

**Project Name:** Rhynie Soil Survey  
**Project Code:** Rhynie **Site ID:** A1247 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (SA)

#### Site Information

<b>Desc. By:</b>	N.J. McKenzie	<b>Locality:</b>	
<b>Date Desc.:</b>	01/11/88	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 6629-18 1:10000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6216620 AMG zone: 54	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	289740 Datum: AGD66	<b>Drainage:</b>	No Data

#### Geology

<b>ExposureType:</b>	Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	No Data	<b>Substrate Material:</b>	No Data

#### Land Form

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	No Data	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	No Data	<b>Slope Category:</b>	No Data
<b>Slope:</b>	%	<b>Aspect:</b>	No Data

#### Surface Soil Condition (dry):

#### Erosion:

#### Soil Classification

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

#### Site Disturbance:

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11	0 - 0.1 m	Dark reddish brown (5YR2/3-Moist); ; Loamy fine sand; Weak grade of structure, 2-5 mm, Subangular blocky; Rough-ped fabric; Dry; Firm consistence; Field pH 6.5 (Raupach); Clear change to -
A12	0.1 - 0.15 m	Dark reddish brown (5YR2/3-Moist); Reddish brown (5YR4/4-Dry); ; Silty clay loam; Weak grade of structure, 5-10 mm, Subangular blocky; Rough-ped fabric; Dry; Firm consistence; Field pH 7 (Raupach); Abrupt change to -
B21	0.15 - 0.2 m	Dark reddish brown (5YR3/4-Moist); ; 5YR32, 10-20% , 15-30mm, Faint; Light medium clay; Strong grade of structure, 5-10 mm, Polyhedral; Smooth-ped fabric; Dry; Strong consistence; 20-50%, coarse gravelly, 20-60mm, rounded platy, undisturbed, Shale, coarse fragments; Many cutans, >50% of ped faces or walls coated, prominent; Field pH 7.5 (Raupach);
B21	0.2 - 0.3 m	Dark reddish brown (5YR3/4-Moist); ; 5YR32, 10-20% , 15-30mm, Faint; Medium clay; Strong grade of structure, 10-20 mm, Polyhedral; Smooth-ped fabric; Dry; Strong consistence; Many cutans, >50% of ped faces or walls coated, prominent; Field pH 7.5 (Raupach); Clear change to -
B22	0.3 - 0.4 m	Red (2.5YR4/6-Moist); ; 5YR32, 2-10% , 15-30mm, Faint; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; Many cutans, >50% of ped faces or walls coated, prominent; Field pH 7.5 (Raupach);
B22	0.4 - 0.44 m	Red (2.5YR4/6-Moist); ; 5YR32, 2-10% , 15-30mm, Faint; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; Many cutans, >50% of ped faces or walls coated, prominent; Field pH 7.5 (Raupach); Abrupt change to -
B3k	0.44 - 0.5 m	Yellowish red (5YR4/7-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; 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 8.5 (Raupach);
B3k	0.5 - 0.6 m	Yellowish red (5YR4/7-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; 20-50%, 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, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (Raupach);

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B3k	0.6 - 0.8 m	Yellowish red (5YR4/7-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Strong consistence; 20-50%, cobbly, 60-200mm, rounded platy, undisturbed, Shale, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (Raupach); Gradual change to -
R	0.8 - m	Rock

**Morphological Notes**

A11	A fairly shallow clay rich profile with a fair amount of shale (fresh) in the profile. The A11, A12 has abundant casts and channels and is very porous with strong
B21	A deep red B2 with coarsening of structure with depth. The B2 appears to shrink-swell and has very clear cutans. The B is almost subplastic, sorbs water very easily, easy to wet up, may have more clay than estimated.
B21	Substantial heat of wetting in B21/B22. Mottle in the B21 and B22 from the cutans.
B3k	The B3 has white/grey mottles due to carbonate/shale.

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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	Acidity		%
						Cmol (+)/kg			

0 - 0.1  
0.1 - 0.15  
0.15 - 0.2  
0.2 - 0.3  
0.3 - 0.4  
0.4 - 0.44  
0.44 - 0.5  
0.5 - 0.6  
0.6 - 0.8  
0.8 -

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle		Size	Analysis	
		C	P	P	N	K	Density	GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		

0 - 0.1  
0.1 - 0.15  
0.15 - 0.2  
0.2 - 0.3  
0.3 - 0.4  
0.4 - 0.44  
0.44 - 0.5  
0.5 - 0.6  
0.6 - 0.8  
0.8 -

[illegible]

0 - 0.1  
0.1 - 0.15  
0.15 - 0.2  
0.2 - 0.3  
0.3 - 0.4  
0.4 - 0.44  
0.44 - 0.5  
0.5 - 0.6  
0.6 - 0.8  
0.8 -

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Laboratory Analyses Completed for this profile