

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** C19 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	D.B. Kidd	Locality:	Togari Swamp
Date Desc.:	21/04/05	Elevation:	30 metres
Map Ref.:	GPS S.A. Off	Rainfall:	1293
Northing/Long.:	5465028 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	322267 Datum: GDA94	Drainage:	Moderately well drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Almost certain or certain
Geol. Ref.:	Qhac	Substrate Material:	Soil pit, 1.2 m deep, Non-porous, dense, , Alluvium

Landform

Rel/Slope Class:	Undulating plains <9m 3-10%	Pattern Type:	Sand plain
Morph. Type:	Lower-slope	Relief:	No Data
Elem. Type:	Dune	Slope Category:	Gently inclined
Slope:	5 %	Aspect:	23 degrees

Surface Soil Condition Firm

Erosion Stable, Minor or present (wind);

Soil Classification

Australian Soil Classification:	Parapanic Humic/Humosequic Semiaquic Podsol Thick Non-gravelly Peaty Loamy Deep	Mapping Unit:	N/A
ASC Confidence:	All necessary analytical data are available.	Principal Profile Form:	N/A
		Great Soil Group:	N/A

Site Disturbance

Vegetation

Surface Coarse Fragments No surface coarse fragments

Profile Morphology

A11	0 - 0.18 m	Black (10YR2/1-Moist); , 0-0% ; Sandy peat; Weak grade of structure, 10-20 mm, Subangular blocky; 5 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Non-plastic; Non-sticky; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Charcoal, coarse fragments; Soil matrix is Slightly calcareous; Field pH 5.4 (pH meter); Many, very fine (0-1mm) roots; Gradual, Smooth change to -
A12	0.18 - 0.32 m	Very dark grey (10YR3/1-Moist); , 0-0% ; Sandy loam; Weak grade of structure, 20-50 mm, Subangular blocky; Weak grade of structure, 5-10 mm, Subangular blocky; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Non-plastic; Non-sticky; 0-2%, fine gravelly, 2-6mm, angular, stratified, Charcoal, coarse fragments; Soil matrix is Slightly calcareous; Field pH 4.1 (pH meter); Common, very fine (0-1mm) roots; Gradual, Wavy change to -
A21	0.32 - 0.43 m	Very dark greyish brown (10YR3/2-Moist); Biological mixing, 10YR41, 10-20% , 0-5mm, Distinct; Loamy sand; Weak grade of structure, 10-20 mm, Angular blocky; Weak grade of structure, 2-5 mm, Subangular blocky; Sandy (grains prominent) fabric; Moist; Weak consistence; Non-plastic; Non-sticky; Soil matrix is Slightly calcareous; Field pH 3.9 (pH meter); Few, very fine (0-1mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
A22e	0.43 - 0.65 m	Dark grey (10YR4/1-Moist); Biological mixing, 10YR31, 10-20% , 0-5mm, Distinct; Sandy loam (Light); Massive grade of structure; Sandy (grains prominent) fabric; Moist; Very weak consistence; Non-plastic; Non-sticky; Soil matrix is Slightly calcareous; Field pH 3.4 (pH meter); Few, very fine (0-

1mm) roots;		Clear, Wavy change to -
Bh	0.65 - 1 m	Black (10YR2/1-Moist); , 0-0% ; Sandy loam (Heavy); Massive grade of structure; Sandy
(grains		prominent) fabric; Moist; Firm consistence; Non-plastic; Non-sticky; Organic pan,
Uncemented,		Continuous, Massive; Soil matrix is Slightly calcareous; Field pH 3.5 (pH meter); Few,
very fine (0-1mm)		roots; Sharp, Wavy change to -
Bhs	1 - 1.2 m	Black (5YR2.5/1-Moist); , 0-0% ; Massive grade of structure; Sandy (grains prominent)
fabric; Moist;		Rigid consistence; Non-plastic; Non-sticky; Ortstein, Strongly cemented, Continuous,
Platy; Soil matrix is		Slightly calcareous; Field pH 3.6 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A21 Burnt root mat in upper horizon

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Observation Notes

Site Notes

Dairy Property: James & Alison Finlayson

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Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable	Cations	Na	Exchangeable	CEC	ECEC	ESP
m		dS/m		Mg	K	Cmol (+)/kg	Acidity			%
0 - 0.075	4.2C 5.2A	0.111A	9.21A	1.57	0.2	0.37	0.1402775 D 0.22G 0.145275A		11.49527B	
0.2 - 0.275	3.8C 4.9A	0.058A	4.5A	0.79	0.08	0.2	0D 0.37G 0A		5.57B	
0.43 - 0.65	3.4C 4.3A	0.086A	0.87A	0.54	0.06	0.17	0.93D 4.31G 4.34A		5.98B	
0.65 - 0.95	4C 5A	0.034A	0.48A	0.14	0.03	0.05	0.19D 0.65G 0.32A		1.02B	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle	Size	Analysis
m	%	Clay	mg/kg	%	%	%	Mg/m3	GV	CS	FS Silt
0 - 0.075		6.09B	24H 0I		0.5D					
0.2 - 0.275		4.57B	10H 0I		0.21D					
0.43 - 0.65		3.32B	36H 23.1I		0.07D					
0.65 - 0.95		0.52B	7H 6.3I		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	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_K	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_MG	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_NA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment

for soluble

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

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

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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