

Project Name: Rhynie Soil Survey
Project Code: Rhynie **Site ID:** A1278 **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.:	6216520 AMG zone: 54	Runoff:	No Data
Easting/Lat.:	290020 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); ; Medium clay; Strong grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Dry; Strong consistence; Field pH 8.5 (Raupach); Abrupt change to -
B21	0.06 - 0.1 m	Reddish brown (2.5YR4/4-Moist); , 5YR32, 20-50% , 30-mm, Distinct; Medium clay; Strong grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 8 (Raupach);
B21	0.1 - 0.2 m	Reddish brown (2.5YR4/4-Moist); , 5YR32, 20-50% , 30-mm, Distinct; Medium clay; Strong grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 8 (Raupach);
B21	0.2 - 0.3 m	Reddish brown (2.5YR4/4-Moist); , 5YR32, 10-20% , 30-mm, Distinct; Medium clay; Strong grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 8 (Raupach); Clear change to -
B22	0.3 - 0.38 m	Yellowish red (5YR5/6-Moist); , 5YR32, 10-20% , 15-30mm, Distinct; Medium heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.5 (Raupach);
B22	0.38 - 0.4 m	Yellowish red (5YR5/6-Moist); , 5YR32, 10-20% , 15-30mm, 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; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.5 (Raupach); Clear change to -
B23	0.4 - 0.5 m	Reddish brown (5YR4/4-Moist); , 5YR46, 10-20% , 15-30mm, Distinct; Medium heavy clay; Moderate 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; Common (10 - 20 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach); Abrupt change to -
B31	0.5 - 0.6 m	Reddish brown (5YR4/4-Moist); ; Medium heavy clay; Moderate 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; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (Raupach);

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B31	0.6 - 0.75 m	Reddish brown (5YR4/4-Moist); ; Medium heavy clay; Moderate 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; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (Raupach); Clear change to -
B32	0.75 - 1 m	Yellowish red (5YR5/5-Moist); ; Heavy clay; 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; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (Raupach);
B32	1 - 1.35 m	Yellowish red (5YR5/5-Moist); ; Heavy clay; Massive grade of structure; Rough-ped fabric; Dry; Very strong consistence; Few cutans, <10% of ped faces or walls coated, faint; Many (20 - 50 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9 (Raupach); Clear change to -
B4k	1.35 - 1.95 m	Pink (5YR7/4-Moist); , 5YR56, 20-50% , 15-30mm, Distinct; Heavy clay; Massive grade of structure; Rough-ped fabric; Dry; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Extremely coarse (> 60 mm), Soft segregations; Field pH 9 (Raupach); Gradual change to -
B51	1.95 - 2.2 m	Very pale brown (10YR7/4-Moist); , 7.5YR64, 10-20% , 15-30mm, Faint; Heavy clay; Weak grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Dry; Very strong consistence; Many cutans, >50% of ped faces or walls coated, distinct; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9 (Raupach); Clear change to -
B52	2.2 - 2.35 m	Very pale brown (10YR7/4-Moist); , 10YR72, 10-20% , 5-15mm, Faint; 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; Field pH 9 (Raupach); Abrupt change to -
B6	2.35 - 3 m	Very pale brown (10YR7/4-Moist); , 10YR72, 20-50% , 30-mm, Distinct; , 5YR48, 2-10% ; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Dry; Many cutans, >50% of ped faces or walls coated, distinct; Clear change to -
R	3 - m	Rock

Morphological Notes

A1	Dark red-brown cracking clay.
B21	B21 mottle due to mixing, very friable. B21 clay appears to be subplastic - extreme swelling, extreme sorptivity.
B31	Coarsening structure with depth to carbonate nodules in B3. Cream carbonate present in B31.
B4k	Into sodic carbonate clay until strong Bk in second metre. This overlies Mn nodules moving into carbonate clay with increasingly low chroma mottles at depth.
B52	Two carbonate fissures intersect core at 240 and 290. Matrix is carbonate free.
B6	Carbonate fissures in B6 appear to be preferred pathways - leakage of Bk into B6?

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	Na	Acidity	%
				K	Cmol	(+)/kg	
0 - 0.06	7.61C	0.19A					
	7.87A						
0.06 - 0.2	7.64C	0.13A					
	7.96A						
0.1 - 0.2							
0.2 - 0.3							
0.3 - 0.4	7.73C	0.14A					
	8.39A						
0.38 - 0.4							
0.4 - 0.5	7.91C	0.21A					
	8.56A						
0.5 - 0.6							
0.6 - 0.75	8.11C	0.31A					
	9.05A						
0.75 - 1	8.26C	0.42A					
	9.23A						
1 - 1.35							
1.35 - 1.95	8.38C	0.48A					
	9.51A						
1.95 - 2.2	8.55C	0.49A					
	9.47A						
2.2 - 2.35	8.56C	0.51A					
	9.41A						
2.35 - 3	8.54C	0.49A					
	9.43A						
3 -							

[illegible]

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 - m ³ /m ³				mm/h	mm/h

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0 - 0.06
0.06 - 0.2
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.38 - 0.4
0.4 - 0.5
0.5 - 0.6
0.6 - 0.75
0.75 - 1
1 - 1.35
1.35 - 1.95
1.95 - 2.2
2.2 - 2.35
2.35 - 3
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