

**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania  
**Project Code:** SCEAM **Site ID:** S72 **Observation ID:** 1  
**Agency Name:** TAS Department of Primary Industries and Fisheries

#### Site Information

<b>Desc. By:</b>	Gottfried Scholz	<b>Locality:</b>	
<b>Date Desc.:</b>	08/05/07	<b>Elevation:</b>	200 metres
<b>Map Ref.:</b>	Sheet No. : SK55-8 1:250000	<b>Rainfall:</b>	1500
<b>Northing/Long.:</b>	5234152 AMG zone: 55	<b>Runoff:</b>	Rapid
<b>Easting/Lat.:</b>	476253 Datum: GDA94	<b>Drainage:</b>	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>	Rolling hills 90-300m 10-32%	<b>Pattern Type:</b>	Mountains
<b>Morph. Type:</b>	Mid-slope	<b>Relief:</b>	300 metres
<b>Elem. Type:</b>	Hillslope	<b>Slope Category:</b>	Steep
<b>Slope:</b>	15 %	<b>Aspect:</b>	180 degrees

#### Surface Soil Condition Loose

#### Erosion Partial, Minor (sheet) Partial, Present (mass)

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b>	N/A
Haplic Dystrophic Red Dermosol Medium Slightly gravelly Clay-loamy Clayey Very deep	<b>Principal Profile Form:</b>	Dr4.11

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

#### Site Disturbance

#### Vegetation

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

#### Surface Coarse Fragments 10-20%, cobbly, 60-200mm, rounded, Dolerite

#### Profile Morphology

O11	0 - 0.05 m	Organic Layer; Very dark brown (10YR2/2-Moist); Very dark grey (10YR3/1-Dry); , 0-0% ; Loam (Fibric);
		Many (>5 per 0.01m2) Coarse (>5mm) macropores, Dry; Loose consistence; Non-plastic; Non-sticky; 2-
		10%, coarse gravelly, 20-60mm, rounded, dispersed, Dolerite, coarse fragments; 2-10%, coarse
		gravelly, 20-60mm, rounded, dispersed, Dolerite, coarse fragments; 2-10%, cobbly, 60-200mm, rounded,
		dispersed, Dolerite, coarse fragments; Abundant, very fine (0-1mm) roots; Clear, Wavy change to -
B11	0.05 - 0.15 m	Strong brown (7.5YR4/6-Moist); Strong brown (7.5YR5/8-Dry); , 0-0% ; Clay loam;
	Moderate grade of	structure, 10-20 mm, Angular blocky; Rough-ped fabric; Coarse, (10 - 20) mm crack;
	Common (1-5 per	100mm2) Medium (2-5mm) macropores, Dry; Weak consistence; Slightly plastic; Normal
	plasticity;	Slightly sticky; 2-10%, coarse gravelly, 20-60mm, rounded, dispersed, Dolerite, coarse
	fragments; 2-	10%, cobbly, 60-200mm, rounded, dispersed, Dolerite, coarse fragments; 2-10%, stony,
	200-600mm,	rounded, dispersed, Dolerite, coarse fragments; Abundant, very fine (0-1mm) roots;
	Gradual, Wavy	change to -
B2121	0.15 - 0.6 m	Yellowish red (5YR4/6-Moist); Yellowish red (5YR5/8-Dry); , 0-0% ; Medium clay; Strong
	grade of	structure, 20-50 mm, Angular blocky; Rough-ped fabric; Coarse, (10 - 20) mm crack;
	Common (1-5 per	100mm2) Medium (2-5mm) macropores, Dry; Weak consistence; Moderately plastic;
	Normal plasticity;	Moderately sticky; Gradual, Wavy change to -
B2222	0.6 - 0.8 m	Red (2.5YR4/6-Moist); Yellowish red (5YR5/8-Dry); , 0-0% ; Medium clay; Strong grade of
	structure,	10-20 mm, Angular blocky; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Common (1-5

