

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N43 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	R. Moreton	Locality:	Kurani, Near Bridport
Date Desc.:	09/06/06	Elevation:	19 metres
Map Ref.:	GPS S.A. Off	Rainfall:	643
Northing/Long.:	5473196 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	558746 Datum: GDA94	Drainage:	Imperfectly drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Not parent material
Geol. Ref.:	Qa	Substrate Material:	Soil pit, 2 m deep,, Granite

Landform

Rel/Slope Class:	Gently undulating plains <9m 1-3%	Pattern Type:	Sand plain
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Morph. Type:	Flat	Relief:	No Data
Elem. Type:	Swale	Slope Category:	Level
Slope:	1 %	Aspect:	352 degrees

Surface Soil Condition Soft

Erosion

Soil Classification

Australian Soil Classification:	Parapanic Sesquic Semiaquic Podsol Medium Non-gravelly Loamy Sandy Very deep	Mapping Unit:	N/A
ASC Confidence:	No analytical data are available but confidence is fair.	Principal Profile Form:	N/A
		Great Soil Group:	N/A

Site Disturbance

Vegetation

Surface Coarse Fragments No surface coarse fragments

Profile Morphology

O	0 - 0.03 m	Organic Layer; Very dark brown (10YR2/2-Moist); , 0-0% ; Sandy loam; Weak grade of structure, 2-5 mm, 100mm2)
		Polyhedral; Single grain grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2)
		Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Non-plastic; Non-sticky;
		Many, very fine (0-1mm) roots; Abrupt, Smooth change to -
A1	0.03 - 0.15 m	Very dark grey (10YR3/1-Moist); , 0-0% ; Loamy sand; Weak grade of structure, 2-5 mm, 100mm2) Very fine
		Polyhedral;
		Single grain grade of structure; Sandy (grains prominent) fabric; Common (1-5 per (0.075-1mm) macropores, Moderately moist; Very weak consistence; Non-plastic; Non-sticky; Common,
		very fine (0-1mm) roots; Clear, Wavy change to -
A21	0.15 - 0.25 m	Greyish brown (10YR5/2-Moist); Mottles, 10YR42, 2-10% , 0-5mm, Faint; Loamy sand; Single grain
		(0.075-1mm)
		grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine macropores, Moist; Loose consistence; Non-plastic; Non-sticky; Common, fine (1-2mm) roots; Gradual,
		Broken change to -
A22	0.25 - 0.6 m	Greyish brown (10YR5/2-Moist); Mottles, 10YR42, 2-10% , 0-5mm, Faint; Loamy sand; Single grain
		grade of structure; Sandy (grains prominent) fabric; Moderately moist; Loose consistence; Non-plastic;
		Non-sticky; Few, very fine (0-1mm) roots; Clear, Smooth change to -
B1s	0.6 - 0.8 m	(/-Moist); Substrate influence, 10YR32, 10-20% , 30-mm, Distinct; Loamy sand; Massive grade of
		structure; Sandy (grains prominent) fabric; Moderately moist; Strong consistence; Non-plastic; Non-
		sticky; Ortstein, Strongly cemented, Continuous, Massive; Few, very fine (0-1mm) roots; Abrupt, Wavy
		change to -

2B21	0.8 - 1.15 m	Greyish brown (2.5Y5/3-Moist); , 0-0% ; Coarse sand; Single grain grade of structure; Sandy (grains prominent) fabric; Moderately moist; Loose consistence; Non-plastic; Non-sticky; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Gradual, Wavy change to -
2B22	1.15 - 1.25 m	Light brownish grey (2.5Y6/3-Moist); , 0-0% ; Sand; Single grain grade of structure; Moist; Loose consistence; Non-plastic; Non-sticky;

Morphological Notes

A21	N43C 15-25cm
A22	N43D 30-60cm
B1s	N43E 60-80cm
2B21	N43F 80-110cm
2B22	N43G 115-125cm

Observation Notes

Vegetation: pasture. Underlying material is likely to be derived from granite but profile formed from aeolian sand.

Site Notes

Aggraded by wind. No inundation

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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	4.9C 6.1A	0.079A	9.53A	2.69	0.47	0.32	0.09D 0.03G 0.1A		13.11B	
0.15 - 0.225	4.5C 5.8A	0.058A	6.09A	1.07	0.25	0.24	0.07D 0.03G 0.09A		7.74B	
0.15 - 0.25	4.7C 6.1A	0.027A	1.19A	0.21	0.1	0.1	0.05D 0.02G 0.07A		1.67B	
0.3 - 0.6	5.4C 6.3A	0.022A	0.31A	0.08	0.07	0.12	0.03D 0.02G 0.05A		0.63B	
0.6 - 0.8	4.3C 5.5A	0.079A	1.77A	0.72	0.18	0.61	0.19D 0.88G 1.43A		4.71B	
0.8 - 0.11	6.1C 6.5A	0.025A	0.21A	0.2	0.07	0.13	0.09D 0G 0.16A		0.77B	
0.115 - 0.125	6.8C 7.6A	0.124A	0.33A	1.11	0.11	0.31	0.02D 0G 0.07A		1.93B	

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		4.28B	14H 8.2I		0.47D					
0.15 - 0.225		2.94B	6H 3.8I		0.2D					
0.15 - 0.25		0.63B	2H 1.7I		0.04D					
0.3 - 0.6		0.21B	2H 1.2I		0.02D					
0.6 - 0.8		0.27B	8H 5.1I		0.09D					
0.8 - 0.11		0.13B	2H		0.02D					

0.115 - 0.125	0.05B	0.9I 2H 0.6I	0.02D
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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

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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 detremination
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 longer	Bicarbonate-extractable phosphorus - automated colour. Based on Colwell (1965). Method no recommended
9C2	Olsen-extractable phosphorus - automated colour