

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** S73 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	Gottfried Scholz	Locality:	
Date Desc.:	09/05/07	Elevation:	200 metres
Map Ref.:	Sheet No. : 4622 1:25000	Rainfall:	1500
Northing/Long.:	5229274 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	472257 Datum: GDA94	Drainage:	Moderately well drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Almost certain or certain
Geol. Ref.:	No Data	Substrate Material:	Soil pit, 2 m deep, Non-porous, dense, , Dolerite

Landform

Rel/Slope Class:	Rolling mountains >300m 10-32%	Pattern Type:	Mountains
Morph. Type:	Mid-slope	Relief:	300 metres
Elem. Type:	Bench	Slope Category:	Moderately inclined
Slope:	2 %	Aspect:	150 degrees

Surface Soil Condition Loose

Erosion Stable, Minor (sheet) Partial, No mass movement (mass)

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Haplic Dystrophic Red Dermosol Medium Moderately gravelly Sandy Sandy Very deep	Principal Profile Form:	Dr4.11
ASC Confidence:	Great Soil Group:	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 90-100%, cobbly, 60-200mm, rounded, Dolerite; 90-100%, large Boulders, > 2m, rounded, Dolerite

Profile Morphology

Ah	0 - 0.1 m	(/-Moist); (/-Dry); , 0-0% ; Fine sandy loam; Weak grade of structure, 2-5 mm, Granular; Common (1-5
		per 100mm2) Very fine (0.075-1mm) macropores, Dry; Loose consistence; Non-plastic; Non-sticky; 20-
		50%, cobbly, 60-200mm, rounded, dispersed, Dolerite, coarse fragments; 20-50%, stony, 200-600mm,
		rounded, dispersed, Dolerite, coarse fragments; 20-50%, bouldery, 600mm-2m, subrounded, dispersed,
		Dolerite, coarse fragments; Abundant, very fine (0-1mm) roots; Clear, Wavy change to -
B1	0.1 - 0.4 m	Yellowish red (5YR4/6-Moist); Yellowish red (5YR5/8-Dry); , 0-0% ; Clay loam; Strong
grade of		structure, 10-20 mm, Angular blocky; Rough-ped fabric; Medium, (5 - 10) mm crack;
Many (>5 per		100mm2) Very fine (0.075-1mm) macropores, Dry; Weak consistence; Slightly plastic;
Normal plasticity;		Slightly sticky; 20-50%, cobbly, 60-200mm, rounded, dispersed, Dolerite, coarse
fragments; 20-50%,		stony, 200-600mm, rounded, dispersed, Dolerite, coarse fragments; 20-50%, bouldery,
600mm-2m,		subrounded, dispersed, Dolerite, coarse fragments; Abundant, very fine (0-1mm) roots;
Gradual, Wavy		change to -
B21t	0.4 - 0.6 m	Red (10R4/8-Moist); Red (2.5YR4/8-Dry); Mottles, 7.5YR5/8, 10-20% , 5-15mm, Distinct;
Medium clay;		Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Medium, (5 -
10) mm crack;		Many (>5 per 0.01m2) Fine (1-2mm) macropores, Moderately moist; Firm consistence;
Slightly plastic;		Normal plasticity; Moderately sticky; 20-50%, cobbly, 60-200mm, rounded, dispersed,

Dolerite, coarse 20-50%, cutans, 10-50% of change to -	fragments; 20-50%, stony, 200-600mm, rounded, dispersed, Dolerite, coarse fragments; bouldery, 600mm-2m, subrounded, dispersed, Dolerite, coarse fragments; Common ped faces or walls coated, distinct; Abundant, very fine (0-1mm) roots; Gradual, Wavy
B22t 0.6 - 1.2 m Medium clay; crack; Few consistence; Moderately dispersed, Dolerite, fragments; 50-90%, cutans, 10-50% of	Red (10R4/8-Moist); Red (2.5YR4/8-Dry); Mottles, 7.5YR58, 20-50% , 30-mm, Distinct; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm plastic; Normal plasticity; Moderately sticky; 50-90%, cobbly, 60-200mm, rounded, coarse fragments; 50-90%, stony, 200-600mm, rounded, dispersed, Dolerite, coarse bouldery, 600mm-2m, subrounded, dispersed, Dolerite, coarse fragments; Common ped faces or walls coated, faint;

Morphological Notes

B1	O-20cm abundant mycelium, 20-40cm many mycelium, >40cm few mycelium
B21t red	the granular peds show an earth fabric; weathered mudstone appears as coarse, angular, (10R3/6) weathered rock pieces
B22t	at 90-120cm few if any pores, but in cracks and on ped surfaces abundant fine roots

Observation Notes

dolerite cobbles, stones and boulders occur above Triassic mudstone, the latter is found in the profile as weathered, hard, nonporous, red, angular cobble pieces.

Site Notes

transect and pit sampling: S73A 0-7.5cm, S73B 15-22.5cm, S73C 25-40cm, S73D 50-90cm, S73E 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				Cmol (+)/kg				%
0 - 0.075	4.5C 5.2A	0.171A	12.65A	4.54	1.07	0.45	0.21D 0.68G 0.46A		19.17B	
0.2 - 0.275	4.5C 5.5A	0.077A	4.49A	2.66	0.64	0.38	0.08D 0.63G 0.41A		8.58B	
0.4 - 0.6	5.1C 6.1A	0.043A	1.5A	2.16	0.63	0.26	0.06D 0.16G 0.21A		4.76B	
0.6 - 0.9	5.1C 6A	0.047A	1.01A	1.9	0.27	0.41	0.05D 0.43G 0.45A		4.04B	
0.9 - 1.2	4.9C 6.1A	0.041A	0.49A	1.24	0.1	0.72	0.28D 0.57G 0.82A		3.37B	

Depth	CaCO3	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis
m	%	%	mg/kg	%	%	%	Mg/m3	GV CS FS Silt
0 - 0.075		5.46B	6H 4.5I		0.51D			
0.2 - 0.275		3.89B	2H 3.6I		0.17D			
0.4 - 0.6		1.45B	2H 7.1I		0.09D			
0.6 - 0.9		0.7B	2H 3.2I		0.06D			
0.9 - 1.2		0.52B	2H 3.9I		0.05D			

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