

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** S19 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By: H. Hawkins **Locality:** Property: "Askrigg", near Bushy Park.
Owner: Paul Jones,

Date Desc.: 11/05/06 **Elevation:** 100 metres
Map Ref.: GPS S.A. Off **Rainfall:** 563
Northing/Long.: 5274138 AMG zone: 55 **Runoff:** Slow
Easting/Lat.: 497091 Datum: GDA94 **Drainage:** Well drained

Geology

ExposureType: Soil pit **Conf. Sub. is Parent. Mat.:** Almost certain or certain
Geol. Ref.: No Data **Substrate Material:** Soil pit, , Sandstone

Landform

Rel/Slope Class: Undulating low hills 30-90m 3-10% **Pattern Type:** Low hills

Morph. Type: Upper-slope **Relief:** No Data
Elem. Type: Hillslope **Slope Category:** Gently inclined
Slope: 9 % **Aspect:** 336 degrees

Surface Soil Condition Firm

Erosion

Soil Classification

Australian Soil Classification: **Mapping Unit:** N/A
 Acidic-Sodic Eutrophic Grey Dermosol Medium Slightly gravelly **Principal Profile Form:** N/A
 Silty Clayey Deep
ASC Confidence: **Great Soil Group:** N/A
 Analytical data are incomplete but reasonable confidence.

Site Disturbance

Vegetation

Surface Coarse Fragments 0-2%, coarse gravelly, 20-60mm, ,

Profile Morphology

<p>A11 0 - 0.17 m structure, 20-50</p> <p>Earthy fabric; Fine, (0</p> <p>Weak</p> <p>gravelly, 6-20mm,</p> <p>Gradual, Smooth</p>	<p>Very dark greyish brown (10YR3/2-Moist); , 0-0% ; Silty clay loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; consistence; Slightly plastic; Normal plasticity; Moderately sticky; 2-10%, medium subrounded, dispersed, Quartz, coarse fragments; Many, very fine (0-1mm) roots; change to -</p>
<p>A12 0.17 - 0.27 m 20 mm, Platy;</p> <p>mm crack;</p> <p>0-2%, medium</p> <p>(0-1mm) roots;</p>	<p>Brown (10YR4/3-Moist); , 0-0% ; Fine sandy clay loam; Moderate grade of structure, 10-20 mm, Platy; Moderate grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) Moderately moist; Weak consistence; Slightly plastic; Normal plasticity; Moderately sticky; gravelly, 6-20mm, angular, dispersed, Sandstone, coarse fragments; Common, very fine (0-1mm) roots; Clear, Wavy change to -</p>
<p>B2 0.27 - 0.48 m clay; Strong grade</p> <p>blocky; Earthy</p> <p>plasticity; Very</p>	<p>Dark greyish brown (10YR4/2-Moist); Mottles, 10YR44, 2-10% , 5-15mm, Faint; Light of structure, 10-20 mm, Angular blocky; Strong grade of structure, 5-10 mm, Angular fabric; macropores, Moderately moist; Weak consistence; Moderately plastic; Normal sticky; Common, very fine (0-1mm) roots; Gradual, Smooth change to -</p>
<p>B3 0.48 - 0.75 m Mottles, 2.5Y31, 2-</p> <p>blocky; Earthy</p>	<p>Dark greyish brown (2.5Y4/2-Moist); Mottles, 10YR46, 20-50% , 5-15mm, Distinct; 10% , 15-30mm, Distinct; Medium clay; Moderate grade of structure, 50-100 mm, Angular fabric; Moderately moist; Firm consistence; Very plastic; Normal plasticity; Moderately</p>

sticky; Clear,

Smooth change to -

BC 0.75 - 0.9 m ; Massive grade of structure; Moderately moist;

Morphological Notes

B2 Soapy feel - Sodic ?? . Sample S19C sampled at 29-43cm depth.
 B3 Soapy feel - Sodic?? . Sample S19D sampled at 50-68cm depth.
 BC Fractured Sandstone ferruginised along bedding planes. Sample S19E sampled at 78-82cm depth.

Observation Notes

Material found in BC was fine grained, weathered Sandstone which is almost certainly substrate. It had a crystalline texture, massive structure and a grain size of 0.06-2mm.

Site Notes

Mode of Geomorphic activity: eroded. Geomorphic Agent: Sheet Wash.

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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	5.6C 6.5A	0.11A	9.27A	6.17	0.7	0.62	0.03D 0G 0.04A		16.8B	
0.2 - 0.275	5.3C 6.3A	0.093A	9.22A	8.46	0.55	0.94	0.03D 0.03G 0.05A		19.22B	
0.29 - 0.43	4.8C 5.8A	0.119A	10.47A	9.25	0.49	1.4	0.16D 0.1G 0.64A		22.25B	
0.5 - 0.68	5.6C 6.7A	0.156A	11.85A	13.09	0.61	2.05	0.03D 0G 0.03A		27.63B	
0.78 - 0.82	6.4C 7.6A	0.111A	8.41A	9.5	0.39	1.71	0.03D 0G 0.05A		20.06B	

Depth m	CaCO3 %	Organic C Clay %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle GV CS	Size FS %	Analysis Silt
0 - 0.075		1.89B	67H 45.1I		0.19D					
0.2 - 0.275		1.24B	22H 8.6I		0.11D					
0.29 - 0.43		1.04B	9H 3.8I		0.09D					
0.5 - 0.68		0.93B	7H 2.9I		0.08D					
0.78 - 0.82		0.35B	5H 2.2I		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	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_K	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_MG	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_NA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15G_C_AL2	Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and detremination
By AAS	
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