per 0.01m2)		Medium (2-5mm) macropores, Moderately moist; Firm consistence; Very plastic; Normal plasticity; Very sticky; 2-10%, coarse gravelly, 20-60mm, rounded, dispersed, Dolerite, coarse fragments; 60-200mm, rounded, dispersed, Dolerite, coarse fragments; 2-10%, stony, 200-600mm, rounded, dispersed, Dolerite, coarse fragments; Abundant, very fine (0-1mm) roots; Clear, Wavy change to -
C	0.8 - 2 m structure, 20-0.01m2) Medium	Red (2.5YR4/8-Moist); Red (2.5YR5/8-Dry); , 0-0% ; Medium heavy clay; Strong grade of 50 mm, Angular blocky; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Many (>5 per (2-5mm) macropores, Moist; Firm consistence; Very plastic; Normal plasticity; Very sticky; 2-10%, coarse gravelly, 20-60mm, rounded, dispersed, Dolerite, coarse fragments; 2-10%, rounded, dispersed, Dolerite, coarse fragments; 2-10%, stony, 200-600mm, rounded, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Abundant, very fine (0-1mm) roots; Gradual, Wavy change to -
2C2	2 - 4 m 10-20 mm, 0.01m2) Medium (2-sticky; 10-20%, cobbly, 60-200mm, dispersed, distinct; Abundant,	Red (10R4/8-Moist); Red (10R5/6-Dry); , 0-0% ; Medium clay; Strong grade of structure, Angular blocky; Smooth-ped fabric; Coarse, (10 - 20) mm crack; Common (1-5 per 5mm) macropores, Moist; Very firm consistence; Very plastic; Normal plasticity; Very coarse gravelly, 20-60mm, rounded, dispersed, Dolerite, coarse fragments; 10-20%, rounded, dispersed, Dolerite, coarse fragments; 10-20%, stony, 200-600mm, rounded, Dolerite, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, very fine (0-1mm) roots;

#### **Morphological Notes**

O11	abundant mycelium from 0-60cm
B2121	seepage at 60cm depth
B2222	stoneline at 70cm depth with a maximum of roots and mycelium
C	clay cutans in veins and cracks (2.5YR 5/8, red, moist)
2C2	clay cutans in pores and cracks (10R 3/6 - dark red, moist), stoneline at 300cm depth with many roots; the granular structure has a weakly earthy fabric.

#### **Observation Notes**

coarse fragments: few to common, sizes: coarse gravel to large boulders.

#### **Site Notes**

transect sampling, pit sampling: S72A 5-12.5cm, S72B 15-22.5cm, S72C 25-50cm, S72D 60-80cm, S72E 90-120cm

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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				Na Cmol (+)/kg				%
0 - 0.075	4.9C 5.5A	0.168A	12.26A	3.09	1.02	0.31	0.13D 0.2G 0.25A		16.93B	
0.15 - 0.225	4.7C 5.5A	0.056A	2.99A	1.41	0.69	0.19	0.06D 0.43G 0.4A		5.68B	
0.25 - 0.5	4.3C 5.1A	0.023A	1.8A	1.16	0.15	0.1	0.12D 1.59G		4.52B	

0.6 - 0.8	4.3C 5.2A	0.032A	2.01A	1.75	0.26	0.13	1.31A 0.08D 1.29G 1.02A 0.04D 0.33G 0.21A	5.17B
0.9 - 1.2	4.6C 5.5A	0.022A	1.93A	2.29	0.3	0.15		4.88B

Depth	CaCO3	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt
m	%	%	mg/kg	%	%	%	Mg/m3			%	
0 - 0.075		5.64B	2H		0.35D						
0.15 - 0.225		2.31B	16.6I 2H		0.14D						
0.25 - 0.5		1.29B	16.5I 2H		0.09D						
0.6 - 0.8		1.35B	4.3I 2H		0.09D						
0.9 - 1.2		1.06B	4I 2H 4.4I		0.08D						

#### 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
15A1_K for soluble	salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_MG for soluble	salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_NA for soluble	salts Exchangeable bases (Ca2+,Mg2+,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