Project Name: **Rhynie Soil Survey**
Project Code: **Rhynie** **Site ID:** **A1235** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (SA)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 30/10/88
Map Ref.: Sheet No. : 6629-18 1:10000
Northing/Long.: 6216130 AMG zone: 54
Easting/Lat.: 289530 Datum: AGD66
Locality:
Elevation: 287 metres
Rainfall: No Data
Runoff: No Data
Drainage: No Data

Geology

ExposureType: Undisturbed soil core
Geol. Ref.: No Data
Conf. Sub. is Parent. Mat.: No Data
Substrate Material: Slightly porous, Shale

Land Form

Rel/Slope Class: No Data
Morph. Type: Mid-slope
Elem. Type: No Data
Slope: 4 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 40 degrees

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

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

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.05 m	Dark reddish brown (5YR3/3-Moist); ; Sandy clay; Massive grade of structure; Earthy fabric; Dry; Strong consistence; Field pH 7.5 (Raupach); Abrupt, Smooth change to -
B21	0.05 - 0.1 m	Reddish brown (5YR4/3-Moist); , 5YR33, 20-50% , 15-30mm, Faint; Medium heavy clay; Strong grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Nodules; , , , Soft segregations; Field pH 8 (Raupach); Abrupt, Smooth change
B22	0.1 - 0.2 m	Brown (7.5YR5/4-Moist); , 5YR42, 20-50% , 30-mm, Distinct; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Nodules; , , , Soft segregations; Field pH 8.5 (Raupach);
B22	0.2 - 0.3 m	Brown (7.5YR5/4-Moist); , 5YR42, 20-50% , 30-mm, Distinct; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; Many cutans, >50% of ped faces or walls coated, distinct; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Nodules; , , , Soft segregations; Field pH 8.5 (Raupach); Gradual, Smooth change to -
B23	0.3 - 0.4 m	Reddish brown (5YR5/4-Moist); , 5YR42, 20-50% , 30-mm, Distinct; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; Many cutans, >50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Nodules; , , , Soft segregations; Field pH 8.5 (Raupach);
B23	0.4 - 0.5 m	Reddish brown (5YR5/4-Moist); , 5YR42, 20-50% , 30-mm, Distinct; Heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; Many cutans, >50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Nodules; , , , Soft segregations; Field pH 8.5 (Raupach);
B23	0.5 - 0.7 m	Reddish brown (5YR5/4-Moist); , 5YR42, 20-50% , 30-mm, Distinct; Heavy clay; Weak grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; Many cutans, >50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Nodules; , , , Soft segregations; Field pH 8.5 (Raupach); Gradual, Smooth change to -
B24	0.7 - 0.9 m	Reddish yellow (7.5YR6/5-Moist); ; Heavy clay; Weak grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach);

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B24	0.9 - 1.2 m	Reddish yellow (7.5YR6/5-Moist); ; Heavy clay; Weak grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach);
B25	1.2 - 1.5 m	Light yellowish brown (10YR6/4-Moist); , 5YR66, 20-50% , 5-15mm, Distinct; Heavy clay; Weak grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Dry; Very strong consistence; 2-10%, coarse gravelly, 20-60mm, rounded platy, undisturbed, Shale, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach);
C	1.5 - m	;

Morphological Notes

A1	The profile is a transitional cracking clay. Structure is difficult -obvious large crack sampled to 70cm, but the scale and character of structure is not as clear as for the previous sites.
B24	The 6/5:6/4 coloured clay is extremely effervescent (dispersed carbonate).
C	The C horizon is Woolshed Flat Shale and it differs from the previous two upslope sites in not having abundant carbonate layers. It is yellow (weathered) to grey (fresh) and slightly more coarser grained.

Observation Notes

P.P.F Gc2.22 (doesn't fit Gc requirement for clay loam or tighter A11). Ug5.6 (doesn't fit because A11 to B21 is > than 1.5 texture groups, ie SC to MHC).

Site Notes

Surface cracking (0.01 width : 0.50-1.00 apart)

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.05										
0.05 - 0.1										
0.1 - 0.2										
0.2 - 0.3										
0.3 - 0.4										
0.4 - 0.5										
0.5 - 0.7										
0.7 - 0.9										
0.9 - 1.2										
1.2 - 1.5										
1.5 -										

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 - 0.05												
0.05 - 0.1												
0.1 - 0.2												
0.2 - 0.3												
0.3 - 0.4												
0.4 - 0.5												
0.5 - 0.7												
0.7 - 0.9												
0.9 - 1.2												
1.2 - 1.5												
1.5 -												

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 - 0.05										
0.05 - 0.1										
0.1 - 0.2										
0.2 - 0.3										
0.3 - 0.4										
0.4 - 0.5										
0.5 - 0.7										
0.7 - 0.9										
0.9 - 1.2										
1.2 - 1.5										
1.5 -										

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Laboratory Analyses Completed for this profile