

**Project Name:** Soil Changes under Agriculture  
**Project Code:** Paired **Site ID:** M4  
**Agency Name:** CSIRO Division of Soils (SA)

**Observation ID:** 1

**Site Information**

<b>Desc. By:</b>	N.J. McKenzie	<b>Locality:</b>	S.E. Rhynie
<b>Date Desc.:</b>	05/04/89	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 6629 1:100000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6214600 AMG zone: 54	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	288900 Datum: AGD66	<b>Drainage:</b>	No Data

**Geology**

<b>ExposureType:</b>	Soil pit	<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>	N/A	<b>Mapping Unit:</b>	N/A
<b>ASC Confidence:</b>	Confidence level not specified	<b>Principal Profile Form:</b>	Ug5.37
		<b>Great Soil Group:</b>	Red-brown earth

**Site Disturbance:** No effective disturbance. Natural

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

A1	0 - 0.1 m	Dark reddish brown (5YR3/3-Moist); Reddish brown (5YR4/4-Dry); ; Sandy clay loam, fine sandy; Weak grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Medium, (5 - 10) mm crack; Dry; Field pH 7.5 (Raupach); Gradual, Smooth change to -
B1	0.1 - 0.2 m	Dark reddish brown (5YR3/4-Moist); Mottles, 2.5YR44, 10-20% , 15-30mm, Faint; Silty clay loam; Moderate grade of structure, 20-50 mm, Polyhedral; Moderate grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Medium, (5 - 10) mm crack; Dry; Strong consistence; 0-2%, medium gravelly, 6-20mm, subangular tabular, dispersed, Shale, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Field pH 7.5 (Raupach); Gradual, Smooth change to -
B21	0.2 - 0.3 m	Reddish brown (2.5YR4/4-Moist); Mottles, 2.5YR56, 20-50% , 15-30mm, Distinct; Heavy clay; Strong grade of structure, 50-100 mm, Prismatic; Weak grade of structure, 10-20 mm, Polyhedral; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 7.5 (Raupach);
B21	0.3 - 0.4 m	Reddish brown (2.5YR4/4-Moist); Mottles, 2.5YR56, 20-50% , 15-30mm, Distinct; Heavy clay; Strong grade of structure, 50-100 mm, Prismatic; Weak grade of structure, 10-20 mm, Polyhedral; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 7.5 (Raupach);
B21	0.4 - 0.5 m	Reddish brown (2.5YR4/4-Moist); Mottles, 2.5YR56, 20-50% , 15-30mm, Faint; Heavy clay; Strong grade of structure, 50-100 mm, Prismatic; Weak grade of structure, 10-20 mm, Polyhedral; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Dry; Very strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 7.5 (Raupach); Gradual, Smooth change to -
B22	0.5 - 0.6 m	Red (2.5YR4/6-Moist); ; Heavy clay; Moderate grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; 10-20%, coarse gravelly, 20-60mm, angular platy, stratified, Shale, coarse fragments; Many cutans, >50% of ped faces or walls coated, prominent; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (Raupach); Abrupt, Wavy change to -

**Project Name:** Soil Changes under Agriculture  
**Project Code:** Paired **Site ID:** M4  
**Agency Name:** CSIRO Division of Soils (SA)

**Observation ID:** 1

B3	0.6 - 0.8 m	Reddish yellow (5YR7/6-Moist); Mottles, 2.5YR56, 20-50% , 30-mm, Distinct; Mottles, 2.5YR58, 20-50% , 30-mm, Distinct; Medium heavy clay; Moderate grade of structure, 2-5 mm, Polyhedral; Smooth-ped fabric; Moderately moist; Strong consistence; 20-50%, coarse gravelly, 20-60mm, angular platy, stratified, Shale, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach); Gradual, Smooth change to -
BC	0.8 - 1.2 m	Yellowish red (5YR5/6-Moist); Mottles, 2.5YR56, 10-20% , 15-30mm, Distinct; Medium heavy clay; Smooth-ped fabric; Moderately moist; Strong consistence; 50-90%, cobbly, 60-200mm, angular platy, undisturbed, Shale, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Many (20 - 50 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach); Gradual, Smooth change to -
R	1.2 - m	Rock

**Morphological Notes**

**Observation Notes**

Undisturbed Transitional Red-Brown Earth - paired with M3

**Site Notes**

**Observation ID: 1**

[illegible]

**Project Name:** Soil Changes under Agriculture  
**Project Code:** Paired **Site ID:** M4  
**Agency Name:** CSIRO Division of Soils (SA)

**Observation ID:** 1

**Laboratory Analyses Completed for this profile**

15B2_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15B2_CEC	CEC - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15B2_K	Exchangeable bases and CEC - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15B2_MG	Exchangeable bases and CEC - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15B2_NA	Exchangeable bases and CEC - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15C1_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_CEC	CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_K	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_MG	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_NA	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15J_BASES	Sum of Bases
15N1	Exchangeable sodium percentage (ESP)
19B1	Carbonates - manometric
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
6A1	Organic carbon - Walkley and Black
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_CS	Coarse sand (%) - Coventry and Fett pipette method
P10_CF_FS	Fine sand (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method
P3A1	Bulk density - g/cm <sup>3</sup>
P3B2VL_15	15 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric using disturbed sample on pressure plate
P3B4VL_005	0.05 BAR Moisture m <sup>3</sup> /m <sup>3</sup> - Volumetric of soil clods (Soil Survey Staff,1967)
P5_COLE	Coefficient of Linear Extensibility (Grossman et al. 1968)