

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N42 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	H. Hawkins	Locality:	Gunston, Near Waterhouse
Date Desc.:	02/06/06	Elevation:	24 metres
Map Ref.:	GPS S.A. Off	Rainfall:	681
Northing/Long.:	5469733 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	557829 Datum: GDA94	Drainage:	Imperfectly drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	Ts	Substrate Material:	No Data

Landform

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

Surface Soil Condition Firm

Erosion

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Fragic Sesquic Semiaquic Podsol Medium Slightly gravelly	Principal Profile Form:	N/A
Loamy Clayey Very deep		
ASC Confidence:	Great Soil Group:	N/A
All necessary analytical data are available.		

Site Disturbance

Vegetation

Surface Coarse Fragments No surface coarse fragments

Profile Morphology

A11	0 - 0.11 m	(N2/0-Moist); , 0-0% ; Sandy loam; Weak grade of structure, 20-50 mm, Subangular blocky; Sandy
		(grains prominent) fabric; Fine, (0 - 5) mm crack; Moderately moist; Very weak consistence; Non-plastic;
		Normal plasticity; Non-sticky; 0-2%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments;
		Abundant, very fine (0-1mm) roots; Abrupt, Irregular change to -
A12	0.11 - 0.26 m	(N3/0-Moist); , 0-0% ; Sandy loam; Weak grade of structure, 50-100 mm, Subangular blocky; Weak
		grade of structure, 5-10 mm, Subangular blocky; Sandy (grains prominent) fabric; Moderately moist;
		Weak consistence; Non-plastic; Normal plasticity; Non-sticky; 2-10%, fine gravelly, 2-6mm, angular,
		dispersed, Quartz, coarse fragments; Abundant, very fine (0-1mm) roots; Gradual, Wavy change to -
A2	0.26 - 0.4 m	(N6/0-Moist); , 0-0% ; Loamy coarse sand; Weak grade of structure, 10-20 mm, Polyhedral; Single grain
		grade of structure, <2 mm; Sandy (grains prominent) fabric; Moderately moist; Weak consistence; Non-
		plastic; Normal plasticity; Non-sticky; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse
		fragments; Many, very fine (0-1mm) roots; Clear, Wavy change to -
Bs	0.4 - 0.68 m	Dark brown (7.5YR3/3-Moist); Mottles, 7.5YR32, 2-10% , 5-15mm, Faint; Sandy clay loam; Moderate
		grade of structure, 20-50 mm, Subangular blocky; Weak grade of structure, <2 mm, Granular; Sandy
		(grains prominent) fabric; Moderately moist; Very weak consistence; Non-plastic; Normal plasticity; Non-
		sticky; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few (2 - 10 %),
		Ferruginous, Coarse (6 - 20 mm), Soft segregations; Many, very fine (0-1mm) roots;

Clear, Wavy

change to -

B1 0.68 - 0.84 m
Weak grade of

weak

angular,

B2t 0.84 - 1.25 m
Prominent; Light

structure, 2-5 mm,

plasticity;

fragments;

Yellowish brown (10YR5/4-Moist); Mottles, 10YR22, 2-10% , 5-15mm, Faint; Clayey sand; structure, 2-5 mm, Polyhedral; Sandy (grains prominent) fabric; Moderately moist; Very consistence; Non-plastic; Normal plasticity; Non-sticky; 10-20%, fine gravelly, 2-6mm, dispersed, Quartz, coarse fragments; Abrupt, Wavy change to -

Mottles, 10YR68, 20-50% , 15-30mm, Prominent; Mottles, 10YR21, 2-10% , 30-mm, clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Weak grade of

Granular; Rough-ped fabric; Moderately moist; Weak consistence; Slightly plastic; Normal

Slightly sticky; 20-50%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse

Morphological Notes

A11 N42A sample 0-7.5cm
A12 NA1 sampled 12-25cm
A2 N42B sample 22.5-30cm
Bs N42C sampled 0.42-0.65m
B1 Mottles were from the Bs horizon.
B2t Black/brown mottles were vertically elongate. N42E sampled .9-1.05m

Observation Notes

Vegetation was pasture.

Site Notes

Mode of Geomorphic Activity: Aggraded, Agent: Wind. Inundation Frequency: None.

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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	4.8C 5.6A	0.092A	7.21A	1.76	0.27	0.29	0.1D 0.06G 0.14A		9.67B	
0.225 - 0.3	4.8C 5.8A	0.054A	1.19A	0.38	0.06	0.18	0.09D 0.06G 0.17A		1.98B	
0.42 - 0.65	5.4C 6.3A	0.154A	1.44A	1.23	0.06	0.75	0.05D 0.04G 0.1A		3.58B	
0.9 - 1.05	6.6C 7.5A	0.132A	0.63A	2.19	0.06	0.81	0.01D 0G 0.01A		3.7B	

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		5.08B	36H 19.7I		0.4D						
0.225 - 0.3		0.7B	15H 7.6I		0.03D						
0.42 - 0.65		0.48B	2H 1.4I		0.03D						
0.9 - 1.05		0.17B	3H 1.8I		0.02D						

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
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

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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