

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N3 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	R. Moreton	Locality:	Property Owner: Gavin Clark. Property: Maryland
Date Desc.:	21/07/05	Elevation:	330 metres
Map Ref.:	GPS S.A. Off	Rainfall:	1066
Northing/Long.:	5403520 AMG zone: 55	Runoff:	Moderately rapid
Easting/Lat.:	464418 Datum: GDA94	Drainage:	Moderately well drained

Geology

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

Landform

Rel/Slope Class:	Gently undulating rises 9-30m 1-3%	Pattern Type:	Rises
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Morph. Type:	Mid-slope	Relief:	No Data
Elem. Type:	Bench	Slope Category:	Very gently sloped
Slope:	1 %	Aspect:	290 degrees

Surface Soil Condition

Erosion

Soil Classification

Australian Soil Classification:	Acidic Eutrophic Brown Ferrosol Medium Non-gravelly Clay-loamy Clayey 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	Dark brown (7.5YR3/2-Moist); , 0-0% ; Clay loam; Strong grade of structure, 2-5 mm, Polyhedral; Earthy
		fabric; Few (<1 per 100mm ²) macropores, Moist; Very weak consistence; 0-2%, medium
		gravelly, 6-
		20mm, subangular, dispersed, Basalt, coarse fragments; Field pH 5.9 (pH meter);
		Common, fine (1-
		2mm) roots; Diffuse, Smooth change to -
A12p	0.18 - 0.3 m	Dark brown (7.5YR3/2-Moist); Mechanical, 10YR32, 0-2% , 15-30mm, Distinct; Clay
		loam; Strong grade
		of structure, 5-10 mm, Polyhedral; Earthy fabric; Few (<1 per 100mm ²) macropores,
		Moist; Weak
		consistence; Field pH 6 (pH meter); Few, fine (1-2mm) roots; Clear, Irregular change to -
B11p	0.3 - 0.42 m	Dark brown (7.5YR3/4-Moist); Mechanical, 7.5YR2.52, 0-2% , 15-30mm, Distinct; Clay
		loam; Moderate
		grade of structure, 5-10 mm, Polyhedral; Earthy fabric; Moist; Firm consistence; Few (2 -
		10 %),
		Ferromanganiferous, Medium (2 -6 mm), Nodules; Field pH 5.8 (pH meter); Few, very fine
		(0-1mm)
		roots; Clear, Irregular change to -
B12	0.42 - 0.7 m	Brown (7.5YR4/4-Moist); Mottles, 5YR34, 0-2% , 5-15mm, Distinct; Light clay; Moderate
		grade of
		structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Moist; Firm consistence; 0-
		2%, cobbly, 60-
		200mm, subangular, dispersed, Basalt, coarse fragments; Few (2 - 10 %),
		Ferromanganiferous, Medium
		(2 -6 mm), Nodules; Field pH 5.8 (pH meter); Clear, Wavy change to -
B2	0.7 - 0.95 m	Strong brown (7.5YR4/6-Moist); Mottles, 10-20% , 15-30mm, Prominent; Light medium
		clay; Strong
		grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Moist; Very firm
		consistence; Common

cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.8 (pH meter); Clear,
Wavy change to -

B3g 0.95 - 1.17 m Grey (10YR6/1-Moist); Mottles, 10YR56, 10-20% , 15-30mm, Prominent; Medium clay;
Strong grade of structure, 5-10 mm, Polyhedral; Smooth-ped fabric; Moist; Very firm consistence;
Common cutans, 10- 50% of ped faces or walls coated, prominent; Field pH 5.6 (pH meter);

Morphological Notes

B2 Emerson Dispersion: Slake

B3g Emerson Dispersion: Slake

Observation Notes

Vegetation was pasture sprayed and dead. Substrate was not reached

Site Notes

Geomorphic Activity: Aggraded. Geomorphic agent: Volcanic.

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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	5.3C 6.2A	0.07A	12.35A	4.17	1.64	0.1	0.05D 0.05G 0.1A		18.36B	
0.2 - 0.275	5.2C 6A	0.042A	10.13A	3.57	0.85	0.09	0.05D 0.06G 0.1A		14.74B	
0.7 - 0.95	5.4C 5.7A	0.028A	4.48A	2.33	0.13	0.08	0.01705D 0.02G 0.02705A		7.04705B	
0.95 - 1.17	4.3C 5.1A	0.023A	2.8A	4.01	0.13	0.09	0.354625D 0.19G 1.343875A		8.373875B	

Depth	CaCO3	Organic C	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		4.21B	138H 41.5I		0.38D						
0.2 - 0.275		3.42B	74H 22.7I		0.32D						
0.7 - 0.95		0.48B	9H 3.5I		0.05D						
0.95 - 1.17		0.38B	7H 2.8I		0.05D						

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 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

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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