5 - 0.62 m	Red (2.5YR4/6-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Very coarse (20 - 60 mm), Soft segregations; Field pH 8.5 (Raupach); Abrupt, Smooth change to -
B31	0.62 - 0.9 m	Yellowish red (5YR5/6-Moist); ; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach);
B31	0.9 - 1.2 m	Yellowish red (5YR5/6-Moist); ; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach);

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B31	1.2 - 1.5 m	Yellowish red (5YR5/6-Moist); ; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach); Diffuse, Smooth change to -
B32	1.5 - 1.8 m	Reddish yellow (7.5YR7/6-Moist); ; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations;
B32	1.8 - 2.1 m	Light brown (7.5YR6/4-Moist); ; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach);
B32	2.1 - 2.4 m	Light brown (7.5YR6/4-Moist); , 7.5YR56; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (Raupach); Diffuse change to -
B33	2.4 - 2.7 m	Light brown (7.5YR6/4-Moist); , 7.5YR56, 10-20% , 15-30mm, Faint; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Many (20 - 50 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9 (Raupach);
B33	2.7 - 3 m	Light brown (7.5YR6/4-Moist); , 7.5YR54, 10-20% , 15-30mm, Faint; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach);

Morphological Notes

A11	The clays of the A1, B21 and B22 are very distinctive. They sorbed water very easily, and noticeable instantaneous swelling is evident. Virtually no manipulation is needed to form the bolus (very high sorptivity?)
B21	The reddish B2 has a large amount of incorporated A1. General appearance is of a red cracking clay turning into a black earth overlying a deep yellowish massive clay.
B31	The B3 is tough, slimy and very slow to wet (sodic?). The B3 has many small segregations, that appear to have been transported rather than formed in-situ.
B32	Very weak mottle present. Paleness in pH due to carbonates.

Observation Notes

Either a Ug5.15 or Ug5.38 (doesn't fit well)

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Laboratory Test Results:

[illegible][illegible][illegible]

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1.5 - 1.8
1.8 - 2.1
2.1 - 2.4
2.4 - 2.7
2.7 - 3

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Laboratory Analyses Completed for this profile

12C2	Calcium chloride extractable boron - ICPAES
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
4B2	pH of 1:5 soil/0.01M calcium chloride extract - following Method 4A1
5A2	Chloride - 1:5 soil/water extract, automated colour