

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** C25 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	D.B. Kidd	Locality:	State forest, near Sasafrass, Forestry Tas.
Date Desc.:	01/08/05	Elevation:	141 metres
Map Ref.:	GPS S.A. Off	Rainfall:	931
Northing/Long.:	5426872 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	464227 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, 1.1 m deep,, Basalt

Landform

Rel/Slope Class:	Gently undulating rises 9-30m 1-3%	Pattern Type:	Low hills
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Morph. Type:	Simple-slope	Relief:	No Data
Elem. Type:	Footslope	Slope Category:	Very gently sloped
Slope:	5 %	Aspect:	70 degrees

Surface Soil Condition Soft

Erosion

Soil Classification

Australian Soil Classification:	Acidic Mesotrophic Red Ferrosol Medium Moderately gravelly Clay-loamy Clayey Deep	Mapping Unit:	N/A
ASC Confidence:	Analytical data are incomplete but reasonable confidence.	Principal Profile Form:	N/A
		Great Soil Group:	N/A

Site Disturbance

Vegetation

Surface Coarse Fragments No surface coarse fragments

Profile Morphology

O	0 - 0.01 m	Organic Layer; (5YR3/3-Moist); , 0-0% ;
Ap	0.01 - 0.13 m	Dark reddish brown (5YR3/3-Moist); , 0-0% ; Clay loam; Moderate grade of structure, 2-5 mm, Subangular blocky; Moderate grade of structure, <2 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Non-plastic; Slightly sticky; 20-50%, medium gravelly, 6-20mm, subrounded, dispersed, Basalt, coarse fragments; Few, medium (2-5mm) roots; Clear, Smooth change to -
A3	0.13 - 0.29 m	Dark reddish brown (5YR3/4-Moist); , 0-0% ; Light clay; Moderate grade of structure, 5-10 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, Moist; Weak consistence; Non-plastic; Slightly sticky; 20-50%, medium gravelly, 6-20mm, subrounded, dispersed, Basalt, coarse fragments; Few, medium (2-5mm) roots; Clear, Smooth change to -
B1	0.29 - 0.59 m	Yellowish red (5YR4/6-Moist); , 0-0% ; Light medium clay; Strong grade of structure, 10-20 mm, Prismatic; Strong grade of structure, 2-5 mm, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm consistence; Moderately plastic; Superplastic; Moderately sticky; 2-10%, coarse gravelly, 20-60mm, subrounded, dispersed, Basalt, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Few, medium (2-5mm) roots; Gradual, Smooth change to -
B2	0.5 - 0.91 m	Red (2.5YR4/8-Moist); Substrate influence, 7.5YR46, 2-10% , 5-15mm, Faint; Medium clay; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores,

Moist; Firm 60mm, walls coated,	consistence; Slightly plastic; Superplastic; Moderately sticky; 2-10%, coarse gravelly, 20- subrounded, dispersed, Basalt, coarse fragments; Many cutans, >50% of ped faces or distinct; Few, medium (2-5mm) roots; Clear, Smooth change to -
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BC fabric; Firm	0.91 - 1.01 m Yellowish brown (10YR5/8-Moist); Mottles, 5YR46, 2-10% , 5-15mm, Distinct; Rough-ped consistence;
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Morphological Notes

O Ap A3	Sample C25A, 0 to 75 mm. A gritty clay loam. Sample C25B, 200 to 275 mm. Sample C25C 400 to 550 mm.
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B1 Sample C25D, 600 to 750 mm. Cutans lining pores and cracks.
 B2 Cutans lining pores and cracks.

Observation Notes

Vegetation: plantation forest - Pinus radiata.

Site Notes

Mode of geomorphic activity: eroded or aggraded, Agent: sheet wash. Innudation frequency less than once per hundred years for less than one day, depth of innudation less than 50mm.

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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 6A	0.079A	5.07A	2.46	0.31	0.27	0.23025D 0.56G 0.79125A		8.90125B	
0.2 - 0.275	4.9C 6A	0.061A	4.48A	3.14	0.31	0.23	0.1755D 0.47G 0.689A		8.849B	
0.4 - 0.55	4.3C 5.1A	0.042A	0.8A	2.64	0.06	0.29	0.121D 0.33G 0.56275A		4.35275B	
0.6 - 0.75	4.5C 5A	0.036A	0.86A	2.32	0.07	0.3	0.045325D 0.11G 0.11555A		3.66555B	

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		4.11B	30H 9.5I		0.3D			
0.2 - 0.275		4.3B	25H 9.1I		0.25D			
0.4 - 0.55		1.15B	3H 1.3I		0.1D			
0.6 - 0.75		0.59B	4H 1.3I		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 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