Project Name: Rhynie Soil Survey

Project Code: Rhynie Site ID: A1244 Observation ID: 1

Agency Name: CSIRO Division of Soils (SA)

Site Information

Desc. By: N.J. McKenzie Locality:

Date Desc.: Elevation: 01/11/88 No Data Sheet No.: 6629-18 1:10000 Map Ref.: Rainfall: No Data Northing/Long.: 6216560 AMG zone: 54 Runoff: No Data Easting/Lat.: 289650 Datum: AGD66 Drainage: No Data

Geology

ExposureType: Undisturbed soil core Conf. Sub. is Parent. Mat.: 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/AN/APrincipal Profile Form:N/AASC Confidence:Great Soil Group:N/A

Confidence level not specified

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11 0 - 0.06 m Dark reddish brown (5YR3/4-Moist); ; Loamy fine sand; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Dry; Firm consistence; Field pH 6 (Raupach); Clear, Smooth

change to -

A12 0.06 - 0.1 m Reddish brown (5YR4/4-Moist); Light reddish brown (5YR6/4-Dry); , 10-20% , 15-30mm, Faint;

Loamy fine sand; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Dry; Very

firm consistence; Field pH 6 (Raupach);

A12 0.1 - 0.17 m Reddish brown (5YR4/4-Moist); ; Loamy fine sand; Weak grade of structure, 5-10 mm,

Subangular blocky; Earthy fabric; Dry; Very firm consistence; 20-50%, coarse gravelly, 20-60mm, rounded platy, undisturbed, Shale, coarse fragments; Field pH 6 (Raupach); Sharp, Smooth

change to -

B21 0.17 - 0.2 m Dark reddish brown (5YR3/4-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; Field pH 7 (Raupach);

B21 0.2 - 0.3 m Dark reddish brown (5YR3/4-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 mm,

Angular blocky; Rough-ped fabric; Dry; Very strong consistence; 2-10%, medium gravelly, 6-20mm, rounded platy, undisturbed, Shale, coarse fragments; Common cutans, 10-50% of ped

faces or walls coated, distinct; Field pH 7 (Raupach); Clear, Smooth change to -

B22 0.3 - 0.4 m Yellowish red (5YR3/5-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; Field pH 7.5 (Raupach);

B22 0.4 - 0.5 m Yellowish red (5YR3/5-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 mm,

Angular blocky; Rough-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; Field pH 7.5 (Raupach); Clear, Smooth change to -

B23 0.5 - 0.57 m Yellowish red (5YR3/5-Moist); , 5YR32, 20-50% , 15-30mm, Distinct; Medium heavy clay;

Moderate grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Dry; Strong consistence; 10-20%, 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, Very coarse (20 - 60 mm), Soft segregations; Field pH 8.5 (Raupach); Abrupt,

Smooth change to -

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Yellowish red (5YR3/6-Moist); ; Medium heavy clay; Moderate grade of structure, 10-20 mm, B3k 0.57 - 0.62 m

Angular blocky; Rough-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, Very coarse (20 - 60 mm), Soft segregations; Field pH 8.5 (Raupach); Abrupt, Smooth change to -

С 0.62 - 2.2 m ; Clear, Smooth change to -

2.2 - m R Rock

Morphological Notes

Clear duplex soil. A11

C. Fragments in the A12. Faint pale mottling. A12

B21 The B horizon differs from sites A1233 to A1240(?) because it is much tougher, less

well structured and less reactive. Very faint, complex mottles associated with the fabric.

B21 The clay does not sorb like earlier examples and has a tough and shiny texture.

B23 Mottles appear to be organic rich (?) old roots and worm casts present.

The carbonate profile is noteable. The C horizon has numerous grey (unweathered), B3k

yellow (weathered) and cream bands (carbonate) to depth.

Observation Notes

Site Notes

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Laboratory Test Results:

<u>Laboratory Test Results:</u>										
Depth	pН	1:5 EC		hangeable Mg	Cations K	Ex Na	changeable Acidity	CEC	ECEC	ESP
m		dS/m		9		Cmol (+)/I				%
0 - 0.06	5.46C 5.94A	0.09A								
0.06 - 0.17	5.57C 6.17A	0.06A								
0.1 - 0.17										
0.17 - 0.3	5.48C 6.39A	0.09A								
0.2 - 0.3										
0.3 - 0.4	5.8C 6.74A	0.11A								
0.4 - 0.5										
0.5 - 0.57	7.29C 8.02A	0.2A								
0.57 - 0.62	8C 8.61A	0.3A								
0.62 - 2.2 2.2 -										
Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density		CS FS	Analysis Silt Clay
m	%	%	mg/kg	%	%	%	Mg/m3		%	
0 - 0.06 0.06 - 0.17 0.11 - 0.17 0.17 - 0.3 0.2 - 0.3 0.3 - 0.4 0.4 - 0.5 0.5 - 0.57 0.57 - 0.62 0.62 - 2.2 2.2 -										
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 - m3/m3				mm/h	mm/h
0 - 0.06 0.06 - 0.17 0.1 - 0.17 0.17 - 0.3 0.2 - 0.3 0.3 - 0.4 0.4 - 0.5 0.5 - 0.57 0.57 - 0.62 0.62 - 2.2 2.2 -										

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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