

**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania  
**Project Code:** SCEAM **Site ID:** C44 **Observation ID:** 1  
**Agency Name:** TAS Department of Primary Industries and Fisheries

#### Site Information

<b>Desc. By:</b>	H. Hawkins	<b>Locality:</b>	Plantation Forestry off Stoodley Rd
<b>Date Desc.:</b>	22/06/06	<b>Elevation:</b>	161 metres
<b>Map Ref.:</b>	GPS S.A. Off	<b>Rainfall:</b>	1098
<b>Northing/Long.:</b>	5419140 AMG zone: 55	<b>Runoff:</b>	Slow
<b>Easting/Lat.:</b>	449460 Datum: GDA94	<b>Drainage:</b>	Moderately well drained

#### Geology

<b>ExposureType:</b>	Soil pit	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	No Data	<b>Substrate Material:</b>	No Data

#### Landform

<b>Rel/Slope Class:</b>	Undulating rises 9-30m 3-10%	<b>Pattern Type:</b>	Low hills
<b>Morph. Type:</b>	Lower-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Hillslope	<b>Slope Category:</b>	Gently inclined
<b>Slope:</b>	3 %	<b>Aspect:</b>	No Data

**Surface Soil Condition** Firm

#### Erosion

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b>	N/A
Acidic Dystrophic Brown Ferrosol Medium Non-gravelly Clay-loamy Clayey Very deep	<b>Principal Profile Form:</b>	Db3.11
<b>ASC Confidence:</b>	<b>Great Soil Group:</b>	N/A
All necessary analytical data are available.		

#### Site Disturbance

#### Vegetation

**Surface Coarse Fragments** No surface coarse fragments

#### Profile Morphology

O1	0 - 0.02 m	Organic Layer; Black (5YR2.5/1-Moist); , 0-0% ; Moderately moist; Loose consistence; Sharp, Smooth
change to -		
A1	0.02 - 0.2 m	Dark brown (7.5YR3/2-Moist); , 0-0% ; Clay loam; Moderate grade of structure, 20-50 mm, Subangular
blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Moderately moist; Firm		
consistence; Moderately plastic; Normal plasticity; Slightly sticky; Many, very fine (0-1mm) roots;		
Common, fine (1-2mm) roots; Abrupt, Wavy change to -		
B1	0.2 - 0.64 m	Reddish brown (5YR4/4-Moist); Mottles, 5YR58, 0-2% , 5-15mm, Distinct; Light clay; Moderate grade of
structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky;		
Earthy fabric; Moderately moist; Firm consistence; Moderately plastic; Subplastic; Slightly sticky;		
Common cutans, 10-50% of ped faces or walls coated, faint; Few, fine (1-2mm) roots; Few, fine (1-2mm)		
roots; Gradual, Wavy change to -		
B2	0.64 - 1.02 m	Strong brown (7.5YR4/6-Moist); , 0-0% ; Light clay; Strong grade of structure, 20-50 mm, Subangular
blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Moderately moist; Firm		
consistence; Moderately plastic; Normal plasticity; Moderately sticky; Common cutans, 10-50% of ped		
faces or walls coated, faint;		

#### Morphological Notes

O1	no macropores in the pit face but large >15mm diameter worms seen when doing AS and
BD	sampling.
A1	Significant fungal growth in A1, white dispersed but particularly focused around roots.
C44A	sampled 0-75mm
B1	More clay skins in the B21 than B22. Charcoal throughout solum, dispersed, fine gravel

size,

B2  
350-

weak. C44B sampled 200-275mm. C44C sampled 350-600mm  
Charcoal throughout solum, some stratification, medium gravel size, weak. C44D sampled  
950mm

### Observation Notes

vegetation was a pine plantation. Substrate was not reached

### Site Notes

Mode of Geomorphic Activity: Eroded or aggraded, Agent: Sheet Wash. Inundation frequency: None.

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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	4.7C 5.5A	0.063A	6.02A	2.14	0.47	0.14	0.01D 0.26G 0.64A		9.41B	
0.2 - 0.275	4.4C 5.3A	0.041A	2.78A	1.16	0.32	0.12	0.16D 1.01G 1.6A		5.98B	
0.35 - 0.6	4.2C 4.9A	0.029A	0.61A	0.34	0.23	0.1	0.19D 2.31G 2.76A		4.04B	
0.65 - 0.95	4.2C 4.9A	0.028A	1.03A	0.47	0.18	0.11	0.24D 2.8G 2.95A		4.74B	

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		3.73B	8H 3.1I		0.29D			
0.2 - 0.275		2.2B	5H 1.7I		0.2D			
0.35 - 0.6		0.94B	2H 1I		0.11D			
0.65 - 0.95		0.45B	3H 1I		0.06D			

### 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  
By AAS

Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and determination

15G1  
15J\_H  
15N1  
18A1  
3A1  
4A1

Exchange acidity (hydrogen and aluminium) by 1M potassium chloride  
Sum of Ex. cations + Ex. acidity - Sum of basic exch. cations and exch. (Hydrogen)  
Exchangeable sodium percentage (ESP)  
Bicarbonate-extractable potassium  
EC of 1:5 soil/water extract  
pH of 1:5 soil/water suspension

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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