

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** S20 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	R. Moreton	Locality:	Tony Shoobridge. "Fenton Forest" near New Norfolk.
Date Desc.:	17/05/06	Elevation:	39 metres
Map Ref.:	GPS S.A. Off	Rainfall:	538
Northing/Long.:	5274846 AMG zone: 55	Runoff:	Moderately rapid
Easting/Lat.:	489827 Datum: GDA94	Drainage:	Moderately well drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Probable
Geol. Ref.:	Qa	Substrate Material:	Soil pit, Sandstone

Landform

Rel/Slope Class:	Gently undulating plains <9m 1-3%	Pattern Type:	Alluvial plain
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Morph. Type:	Flat	Relief:	No Data
Elem. Type:	Terrace flat	Slope Category:	Very gently sloped
Slope:	2 %	Aspect:	50 degrees

Surface Soil Condition Soft

Erosion

Soil Classification

Australian Soil Classification:	Haplic Eutrophic Brown Dermosol Medium Non-gravelly Clay-loamy Clayey Deep	Mapping Unit:	N/A
ASC Confidence:	All necessary analytical data are available.	Principal Profile Form:	Gn4.33
		Great Soil Group:	N/A

Site Disturbance

Vegetation

Surface Coarse Fragments No surface coarse fragments

Profile Morphology

A1	0 - 0.32 m	Very dark grey (10YR3/1-Moist); , 0-0% ; Fine sandy clay loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Slightly plastic; Slightly sticky; 2-10%, medium gravelly, 6-20mm, rounded, dispersed, Dolerite, coarse fragments; Common, very fine (0-1mm) roots; Clear, Smooth change to -
A3	0.32 - 0.42 m	Very dark grey (10YR3/1-Moist); Mechanical, 7.5YR43, 10-20% , 15-30mm, Distinct; Mechanical, 7.5YR44, 2-10% , 15-30mm, Distinct; Clay loam, fine sandy; Moderate grade of structure, 5-10 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Moderately plastic; Moderately sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B1t	0.42 - 0.89 m	Brown (7.5YR4/4-Moist); Mottles, 7.5YR32, 10-20% , 5-15mm, Distinct; Light clay; Strong grade of structure, 20-50 mm, Angular blocky; Strong grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Moderately plastic; Moderately sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B2t	0.89 - 1.05 m	Strong brown (7.5YR4/6-Moist); Mottles, 7.5YR33, 10-20% , 5-15mm, Distinct; Light clay;

Strong grade
 blocky; Rough-ped
 10-50% of ped
 B3t 1.05 - 1.2 m
 clay; Moderate
 Very plastic; Very
 of structure, 10-20 mm, Angular blocky; Strong grade of structure, 5-10 mm, Angular
 fabric; Moist; Weak consistence; Moderately plastic; Moderately sticky; Common cutans,
 faces or walls coated, distinct; Clear, Wavy change to -
 Dark yellowish brown (10YR4/4-Moist); Mottles, 10YR43, 2-10% , 0-5mm, Faint; Medium
 grade of structure, 50-100 mm, Angular blocky; Earthy fabric; Moist; Weak consistence;
 sticky;

Morphological Notes

A3 The colour of the clayskins 7.5YR 3/2. A3 horizon has evidence of B1 material in it. A3 not
 sampled as it was a narrow horizon
 B1t The colour of the clayskins 7.5YR 3/2. Sampled S20C sampled from depth 45-75cm
 B2t The colour of the clayskins 7.5YR 3/2. Sampled S20D sampled from depth 87-105cm
 B3t Sampled S20E sampled from depth 105-120cm

Observation Notes

Vegetation is pasture. Soil type likely to have formed from Quaternary sediments that in turn overlie sandstone.

Site Notes

Mode of Geomorphic Activity: Eroded. Agent: Overbank Stream. Inundation frequency: less than once per 100
 years, for less than a day to a
 depth of less than 50mm.

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Ca	Exchangeable Mg	Cations K	Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP %
0 - 0.075	6.1C 6.9A	0.124A	15.42A	2.02	1.46	0.1	0.02D 0G 0.03A		19.03B	
0.2 - 0.275	6.2C 7.1A	0.077A	14.1A	2.32	0.93	0.16	0.03D 0G 0.04A		17.55B	
0.45 - 0.75	6.6C 7.7A	0.058A	19.94A	5.21	0.32	0.28	0.02D 0G 0.06A		25.81B	
0.87 - 1.05	6.7C 7.8A	0.05A	11.9A	8.95	0.34	0.25	0.01D 0G 0.05A		21.49B	
1.05 - 1.2	7C 8.1A	0.059A	12.51A	17.42	0.54	0.36	0.01D 0G 0.01A		30.84B	

Depth m	CaCO3 %	Organic C Clay %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle GV CS	Size FS	Analysis Silt
0 - 0.075		2.07B	227H 85.5l		0.27D					
0.2 - 0.275		1.45B	147H 58.5l		0.17D					
0.45 - 0.75		0.59B	12H 6.1l		0.07D					
0.87 - 1.05		0.3B	11H 5.6l		0.04D					
1.05 - 1.2		0.35B	11H 4.2l		0.04D					

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 (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_K for soluble	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_MG for soluble	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_NA for soluble	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15G_C_AL2 By AAS	Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and determination
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