

**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania  
**Project Code:** SCEAM **Site ID:** C14 **Observation ID:** 1  
**Agency Name:** TAS Department of Primary Industries and Fisheries

#### Site Information

<b>Desc. By:</b>	Christopher Grose	<b>Locality:</b>	Weeks Orchard, near Spreyton
<b>Date Desc.:</b>	04/10/05	<b>Elevation:</b>	22 metres
<b>Map Ref.:</b>	GPS S.A. Off	<b>Rainfall:</b>	965
<b>Northing/Long.:</b>	5435543 AMG zone: 55	<b>Runoff:</b>	Moderately rapid
<b>Easting/Lat.:</b>	445712 Datum: GDA94	<b>Drainage:</b>	Moderately well drained

#### Geology

<b>ExposureType:</b>	Soil pit	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	Qh	<b>Substrate Material:</b>	No Data

#### Landform

<b>Rel/Slope Class:</b>	Undulating rises 9-30m 3-10%	<b>Pattern Type:</b>	Rises
<b>Morph. Type:</b>	Simple-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Hillslope	<b>Slope Category:</b>	Gently inclined
<b>Slope:</b>	8 %	<b>Aspect:</b>	60 degrees

**Surface Soil Condition** Firm

#### Erosion

#### Soil Classification

<b>Australian Soil Classification:</b>	Mottled Mesotrophic Black Dermosol Medium Non-gravelly Loamy Clayey Deep	<b>Mapping Unit:</b>	N/A
<b>ASC Confidence:</b>	Analytical data are incomplete but reasonable confidence.	<b>Principal Profile Form:</b>	N/A
		<b>Great Soil Group:</b>	N/A

#### Site Disturbance

#### Vegetation

**Surface Coarse Fragments** No surface coarse fragments

#### Profile Morphology

<b>A1</b>	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); , 0-0% ; Loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Weak consistence; Moderately plastic; Slightly sticky; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, Quartz, coarse fragments; Few, very fine (0-1mm) roots; Clear, Smooth change to -
<b>A3</b>	0.1 - 0.28 m	Dark greyish brown (10YR4/2-Moist); Mechanical, 10YR32, 10-20% , 15-30mm, Faint; Clay loam (Light); Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Weak consistence; Moderately plastic; Slightly sticky; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, Quartz, coarse fragments; Few, very fine (0-1mm) roots; Gradual, Smooth change to -
<b>B1</b>	0.28 - 0.52 m	Very dark grey (10YR3/1-Moist); Mottles, 10YR56, 20-50% , 5-15mm, Distinct; Clay loam (Heavy); Moderate grade of structure, 50-100 mm, Subangular blocky; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Weak consistence; Very plastic; Moderately sticky; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, Quartz, coarse fragments; Common, coarse (> 5mm) roots; Clear, Smooth change to -
<b>B21g</b>	0.52 - 0.79 m	(10R2.5/1-Moist); Mottles, 2.5Y54, 20-50% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 50-100 mm, Prismatic; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Weak consistence; Very plastic; Moderately sticky; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated,

		distinct; Few, fine (1-2mm) roots; Gradual, Smooth change to -
B22g	0.79 - 1 m	(N4/0-Moist); Mottles, 2.5Y54, 20-50% , 5-15mm, Distinct; Medium heavy clay; Strong
grade of		structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Very fine
(0.075-1mm)		macropores, Weak consistence; Very plastic; Moderately sticky; Common cutans, 10-
50% of ped faces or		walls coated, distinct; Few, fine (1-2mm) roots;

**Morphological Notes**

A3	Small amount of charcoal at base of A3
B1	C14D sampled 28-52cm
B21g	Moist colour 10G 3/1. C14E sampled 52-79cm
B22g	C14F sampled 79-100cm

**Observation Notes**

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Vegetation: Apple Orchard. Trees on on slightly raised ridge. Ridges separated by Slight depression approx. 300mm top to bottom.

**Site Notes**

Geomorphic Activity: Eroded or aggraded. Geomorphic Agent: Sheet Erosion.

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**Laboratory Test Results:**

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.075	6.3C 7A	0.075A	11.31A	4.2	0.58	0.07	0.096D 0G 0.0985A		16.2585B	
0.2 - 0.275	5.6C 6.6A	0.054A	6.6A	3.37	0.29	0.07	0.1302775 D 0G 0.14925A		10.47925B	
0.28 - 0.52	3.9C 4.7A	0.041A	0.8A	2.23	0.14	0.24	3.173D 14.75G 10.255A		13.665B	
0.52 - 0.79	3.9C 4.6A	0.031A	1.63A	1.32	0.16	0.16	0.892D 6.37G 6.3945A		9.6645B	
0.79 - 1	3.7C 4.4A	0.055A	0.48A	3.1	0.14	0.35	3.05775D 18.06G 16.9475A		21.0175B	

Depth	CaCO3	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt
m	%	%	mg/kg	%	%	%	Mg/m3			%	
0 - 0.075		2.72B	178H 0I		0.21D						
0.2 - 0.275		1.19B	69H 0I		0.1D						
0.28 - 0.52		0.38B	2H 0.8I		0.05D						
0.52 - 0.79		0.96B	10H 4.5I		0.08D						
0.79 - 1		0.4B	2H 0.6I		0.05D						

**Laboratory Analyses Completed for this profile**

10B_NR	Extractable sulfur (mg/kg) - Not recorded
12_NR_FE	Total element - Fe(%) - Not recorded
12A1_CU	DTPA - extractable copper, zinc, manganese and iron
12A1_FE	DTPA - extractable copper, zinc, manganese and iron
12A1_MN	DTPA - extractable copper, zinc, manganese and iron
12A1_ZN	DTPA - extractable copper, zinc, manganese and iron
12C1	Calcium chloride extractable boron - manual colour
15_NR_AL	Aluminium Cation - meq per 100g of soil - Not recorded
15_NR_H	Hydrogen Cation - meq per 100g of soil - Not recorded
15A1_CA for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_K for soluble	salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_MG for soluble	salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_NA for soluble	salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15G_C_AL2 By AAS	salts Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and detremination



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15G1	Exchange acidity (hydrogen and aluminium) by 1M potassium chloride
15J_H	Sum of Ex. cations + Ex. acidity - Sum of basic exch. cations and exch. (Hydrogen)
15N1	Exchangeable sodium percentage (ESP)
18A1	Bicarbonate-extractable potassium
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
6B2	Total organic carbon - high frequency induction furnace, volumetric
7A5	Total nitrogen - high frequency induction furnace, thermal conductivity
7C1a	Ammonium-N, in presence or absence of nitrite
7C1b	(Nitrate+nitrite)-N, in presence of nitrite
9B2_COL	Bicarbonate-extractable phosphorus - automated colour. Based on Colwell (1965). Method no
longer	
	recommended
9C2	Olsen-extractable phosphorus - automated colour