

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** C5 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By: R. Moreton Roberts-Thompson, 100m south	Locality: Vand Diemen Quality Bulbs, Paul Table Cape, Wynyard. Corner paddock, Lighthouse Road.
Date Desc.: 20/08/04	Elevation: 160 metres
Map Ref.: Sheet No. : 3846 1:25000	Rainfall: 975
Northing/Long.: 5465599 AMG zone: 55	Runoff: Slow
Easting/Lat.: 392883 Datum: GDA94	Drainage: Well drained

Geology

ExposureType: Soil pit	Conf. Sub. is Parent. Mat.: Almost certain or certain
Geol. Ref.: Tb	Substrate Material: Soil pit, 1.5 m deep,, Basalt

Landform

Rel/Slope Class: Undulating low hills 30-90m 3-10% **Pattern Type:** Hills

Morph. Type: Upper-slope	Relief: No Data
Elem. Type: Hillslope	Slope Category: Gently inclined
Slope: 10 %	Aspect: 270 degrees

Surface Soil Condition Soft

Erosion

Soil Classification

Australian Soil Classification: Haplic Mesotrophic Red 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

A1 0 - 0.15 m mm, Polyhedral; crack; Few (<1 per Slightly plastic; coarse fragments;	Dark reddish brown (5YR3/4-Moist); , 0-0% ; Clay loam; Strong grade of structure, 2-5 Strong grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Fine, (0 - 5) mm 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Moderately sticky; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, Basalt, Field pH 6.2 (pH meter); Common, very fine (0-1mm) roots; Gradual, Smooth change to -
A3 0.15 - 0.26 m clay; Strong Subangular 1mm) 2-10%, medium meter); Few, very	Dark reddish brown (5YR3/4-Moist); Mottles, 2.5YR36, 2-10% , 5-15mm, Distinct; Light grade of structure, 20-50 mm, Subangular blocky; Strong grade of structure, 5-10 mm, blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075- macropores, Moderately moist; Weak consistence; Moderately plastic; Moderately sticky; gravelly, 6-20mm, subrounded, dispersed, Basalt, coarse fragments; Field pH 6.4 (pH fine (0-1mm) roots; Sharp, Smooth change to -
B1 0.26 - 0.68 m Moderate grade of Smooth-ped plastic; Moderately fragments; Few cutans, 1mm) roots;	Dark red (2.5YR3/6-Moist); Mottles, 7.5YR46, 0-2% , 0-5mm, Faint; Medium clay; structure, 20-50 mm, Angular blocky; Strong grade of structure, 5-10 mm, Angular blocky; fabric; Medium, (5 - 10) mm crack; Moderately moist; Weak consistence; Moderately sticky; 2-10%, coarse gravelly, 20-60mm, subrounded, dispersed, Basalt, coarse <10% of ped faces or walls coated, faint; Field pH 6.5 (pH meter); Common, very fine (0-

		Diffuse, Irregular change to -
B2	0.68 - 1.2 m	Dark red (2.5YR3/6-Moist); , 0-0% ; Medium clay; Weak grade of structure, 20-50 mm,
Platy; Moderate		grade of structure, 5-10 mm, Polyhedral; Smooth-ped fabric; Medium, (5 - 10) mm crack;
Moderately		moist; Weak consistence; Moderately plastic; Moderately sticky; 2-10%, coarse gravelly,
20-60mm,		subrounded, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or
walls coated, faint;		Field pH 5.7 (pH meter); Gradual, Irregular change to -
BR	1.2 - 1.4 m	Dark red (2.5YR3/6-Moist); , 0-0% ; Medium clay; Rough-ped fabric; Fine, (0 - 5) mm
crack; Moderately		moist; Weak consistence; Slightly plastic; Slightly sticky; 10-20%, stony, 200-600mm,
subrounded,		dispersed, Basalt, coarse fragments; Field pH 5.3 (pH meter);

Morphological Notes

A1	Sample C5A 0 - 75 mm.
A3	Sample C5B 200 - 275 mm.

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B1 Cutan colour 2.5YR3/6 coating ped faces. Sample C5C 300 - 600 mm.
 B2 Cutan colour 2.5YR3/6 coating ped faces. Sample C5D 700 - 1000 mm.

Observation Notes

Vegetation - pasture. Substrate - weathered rock with soil in between (mealy basalt). Grain size - sand size 0.06-2 mm.

Site Notes

Mode of geomorphic activity: eroded. Geomorphic agent: sheet wash. Inundation frequency: none.

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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	5.7C 6.3A	0.119A	15.76A	2.56	0.93	0.26	0.15D 0G 0.2A		19.71B	
0.2 - 0.275	5.6C 6.4A	0.077A	12.12A	3.4	0.34	0.33	0D 0G 0A		16.19B	
0.3 - 0.6	5.2C 6A	0.069A	6.57A	1.51	0.08	0.24	0.084075D 0.2G 0.23575A		8.63575B	
0.7 - 1	4.6C 5.2A	0.105A	2.62A	0.58	0.07	0.2	0.16575D 0.64G 0.56875A		4.03875B	

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		4.16B	147H 41I		0.36D					
0.2 - 0.275		3.14B	50H 12.3I		0.28D					
0.3 - 0.6		1.75B	2H 1.9I		0.15D					
0.7 - 1		1.06B	4H 2.5I		0.1D					

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 (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_K for soluble	salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_MG	salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment

for soluble	salts
15A1_NA for soluble	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
15G_C_AL2 By AAS	salts 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