Project Name: **SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania**
Project Code: **SCEAM** **Site ID:** **N27** **Observation ID:** **1**
Agency Name: **TAS Department of Primary Industries and Fisheries**

Site Information

Desc. By: R. Moreton
Date Desc.: 12/04/05
Map Ref.: GPS S.A. Off
Northing/Long.: 5466265 AMG zone: 55
Easting/Lat.: 593073 Datum: GDA94
Locality: Property name: Branches. Near Gladstone.
Elevation: 45 metres
Rainfall: 836
Runoff: Slow
Drainage: Moderately well drained

Geology

ExposureType: Soil pit
Geol. Ref.: Qa
Conf. Sub. is Parent. Mat.: Probable
Substrate Material: Soil pit, 0.8 m deep,, Granite

Landform

Rel/Slope Class: Gently undulating plains <9m 1-3%
Pattern Type: Plain

Morph. Type: Flat
Elem. Type: Hillslope
Slope: 1 %
Relief: No Data
Slope Category: Very gently sloped
Aspect: 325 degrees

Surface Soil Condition

Firm

Erosion

Soil Classification

Australian Soil Classification: Placic Humosequic Semiaquic Podosol Medium Slightly gravelly Loamy Loamy Shallow
Mapping Unit: N/A
Principal Profile Form: N/A
ASC Confidence: Analytical data are incomplete but reasonable confidence.
Great Soil Group: N/A

Site Disturbance

Vegetation

Surface Coarse Fragments

No surface coarse fragments

Profile Morphology

A1	0 - 0.14 m	Black (10YR2/1-Moist); Dark grey (10YR4/1-Dry); , 0-0% ; Sandy loam; Weak grade of structure, 2-5 mm, Polyhedral; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Field pH 3.8 (pH meter); Common, very fine (0-1mm) roots; Abrupt, Wavy change to -
A2	0.14 - 0.23 m	Grey (7.5YR5/1-Moist); Grey (10YR5/1-Dry); , 0-0% ; Loamy sand; Weak grade of structure, 2-5 mm, Subangular blocky; Sandy (grains prominent) fabric; Moderately moist; Loose consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Field pH 3.4 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
Bh	0.23 - 0.32 m	(7.5YR2.5/1-Moist); , 0-0% ; Sandy loam; Weak grade of structure, 2-5 mm, Subangular blocky; Sandy (grains prominent) fabric; Moderately moist; Weak consistence; Other pans, Weakly cemented, Continuous, Concretionary; Field pH 3.3 (pH meter); Common, very fine (0-1mm) roots; Clear, Smooth change to -
Cb	0.32 - 0.79 m	Strong brown (7.5YR4/6-Moist); Substrate influence, 7.5YR31, 20-50% , 0-5mm, Distinct; , 7.5YR31, 10-20% , 15-30mm, Distinct; Sandy (grains prominent) fabric; Dry; Rigid consistence; Common (10 - 20 %), Ferruginous, Coarse (6 - 20 mm), Concretions; , , , ; Field pH 3.5 (pH meter); Abrupt, Smooth change to -
R	0.79 - m	Rock

Morphological Notes

A1	Salinity measured in (dSm^-1) 0.1. Penetration resitance: Soft
A2	Loamy Sand was gritty, Salinity measured in (dSm^-1) 0.1. Penetration resitance: Firm
Bh	Sandy Loam was gritty, Salinity measured in (dSm^-1) 0.2. Penetration resitance: Soft
Cb	Salinity measured in (dSm^-1) 0.1. Penetration resitance: Hard. N27 sampled 32-79cm

Observation Notes

Substrate has a grain size of gravel (>2mm) with a porphryitic texture. The structure is concretionary. The vegetation cover was irrigated
pasture of clover and something else.

Site Notes

Geomophic Activity: Aggraded. Geomorphic Agent: Wind. Inundation frequency: none

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.075	4.7C 5.7A	0.066A	5.41A	0.64	0.15	0.14	0.224575D 0.04G 0.249A		6.589B	
0.15 - 0.225	4.3C 5.3A	0.047A	1.87A	0.3	0.08	0.08	0.262625D 0.13G 0.41725A		2.74725B	
0.32 - 0.79	3.8C 4.5A	0.148A	1.08A	0.38	0.07	0.19	0.42475D 1.29G 1.991A		3.711B	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis			
		Clay						GV	CS	FS	Silt
m	%	%	mg/kg	%	%	%	Mg/m3			%	
0 - 0.075		3.04B	34H 28.3I		0.17D						
0.15 - 0.225		1.58B	25H 30.4I		0.08D						
0.32 - 0.79		1.74B	35H 23.3I		0.09D						

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	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
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

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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