

**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania  
**Project Code:** SCEAM **Site ID:** C27 **Observation ID:** 1  
**Agency Name:** TAS Department of Primary Industries and Fisheries

**Site Information**

**Desc. By:** D.B. Kidd **Locality:** Old Paradise, Forestry Enterprises  
 Tasmania, Paradise.

**Date Desc.:** 25/08/05 **Elevation:** 240 metres  
**Map Ref.:** GPS S.A. Off **Rainfall:** 1258  
**Northing/Long.:** 5413380 AMG zone: 55 **Runoff:** Moderately rapid  
**Easting/Lat.:** 443272 Datum: GDA94 **Drainage:** Moderately well drained

**Geology**

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

**Landform**

**Rel/Slope Class:** Rolling hills 90-300m 10-32% **Pattern Type:** Hills  
**Morph. Type:** Upper-slope **Relief:** No Data  
**Elem. Type:** Hillslope **Slope Category:** Moderately inclined  
**Slope:** 15 % **Aspect:** 54 degrees

**Surface Soil Condition** Soft, Firm

**Erosion**

**Soil Classification**

**Australian Soil Classification:** **Mapping Unit:** N/A  
 Haplic Eutrophic Red Ferrosol Medium Moderately gravelly Clay- **Principal Profile Form:** Dr4.11  
 loamy Clayey Deep  
**ASC Confidence:** **Great Soil Group:** N/A  
 All necessary analytical data are available.

**Site Disturbance**

**Vegetation**

**Surface Coarse Fragments** 10-20%, cobbly, 60-200mm, ,

**Profile Morphology**

O	0 - 0.01 m	Organic Layer; , 0-0% ;
Ap	0.01 - 0.17 m	Dark reddish brown (5YR2.5/2-Moist); , 0-0% ; Clay loam; Strong grade of structure, 2-5 mm, Granular;
Common (1-5 per		Strong grade of structure, <2 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack;
plastic; Subplastic;		100mm2) Fine (1-2mm) macropores, Moderately moist; Very weak consistence; Very
fragments; 10-20%,		Slightly sticky; 10-20%, cobbly, 60-200mm, subrounded, dispersed, Basalt, coarse
fine (0-1mm)		coarse gravelly, 20-60mm, subrounded, dispersed, Basalt, coarse fragments; Many, very
		roots; Gradual, Smooth change to -
AB	0.17 - 0.38 m	(/-Moist); , 0-0% ; Light clay; Moderate grade of structure, 10-20 mm, Subangular blocky;
Moderate		grade of structure, 2-5 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per
100mm2) Fine		(1-2mm) macropores, Moderately moist; Weak consistence; Slightly plastic; Normal
plasticity;		Moderately sticky; 10-20%, cobbly, 60-200mm, subrounded, dispersed, Basalt, coarse
fragments; 10-		20%, coarse gravelly, 20-60mm, subrounded, dispersed, Basalt, coarse fragments;
Common, medium (2-		5mm) roots; Few, fine (1-2mm) roots; Gradual, Smooth change to -
B1	0.38 - 0.76 m	Dark reddish brown (2.5YR3/3-Moist); , 0-0% ; Light clay; Moderate grade of structure,
10-20 mm,		Prismatic; Moderate grade of structure, 2-5 mm, Granular; Earthy fabric; Fine, (0 - 5) mm
crack; Few (<1		per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence;
Slightly plastic;		Normal plasticity; Moderately sticky; 10-20%, cobbly, 60-200mm, subrounded, dispersed,
Basalt, coarse		fragments; 10-20%, coarse gravelly, 20-60mm, subrounded, dispersed, Basalt, coarse

fragments;

Common, medium (2-5mm) roots; Few, fine (1-2mm) roots; Gradual, Smooth change to -

B2 0.76 - m  
clay; Moderate

Polyhedral; Earthy

Moist; Weak

200mm,

subrounded,

Nodules; Few,

Dark reddish brown (5YR3/4-Moist); Mottles, 7.5YR56, 0-2% , 0-5mm, Faint; Medium  
grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 5-10 mm,  
fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm<sup>2</sup>) Very fine (0.075-1mm) macropores,  
consistence; Slightly plastic; Normal plasticity; Moderately sticky; 10-20%, cobbly, 60-  
subrounded, dispersed, Basalt, coarse fragments; 10-20%, coarse gravelly, 20-60mm,  
dispersed, Basalt, coarse fragments; Few (2 - 10 %), Ferruginous, Fine (0 - 2 mm),  
medium (2-5mm) roots; Few, fine (1-2mm) roots;

**Morphological Notes**

Ap

Sample C27A, 0 to 75 mm.

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AB Sample C27B, 150 to 225 mm.  
 B1 Sample C27C, 400 to 650 mm.  
 B2 Sample C27D, 750 to 950 mm.

#### Observation Notes

Plantation of Eucalyptus nitens and or E. ovata.

#### Site Notes

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

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#### Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable	Cations	Na	Exchangeable	CEC	ECEC	ESP
m		dS/m		Mg	K	cmol (+)/kg	Acidity			%
0 - 0.075	5.1C 5.9A	0.089A	14.04A	2.45	0.79	0.12	0.1386D 0.49G 0.384A		17.784B	
0.15 - 0.225	5C 6A	0.053A	11.05A	2.25	0.59	0.11	0.1423D 0.31G 0.386A		14.386B	
0.4 - 0.65	4.8C 5.3A	0.049A	6.2A	2.39	0.72	0.11	0.07725D 0.18G 0.355A		9.775B	
0.75 - 0.95	5.1C 5.6A	0.037A	6.84A	2.68	0.31	0.26	0.02905D 0.31G 0.087025A		10.17702B	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis
m	%	Clay %	mg/kg	%	%	%	Mg/m3	GV CS FS Silt
0 - 0.075		5.96B	34H 10.1I		0.55D			
0.15 - 0.225		4.76B	21H 7.3I		0.4D			
0.4 - 0.65		1.88B	13H 3.8I		0.16D			
0.75 - 0.95		1.11B	12H 3.5I		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	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 for soluble	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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