

**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania  
**Project Code:** SCEAM **Site ID:** N1 **Observation ID:** 1  
**Agency Name:** TAS Department of Primary Industries and Fisheries

**Site Information**

<b>Desc. By:</b>	R. Moreton	<b>Locality:</b>	
<b>Date Desc.:</b>	22/06/04	<b>Elevation:</b>	150 metres
<b>Map Ref.:</b>	GPS S.A. Off	<b>Rainfall:</b>	1080
<b>Northing/Long.:</b>	5444120 AMG zone: 55	<b>Runoff:</b>	Moderately rapid
<b>Easting/Lat.:</b>	538252 Datum: GDA94	<b>Drainage:</b>	Well drained

**Geology**

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

**Landform**

<b>Rel/Slope Class:</b>	Rolling low hills 30-90m 10-32%	<b>Pattern Type:</b>	Hills
<b>Morph. Type:</b>	Mid-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Hillslope	<b>Slope Category:</b>	Moderately inclined
<b>Slope:</b>	16 %	<b>Aspect:</b>	30 degrees

**Surface Soil Condition** Soft

**Erosion** Stable, Minor (sheet)

**Soil Classification**

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	N/A
Haplic Mesotrophic Red Ferrosol Medium Non-gravelly Clay-loamy Very thick Very deep		<b>Principal Profile Form:</b>	Dr4.11
<b>ASC Confidence:</b>	All necessary analytical data are available.	<b>Great Soil Group:</b>	N/A

**Site Disturbance**

**Vegetation**

**Surface Coarse Fragments** No surface coarse fragments

**Profile Morphology**

A1	0 - 0.2 m	Dark reddish brown (5YR2.5/2-Moist); , 0-0% ; Clay loam; Strong grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Very weak consistence; Moderately plastic; Normal plasticity; Very sticky; Field pH 6.2 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
A3p	0.2 - 0.3 m	Dark reddish brown (5YR3/2-Moist); Mechanical, 5YR34, 0-2% , 5-15mm, Distinct; Clay loam; Moderate grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moist; Weak consistence; Moderately plastic; Normal plasticity; Very sticky; Few cutans, <10% of ped faces or walls coated, faint; Cultivation pan, Weakly cemented, Continuous, Platy; Field pH 6.6 (pH meter); Common, very fine (0-1mm) roots; Sharp, Wavy change to -
B1	0.3 - 0.5 m	Dark reddish brown (5YR3/3-Moist); Substrate influence, 2.5YR36, 2-10% , 30-mm, Distinct; Clay loam; Weak grade of structure, 20-50 mm, Lenticular; Rough-ped fabric; Moist; Weak consistence; Moderately plastic; Normal plasticity; Moderately sticky; Field pH 5.8 (pH meter); Common, very fine (0-1mm) roots; Gradual, Wavy change to -
B2	0.5 - 0.85 m	Dark reddish brown (5YR3/4-Moist); , 0-0% ; Light clay; Massive grade of structure; Smooth-ped fabric; Moist; Firm consistence; Very plastic; Subplastic; Moderately sticky; Field pH 5.8 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B3	0.85 - 1.2 m	Dark reddish brown (5YR3/4-Moist); , 0-0% ; Light clay; Massive grade of structure; Smooth-ped fabric; crack; Moist; Firm consistence; Very plastic; Normal plasticity; Moderately sticky; Field pH 5.2 (pH meter);

**Morphological Notes**

A1 Soil Structure Score, 9. EC, 0.1dSm-1.  
 A3p Soil Structure Score, 6. EC, 0.2dSm-1  
 B1 Large charcoal fragments in B1 Horizon. Sampled from .30 to .45m, Label N1C. EC, 0.2dSm-1.

B2 Sampled from .55 to .80m, Label N1D. EC, 0.1dSm-1  
 B3 Sampled from .90 to 1.20m, Label N1E. EC, 0.1dSm-1

**Observation Notes**

Vegetation: Improved Pasture. Land Cap Class 3. Land System 584131

**Site Notes**

Farmer, Michael Coote. Property Name, Heathfield. Element Slope Class: Moderate (10-32%). Mode of Geomorphic Activity is eroded or aggraded. The geomorphic agent is sheet wash.

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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	5.3C 6A	0.076A	16.25A	3.08	0.59	0.26	0D 0.07G 0.01A		20.19B	
0.15 - 0.225	5.3C 5.9A	0.105A	13.57A	3.01	0.36	0.32	0.1D 0.06G 0.1A		17.36B	
0.3 - 0.45	5.7C 6.3A	0.055A	13.2A	3.17	0.44	0.39	0D 0G 0A		17.2B	
0.55 - 0.8	5.7C 6.2A	0.064A	6.89A	3	0.34	0.33	0D 0G 0A		10.56B	
0.9 - 1.2	4.6C 5.2A	0.063A	3.79A	2.36	0.16	0.17	0.41D 0.5G 0.71A		7.19B	

Depth	CaCO3	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis
m	%	%	mg/kg	%	%	%	Mg/m3	GV CS FS Silt
0 - 0.075		4.37B	100H		0.35D			
0.15 - 0.225		3.28B	25.7I 66H		0.3D			
0.3 - 0.45		2.57B	15.9I 48H		0.17D			
0.55 - 0.8		0.87B	0I 36H		0.08D			
0.9 - 1.2		0.71B	0I 34H		0.07D			

**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	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_K	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_MG	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_NA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15G_C_AL2	Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and detremination
By AAS	
15G1	Exchange acidity (hydrogen and aluminium) by 1M potassium chloride

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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