

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** C58 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By: H. Hawkins **Locality:** Forestry Tasmania, Frankford Rd,
 between Wallaby Creek

Date Desc.: 19/07/06 **Elevation:** 122 metres
Map Ref.: GPS S.A. Off **Rainfall:** 969
Northing/Long.: 5431998 AMG zone: 55 **Runoff:** Moderately rapid
Easting/Lat.: 471373 Datum: GDA94 **Drainage:** Imperfectly drained

Geology

Exposure Type: Soil pit **Conf. Sub. is Parent. Mat.:** No Data
Geol. Ref.: No Data **Substrate Material:** No Data

Landform

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

Morph. Type: Mid-slope **Relief:** No Data
Elem. Type: Hillslope **Slope Category:** Gently inclined
Slope: 10 % **Aspect:** 163 degrees

Surface Soil Condition Soft

Erosion Stable, Minor (rill)

Soil Classification

Australian Soil Classification: Mottled Eutrophic Grey Dermosol Medium Non-gravelly Clayey Clayey Deep
Mapping Unit: N/A
Principal Profile Form: N/A
ASC Confidence: All necessary analytical data are available. **Great Soil Group:** N/A

Site Disturbance

Vegetation

Surface Coarse Fragments 20-50%, cobbly, 60-200mm, subangular tabular, Dolerite

Profile Morphology

<p>A1 0 - 22 m Moderate grade blocky; Fine, (0 Weak Ferruginous, Medium</p>	<p>Dark greyish brown (2.5Y4/2-Moist); Mottles, 10YR56, 0-2% , 0-5mm, Faint; Light clay; of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Angular - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; consistence; Slightly plastic; Normal plasticity; Slightly sticky; Many (20 - 50 %), (2 -6 mm), Nodules; Many, very fine (0-1mm) roots; Abrupt, Smooth change to -</p>
<p>B21 22 - 51 m (Light); 20-50 mm, macropores, plastic; Normal Common, coarse</p>	<p>Dark grey (2.5Y4/1-Moist); Mottles, 10YR68, 10-20% , 5-15mm, Prominent; Medium clay Moderate grade of structure, 50-100 mm, Angular blocky; Moderate grade of structure, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Common (1-5 per 100mm2) macropores, Moderately moist; Weak consistence; Slightly plasticity; Slightly sticky; Few (2 - 10 %), Ferruginous, Medium (2 -6 mm), Nodules; (>5mm) roots; Abrupt, Smooth change to -</p>
<p>B22 51 - 79 m clay; Moderate mm, Angular 1mm) sticky; Few (2 - 10 change to -</p>	<p>Grey (2.5Y5/1-Moist); Mottles, 10YR58, 20-50% , 5-15mm, Prominent; Medium heavy grade of structure, 100-200 mm, Angular blocky; Moderate grade of structure, 50-100 blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075- macropores, Moist; Weak consistence; Moderately plastic; Normal plasticity; Slightly (>5mm) roots; Abrupt, Smooth change to -</p>

B3 79 - 100 m clay; Moderate Angular blocky; macropores, coarse gravelly, roots;	Grey (2.5Y5/1-Moist); Substrate influence, 10YR46, 20-50% , 30-mm, Prominent; Medium grade of structure, 50-100 mm, Angular blocky; Moderate grade of structure, 20-50 mm, Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) Moist; Weak consistence; Moderately plastic; Normal plasticity; Slightly sticky; 10-20%, 20-60mm, subangular, dispersed, Dolerite, coarse fragments; Few, very fine (0-1mm)
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Morphological Notes

B21	C58C 25-50cm
B22	C58D 55-75 cm
B3	C58E 80-100cm

Observation Notes

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Pine plantation. Trees approx. 2m high. Substrate Dolerite

Site Notes

Mode of Geomorphic Activity: Eroded. Agent: Sheet Wash.

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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	4.9C 5.6A	0.054A	6.75A	5.59	0.25	0.21	0.07D 0.39G 0.32A		13.12B	
0.15 - 0.225	5.1C 5.8A	0.035A	4.82A	5.59	0.17	0.2	0.03D 0.16G 0.15A		10.93B	
0.25 - 0.5	4.9C 6.1A	0.035A	7.02A	10.55	0.1	0.32	0.07D 0.15G 0.23A		18.22B	
0.55 - 0.75	5C 6.1A	0.047A	10.7A	17.37	0.1	0.52	0.03D 0.11G 0.1A		28.79B	
0.8 - 1	5.3C 6.5A	0.068A	14.67A	20.64	0.11	0.76	0.04D 0.07G 0.05A		36.23B	

Depth	CaCO ₃	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis
m	%	%	mg/kg	%	%	%	Mg/m ³	GV CS FS Silt
0 - 0.075		3.38B	7H 3.8I		0.21D			
0.15 - 0.225		1.37B	3H 1.7I		0.13D			
0.25 - 0.5		0.98B	3H 1.2I		0.1D			
0.55 - 0.75		0.56B	2H 0.4I		0.07D			
0.8 - 1		0.3B	2H 0.3I		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	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_K	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_MG	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	

15A1_NA for soluble	salts 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 determination
15G1	Exchange acidity (hydrogen and aluminium) by 1M potassium chloride

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