

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** C7 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	D.B. Kidd	Locality:	Scott Munday, West Pine, Penguin
Date Desc.:	03/08/05	Elevation:	200 metres
Map Ref.:	GPS S.A. Off	Rainfall:	1141
Northing/Long.:	5445575 AMG zone: 55	Runoff:	Moderately rapid
Easting/Lat.:	416788 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, 1.2 m deep,, Basalt

Landform

Rel/Slope Class:	Undulating hills 90-300m 3-10%	Pattern Type:	Low hills
Morph. Type:	Lower-slope	Relief:	No Data
Elem. Type:	Footslope	Slope Category:	Very gently sloped
Slope:	3 %	Aspect:	20 degrees

Surface Soil Condition Firm

Erosion

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Acidic Mesotrophic Red Ferrosol Medium Non-gravelly Clayey Clayey Deep	Principal Profile Form:	Uf5.12
ASC Confidence:	Great Soil Group:	N/A
All necessary analytical data are available.		

Site Disturbance

Vegetation

Surface Coarse Fragments 0-2%, cobbly, 60-200mm, ,

Profile Morphology

Ap	0 - 0.19 m	Dark reddish brown (5YR3/3-Moist); , 0-0% ; Light clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; consistence; Moderately plastic; Subplastic; Slightly sticky; 0-2%, cobbly, 60-200mm, dispersed, Basalt, coarse fragments; Many, very fine (0-1mm) roots; Gradual, Smooth change to -
AB	0.19 - 0.33 m	Dark reddish brown (5YR3/4-Moist); , 0-0% ; Clay loam (Heavy); Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Weak consistence; Moderately plastic; Subplastic; Slightly sticky; 0-2%, cobbly, 60-200mm, subrounded, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Cultivation pan, Weakly cemented, Discontinuous, Massive; Many, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.33 - 0.68 m	(/-Moist); , 0-0% ; Light clay; Strong grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Weak consistence; Slightly plastic; Slightly sticky; 0-2%, cobbly, 60-200mm, subrounded, dispersed, Basalt, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Common, very fine (0-1mm) roots; Gradual, Smooth change to -

B22 grade of Subangular blocky; macropores, 200mm, or walls coated, (0-1mm) roots;	0.68 - 1.05 m	Dark red (2.5YR3/6-Moist); Mottles, 5YR46, 0-2% , 0-5mm, Faint; Light clay; Moderate structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) Moist; Firm consistence; Slightly plastic; Subplastic; Slightly sticky; 0-2%, cobbly, 60-subrounded, dispersed, Basalt, coarse fragments; Common cutans, 10-50% of ped faces distinct; Few (2 - 10 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Few, very fine
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Morphological Notes

Ap AB B21 B22	Sample C7A, 0 to 75 mm. Cutans located lining pores and cracks. Sample C7B 200 to 275 mm. Cutans located lining pores and cracks. Sample C7C 350 to 650 mm. Cutans lining pore and cracks. Sample C7D 700 to 1000 mm.
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Observation Notes

Cropping paddock, poppy stubble.

Site Notes

Mode of geomorphic activity: eroded or aggraded, geomorphic agent: sheet wash. Innundation frequency, once in 50 to 100 years for a duration of 1 to 20 days. Depth of innundation less than 50 mm.

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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	5C 5.7A	0.066A	9.69A	1.47	0.63	0.13	0.13D 0.08G 0.28A		12.2B	
0.2 - 0.275	5.1C 5.8A	0.072A	10.28A	1.89	0.69	0.15	0.3D 0.16G 0.4A		13.41B	
0.35 - 0.65	4.4C 4.9A	0.08A	2.47A	0.51	0.19	0.16	0.248D 1.87G 1.69675A		5.02675B	
0.7 - 1	4.6C 4.9A	0.098A	2.57A	0.51	0.18	0.07	0.1345D 1.06G 0.943A		4.273B	

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		4.14B	121H 31.1I		0.39D					
0.2 - 0.275		4.83B	128H 32.3I		0.42D					
0.35 - 0.65		2.34B	8H 2.7I		0.19D					
0.7 - 1		1.28B	9H 2.6I		0.11D					

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 (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_K for soluble	salts Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_MG for soluble	salts 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
4A1	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