Project Name: **Rhynie Soil Survey**
Project Code: **Rhynie** **Site ID:** **A1270** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (SA)**

Site Information

Desc. By:	N.J. McKenzie	**Locality:**	
Date Desc.:	01/11/88	**Elevation:**	No Data
Map Ref.:	Sheet No. : 6629-18 1:10000	**Rainfall:**	No Data
Northing/Long.:	6216740 AMG zone: 54	**Runoff:**	No Data
Easting/Lat.:	290240 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:	No Data	**Slope Category:**	No Data
Slope:	%	**Aspect:**	No Data

Surface Soil Condition (dry):

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:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.1 m	Reddish brown (2.5YR4/4-Moist); ; Sandy clay loam, fine sandy; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Dry; Very firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Shale, coarse fragments; Field pH 7 (Raupach); Abrupt change to -
B1	0.1 - 0.2 m	Reddish brown (2.5YR4/3-Moist); , 2.5YR46, 20-50% , 30-mm, Distinct; Medium clay; Strong grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Dry; Strong consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 7.5 (Raupach); Clear change to -
B21	0.2 - 0.3 m	Reddish brown (2.5YR4/4-Moist); , 2.5YR46, 20-50% , 30-mm, Distinct; Medium heavy clay; Strong grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 8 (Raupach);
B21	0.3 - 0.4 m	Reddish brown (2.5YR4/4-Moist); , 2.5YR46, 20-50% , 30-mm, Distinct; Medium heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 8 (Raupach);
B21	0.4 - 0.42 m	Reddish brown (2.5YR4/4-Moist); , 2.5YR46, 20-50% , 30-mm, Distinct; Medium heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 8 (Raupach); Abrupt change to -
B22	0.42 - 0.5 m	Red (2.5YR4/6-Moist); , 5YR68, 20-50% , 30-mm, Distinct; Medium heavy 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 9 (Raupach);
B22	0.5 - 0.7 m	Red (2.5YR4/6-Moist); , 5YR68, 20-50% , 30-mm, Distinct; Medium heavy 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 9 (Raupach); Gradual change to -
B3	0.7 - 0.9 m	Red (2.5YR4/6-Moist); , 5YR68, 20-50% , 30-mm, Distinct; Moderate grade of structure, 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 9 (Raupach); Gradual change to -

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C	0.9 - 1.5 m	; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9 (Raupach);
C	1.5 - 2 m	; Field pH 9 (Raupach);

Morphological Notes

A1	A red-brown earth with a very thin degraded (eroded?) A1 horizon.
B1	The dark red B1 and B2 are very tough and very pedal, even though they have a 'low' pH of 7.5-8.0. The B1 and B21's mottling is due to clay coatings.
B21	The B2 is non-swelling and has a very low sorptivity.
B21	The carbonate enters at 42cm in a standard B22k.
B22	B22 and B3 mottles caused by carbonate.
B3	The BC and C have a strong element of the original rock fabric. The carbonate decreases in the C although some banding is evident throughout.
C	Yellow banding present in this and the lower horizon.
C	The C is thick and predominantly light yellow with increasing grey bands at depth.

Observation Notes

Site Notes

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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 - 0.1	5.37C	0.12A								
	5.98A									
0.1 - 0.2	5.91C	0.1A								
	6.81A									
0.2 - 0.3										
0.3 - 0.42	8.03C	0.36A								
	8.7A									
0.4 - 0.42										
0.42 - 0.5	8.25C	0.6A								
	9.03A									
0.5 - 0.7										
0.7 - 0.9	8.42C	0.91A								
	9.22A									
0.9 - 1.5										
1.5 - 2										

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 - 0.1												
0.1 - 0.2												
0.2 - 0.3												
0.3 - 0.42												
0.4 - 0.42												
0.42 - 0.5												
0.5 - 0.7												
0.7 - 0.9												
0.9 - 1.5												
1.5 - 2												

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 - 0.1										
0.1 - 0.2										
0.2 - 0.3										
0.3 - 0.42										
0.4 - 0.42										
0.42 - 0.5										
0.5 - 0.7										
0.7 - 0.9										
0.9 - 1.5										
1.5 - 2										

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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