

Project Name: Rhynie Soil Survey
Project Code: Rhynie **Site ID:** A1239 **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.:	6216240 AMG zone: 54	Runoff:	No Data
Easting/Lat.:	289330 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:		Mapping Unit:	N/A
N/A		Principal Profile Form:	N/A
ASC Confidence:		Great Soil Group:	N/A
Confidence level not specified			

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.06 m	Dark reddish brown (5YR3/2-Moist); , 0-0% ; Medium clay; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Dry; Strong consistence; Field pH 7.5 (Raupach); Clear, Smooth change to -
B1	0.06 - 0.1 m	Dark reddish brown (2.5YR3/4-Moist); , 5YR32, 20-50% , 15-30mm, 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, distinct; Field pH 8 (Raupach);
B1	0.1 - 0.2 m	Dark reddish brown (2.5YR3/4-Moist); , 5YR32, 20-50% , 15-30mm, 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, distinct; Field pH 8 (Raupach); Clear, Smooth change to -
B21	0.2 - 0.3 m	Red (2.5YR4/6-Moist); , 0-0% ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Common (10 - 20 %), Calcareous, , Soft segregations; Field pH 8.5 (Raupach); Abrupt, Smooth change to -
B22	0.3 - 0.4 m	Red (2.5YR5/6-Moist); , 0-0% ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, , Soft segregations; Field pH 9 (Raupach); Clear, Smooth change to -
B23	0.4 - 0.5 m	Red (2.5YR5/6-Moist); , 20-50% , 15-30mm, Distinct; Moderate grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, , Soft segregations; Field pH 9 (Raupach); Clear, Smooth change to -
B31	0.5 - 0.75 m	Red (2.5YR5/6-Moist); , 2.5YR66, 20-50% , 30-mm, Distinct; Weak 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; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Many (20 - 50 %), Calcareous, , Soft segregations; Field pH 9 (Raupach); Gradual, Smooth change to -

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B32	0.75 - 1 m	Brown (7.5YR5/4-Moist); , 7.5YR74, 20-50% , 30-mm; Weak 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; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Many (20 - 50 %), Calcareous, , Soft segregations; Field pH 9 (Raupach); Gradual, Smooth change to -
B33	1 - 1.25 m	Brown (7.5YR5/4-Moist); , 2.5YR47, 10-20% , 30-mm, Prominent; , 7.5YR74; Weak 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; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Many (20 - 50 %), Calcareous, , Soft segregations; Field pH 9 (Raupach); Gradual, Smooth change to -
B34	1.25 - 1.4 m	Brown (7.5YR5/4-Moist); , 2.5YR47, 20-50% , 30-mm, Prominent; Weak 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; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Many (20 - 50 %), Calcareous, , Soft segregations; Field pH 9 (Raupach); Sharp, Smooth change to -
B4	1.4 - 1.6 m	Light yellowish brown (10YR6/4-Moist); , 0-0% ; Weak 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; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Field pH 9 (Raupach); Clear, Smooth change to -
B4	1.6 - 2.1 m	Light yellowish brown (10YR6/4-Moist); , 2.5YR54, 10-20% , 15-30mm, Distinct; Weak 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; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach); Abrupt, Smooth change to -
C	2.1 - 2.5 m	; Weak grade of structure, 20-50 mm, Angular blocky; Dry; Very strong consistence; Field pH 9 (Raupach);

Morphological Notes

A1	Very dark brown MC. A1 grading into a red B with similar texture.
B1	Mottling in the B1 is due to infill and worms
B1	The B1 and B2 clays have a very high sorptivity and wet very easily. Almost subplastic in nature and rapid swellers.
B22	The carbonate profile is again interesting. Below 140cm the profile is a massive grey and yellow heavy clay (Is this a zone of downslope transmission over the impermeable Woolshed Flat Shale?).
B31	Some minor red mottling in parts of the B3 and B4.
B4	Is the B4 a separate entity?
C	Banded yellow and grey WSFS.

Observation Notes

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Laboratory Test Results:

Depth	pH	1:5 EC		Exchangeable Cations	Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity	%
0 - 0.06	6.91C	0.19A						
	7.23A							
0.06 - 0.2	7.61C	0.14A						
	8.05A							
0.1 - 0.2								
0.2 - 0.3	7.86C	0.19A						
	8.28A							
0.3 - 0.4	7.99C	0.22A						
	8.64A							
0.4 - 0.5	7.81C	0.27A						
	8.49A							
0.5 - 0.75								
0.75 - 1								
1 - 1.25	8.27C	0.69A						
	9.38A							
1.25 - 1.4								
1.4 - 1.6	8.24C	0.86A						
	8.98A							
1.6 - 2.1								
2.1 - 2.5								

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1.25 - 1.4
1.4 - 1.6
1.6 - 2.1
2.1 - 2.5

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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