

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** S70 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	Gottfried Scholz	Locality:	
Date Desc.:	06/05/07	Elevation:	525 metres
Map Ref.:	Sheet No. : SK55-8 1:250000	Rainfall:	1000
Northing/Long.:	5218102 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	487829 Datum: GDA94	Drainage:	Rapidly drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Almost certain or certain
Geol. Ref.:	No Data	Substrate Material:	Outcrop, 1 m deep, Non-porous, dense, , Dolerite

Landform

Rel/Slope Class:	Precipitous hills 90-300m >100%	Pattern Type:	Mountains
Morph. Type:	Mid-slope	Relief:	300 metres
Elem. Type:	Hillslope	Slope Category:	Moderately inclined
Slope:	4 %	Aspect:	270 degrees

Surface Soil Condition Loose

Erosion Stable, Minor (sheet)

Soil Classification

Australian Soil Classification:	Haplic Dystrophic Yellow Dermosol Medium Slightly gravelly Clay-loamy Clay-loamy Deep	Mapping Unit:	N/A
ASC Confidence:	Analytical data are incomplete but reasonable confidence.	Principal Profile Form:	Um6.12
		Great Soil Group:	N/A

Site Disturbance

Vegetation

Tall Strata - Cycad, 20.01-35m, Closed or dense. *Species includes - Eucalyptus obliqua

Surface Coarse Fragments 50-90%, bouldery, 600mm-2m, subrounded, Dolerite

Profile Morphology

Ah	0 - 0.15 m	Dark reddish brown (5YR2.5/2-Moist); Dark reddish brown (5YR3/4-Dry); , 0-0% ; Fine sandy loam
Very fine (0.075-		(Light); Moderate grade of structure, 10-20 mm, Granular; Common (1-5 per 100mm2)
plasticity; Non-sticky;		1mm) macropores, Moderately moist; Very weak consistence; Non-plastic; Normal
90%, cobbly, 60-		50-90%, coarse gravelly, 20-60mm, rounded, dispersed, Dolerite, coarse fragments; 50-
rounded,		200mm, rounded, dispersed, Dolerite, coarse fragments; 50-90%, stony, 200-600mm,
change to -		dispersed, Dolerite, coarse fragments; Abundant, fine (1-2mm) roots; Gradual, Smooth
B2121	0.15 - 0.25 m	Yellowish red (5YR4/6-Moist); Yellowish red (5YR5/6-Dry); , 0-0% ; Fine sandy clay loam;
Moderate		grade of structure, 10-20 mm, Granular; Earthy fabric; Many (>5 per 100mm2) Very fine
(0.075-1mm)		macropores, Moderately moist; Very weak consistence; Non-plastic; Non-sticky; 50-90%,
coarse gravelly,		20-60mm, rounded, dispersed, Dolerite, coarse fragments; 50-90%, cobbly, 60-200mm,
rounded,		dispersed, Dolerite, coarse fragments; 50-90%, stony, 200-600mm, rounded, dispersed,
Dolerite, coarse		fragments; Abundant, very fine (0-1mm) roots; Gradual, Smooth change to -
B2222	0.25 - 1 m	Yellowish brown (10YR5/8-Moist); Brownish yellow (10YR6/8-Dry); Mottles, 7.5YR5/8, 0-
2% , 5-15mm,		Faint; Clay loam; Moderate grade of structure, 10-20 mm, Angular blocky; Sandy (grains
prominent)		fabric; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Loose
consistence; Non-		plastic; Slightly sticky; 50-90%, coarse gravelly, 20-60mm, rounded, dispersed, Dolerite,

coarse 50-90%, stony, 1mm) roots; B2323 1 - 1.3 m 20% , 0-5mm, Many (>5 per Slightly sticky; 20- cobbly, 60- subrounded,	fragments; 50-90%, cobbly, 60-200mm, rounded, dispersed, Dolerite, coarse fragments; 200-600mm, subrounded, dispersed, Dolerite, coarse fragments; Abundant, very fine (0- Gradual, Wavy change to - Strong brown (7.5YR5/8-Moist); Reddish yellow (7.5YR6/8-Dry); Mottles, 10YR58, 10- Distinct; Clay loam; Moderate grade of structure, 10-20 mm, Platy; Rough-ped fabric; 0.01m ²) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Non-plastic; 50%, coarse gravelly, 20-60mm, rounded, dispersed, Dolerite, coarse fragments; 20-50%, 200mm, rounded, dispersed, Dolerite, coarse fragments; 20-50%, bouldery, 600mm-2m, undisturbed, Dolerite, coarse fragments; Many, very fine (0-1mm) roots;
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Morphological Notes

B2323 rough	the granular structure of the B22 seems to be earthy, the other structural peds of B23 have fabrics.
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Observation Notes

dolerite cobbles and gravels show a thick (0.5-1cm) weathering rim of yellow coarse sandy medium clay loam, at the out rim the colour changes to red.

Site Notes

transect sampling; pit sampling: S70A 0-7.5cm, S70B 15-22.5cm, S70C 30-60cm, S70D 60-100cm, S70E 100-120cm

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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	3.7C 4.4A	0.146A	4.92A	2.17	0.71	0.39	1.16D 4.94G 5.14A		13.33B	
0.15 - 0.225	3.9C 4.8A	0.089A	1.68A	1.33	0.57	0.34	0.54D 4.68G 4.32A		8.24B	
0.3 - 0.6	4.5C 5.7A	0.059A	0.6A	1.11	0.38	0.8	0.2D 2.15G 2.29A		5.18B	
0.6 - 0.9	4.3C 5.8A	0.065A	0.71A	1.67	0.22	1.04	0.25D 2.2G 2.37A		6.01B	
1 - 1.2	4.3C 5.7A	0.05A	0.72A	2.09	0.08	1.04	0.18D 2.06G 2.13A		6.06B	

Depth m	CaCO ₃ %	Organic C Clay %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m ³	Particle GV	Size CS	Analysis FS	Silt
0 - 0.075		5.05B	4H 7.1I			0.34D					
0.15 - 0.225		5.37B	2H 2.9I			0.25D					
0.3 - 0.6		1.46B	2H 1.2I			0.1D					
0.6 - 0.9		0.85B	2H 1.1I			0.08D					
1 - 1.2		0.9B	2H 13.1I			0.04D					

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
15A1_NA for soluble	salts Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 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

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