

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N31 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	D.B. Kidd	Locality:	Diddleum Plains Plantation
Date Desc.:	07/03/06	Elevation:	600 metres
Map Ref.:	GPS S.A. Off	Rainfall:	1200
Northing/Long.:	5427077 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	539247 Datum: GDA94	Drainage:	Moderately well drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Almost certain or certain
Geol. Ref.:	Gn	Substrate Material:	Soil pit, 1.3 m deep, Slightly porous, , Granite

Landform

Rel/Slope Class:	Undulating hills 90-300m 3-10%	Pattern Type:	Hills
Morph. Type:	Mid-slope	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	Gently inclined
Slope:	6 %	Aspect:	23 degrees

Surface Soil Condition Loose

Erosion No wind erosion (wind); No scalding (scald) No sheet erosion (sheet) No wave erosion (wave) No rill erosion (rill) No mass movement (mass) No gully erosion (gully) No stream bank erosion (stbank)

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Haplic Class Undetermined Brown Dermosol Medium Non-gravelly Loamy Clayey Deep	Principal Profile Form:	N/A

ASC Confidence:	Great Soil Group:	N/A
Analytical data are incomplete but reasonable confidence.		

Site Disturbance

Vegetation

Surface Coarse Fragments No surface coarse fragments

Profile Morphology

A11	0 - 0.12 m	Very dark brown (10YR2/2-Moist); ; Loamy coarse sand; Moderate grade of structure, 2-5 mm, Granular; Moderate grade of structure, <2 mm, Granular; Earthy fabric; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Non-plastic; Non-sticky; , Uncemented; Common, very fine (0-1mm) roots; Clear, Smooth change to -
A12	0.12 - 0.26 m	Very dark brown (10YR2/2-Moist); ; Loamy coarse sand; Strong grade of structure, 5-10 mm, Subangular blocky; Strong grade of structure, <2 mm, Granular; Earthy fabric; Few (<1 per 100mm2) 5mm) macropores, Moderately moist; Weak consistence; Non-plastic; Slightly sticky; 2-10%, medium gravelly, 6-20mm, angular, dispersed, Charcoal, coarse fragments; , Uncemented; , very fine (0-1mm) roots; Clear, Smooth change to -
A3	0.26 - 0.44 m	Very dark brown (10YR2/2-Moist); ; Loamy coarse sand; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Medium (2-5mm) macropores, Moderately moist; Weak consistence; Non-plastic; Moderately sticky; , Uncemented; Many, very fine (0-1mm) roots; Gradual, Smooth change to -
AB	0.44 - 0.6 m	Dark brown (10YR3/3-Moist); ; Clay loam, coarse sandy; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Few

Moderately plastic; fine (0-1mm)		(<1 per 100mm ²) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Subplastic; Slightly sticky; , Uncemented; Many, very fine (0-1mm) roots; Common, very roots; Gradual, Smooth change to -
B1 0.6 - 0.75 m Coarse sandy structure, 5-10 Moderately plastic;		Strong brown (7.5YR4/6-Moist); Biological mixing, 10YR33, 2-10% , 5-15mm, Distinct; light clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; Subplastic; Moderately sticky; , Uncemented; Gradual, Smooth change to -
B2t 0.75 - 0.92 m 20-50 mm, ped fabric; Gradual,		Strong brown (7.5YR4/6-Moist); ; Coarse sandy light clay; Moderate grade of structure, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moderately moist; Firm consistence; Very plastic; Subplastic; Very sticky; , Uncemented; Smooth change to -
BC 0.02 - 1.2 m Smooth-ped Uncemented;		Strong brown (7.5YR5/8-Moist); ; Coarse sandy light clay; Massive grade of structure; fabric; Moderately moist; Firm consistence; Very plastic; Subplastic; Very sticky; ,

Morphological Notes

A3	N31C = 30 - 40 cm
AB	N31D = 50 - 60 cm
B1	N31E = 60 - 75 cm
B2t	N31F = 80 - 90 cm

Observation Notes

Site Notes

Forest Enterprises Tasmania - Logged coupe - ripped, mounded, planted and fertilised

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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	4.4C 5.3A	0.038A	1.29A	0.57	0.24	0.1	0.71D 3.47G 4.09A		6.29B	
0.15 - 0.225	4.4C 5.4A	0.032A	1.21A	0.47	0.22	0.09	0.595D 2.94G 3.7775A		5.7675B	
0.3 - 0.4	4.3C 5A	0.055A	0.52A	0.31	0.15	0.09	0.8D 2.49G 3.44A		4.51B	
0.5 - 0.6	4.4C 5.4A	0.024A	0.3A	0.18	0.09	0.09	0.55D 1G 2.64A		3.3B	
0.6 - 0.75	4.3C 5.3A	0.025A	0.21A	0.17	0.07	0.07	0.42D 0.79G 2.39A		2.91B	
0.8 - 0.9	4.4C 5.2A	0.025A	0.23A	0.22	0.07	0.07	0.36D 1.01G 1.79A		2.38B	

Depth m	CaCO ₃ %	Organic C Clay %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m ³	Particle GV CS	Size FS	Analysis Silt

0 - 0.075	8.44B	28H	0.55D
		8.7I	
0.15 - 0.225	7.02B	24H	0.47D
		8.8I	
0.3 - 0.4	6.75B	10H	0.38D
		4.2I	
0.5 - 0.6	4.09B	4H	0.24D
		2.2I	
0.6 - 0.75	1.89B	3H	0.15D
		1.6I	
0.8 - 0.9	0.8B	2H	0.07D
		0.8I	

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

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