

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N19 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By: R. Moreton **Locality:** Winburn, near Nile. The Pit is located at
 opposite end of Transect, therefore the grid ref for this
 description WILL be different from the sceam N19 grid ref
 transect start

Date Desc.: 09/09/05 **Elevation:** 164 metres
Map Ref.: GPS S.A. Off **Rainfall:** 598
Northing/Long.: 5385795 AMG zone: 55 **Runoff:** Moderately rapid
Easting/Lat.: 526544 Datum: GDA94 **Drainage:** Imperfectly drained

Geology

ExposureType: Soil pit **Conf. Sub. is Parent. Mat.:** No Data
Geol. Ref.: Ts **Substrate Material:** Soil pit, No Data

Landform

Rel/Slope Class: Gently undulating plains <9m 1-3% **Pattern Type:** Alluvial plain

Morph. Type: Simple-slope **Relief:** No Data
Elem. Type: Plain **Slope Category:** Very gently sloped
Slope: 3 % **Aspect:** 160 degrees

Surface Soil Condition Soft

Erosion

Soil Classification

Australian Soil Classification: Eutrophic Mottled-Subnatric Brown Sodosol Medium Non-gravelly Clay-loamy Clayey Deep **Mapping Unit:** N/A
Principal Profile Form: N/A

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

Site Disturbance

Vegetation

Surface Coarse Fragments No surface coarse fragments

Profile Morphology

<p>A1p 0 - 0.15 m</p> <p>of structure,</p> <p>fabric; Few (<1 per</p> <p>Slightly sticky;</p>	<p>Very dark greyish brown (10YR3/2-Moist); , 0-0% ; Fine sandy clay loam; Moderate grade</p> <p>10-20 mm, Subangular blocky; 2-5 mm, Subangular blocky; Sandy (grains prominent)</p> <p>100mm2) Very fine (0.075-1mm) macropores, Moist; Very weak consistence; Non-plastic;</p> <p>Few, fine (1-2mm) roots; Sharp, Smooth change to -</p>
<p>A2p 0.15 - 0.28 m</p> <p>loam; Moderate</p> <p>(grains prominent)</p> <p>consistence; Non-</p>	<p>Black (10YR2/1-Moist); Mottles, 10YR54, 2-10% , 5-15mm, Distinct; Fine sandy clay</p> <p>grade of structure, 20-50 mm, Subangular blocky; 5-10 mm, Subangular blocky; Sandy</p> <p>fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Very weak</p> <p>plastic; Moderately sticky; Few, very fine (0-1mm) roots; Abrupt, Wavy change to -</p>
<p>A2 0.28 - 0.42 m</p> <p>sand; Single</p> <p>Non-plastic;</p> <p>change to -</p>	<p>Yellowish brown (10YR5/4-Moist); Mottles, 10YR21, 2-10% , 5-15mm, Distinct; Clayey</p> <p>grain grade of structure; Sandy (grains prominent) fabric; Moist; Very weak consistence;</p> <p>Slightly sticky; Few (2 - 10 %), Ferruginous, Medium (2 -6 mm), Nodules; Abrupt, Smooth</p>
<p>B1 0.42 - 0.8 m</p> <p>(Light);</p> <p>20 mm,</p> <p>macropores, Moist; Firm</p>	<p>Strong brown (7.5YR4/6-Moist); Mottles, 10YR31, 2-10% , 5-15mm, Distinct; Medium clay</p> <p>Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 10-</p> <p>Angular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Fine (1-2mm)</p>

distinct; Diffuse, consistence; Very plastic; Very sticky; Few cutans, <10% of ped faces or walls coated, Smooth change to -

B2 0.8 - 1.1 m Dark yellowish brown (10YR4/4-Moist); Mottles, 2.5Y42, 10-20% , 15-30mm, Distinct; Medium clay (Light); Moderate grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moist; Firm consistence; Very plastic; Very sticky; Few cutans, <10% of ped faces or walls coated, distinct;

Morphological Notes

A2 Water Seepage evident at A2/B1 boundary. n19C sampled at 28-42cm
 B1 Evidence of old root channels in both B horizons. N19D sampled at 45-80cm
 B2 Colour of Cutans: 10yr51. N19E sampled 80-110cm

Observation Notes

The vegetation was an early Wheat Crop. Substrate was not reached but is likely to be Tertiary Clays and Gravels.

Site Notes

Element slope class: very gentle. Mode of geomorphic activity: eroded or aggraded. Geomorphic agent over bank stream flow.

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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	6.7C 7.2A	0.103A	10.78A	0.7	0.48	0.07	0.09D 0G 0.1A		12.13B	
0.2 - 0.275	4.8C 5.8A	0.036A	4.39A	0.55	0.32	0.05	0.15D 0.02G 0.23A		5.54B	
0.28 - 0.42	5.9C 6.3A	0.039A	2.23A	0.91	0.14	0.09	0.01D 0G 0.03011A		3.40011B	
0.45 - 0.8	5.9C 6.9A	0.053A	9.5A	10.66	0.38	1.07	0.0069325 D 0G 0.01375A		21.62375B	
0.8 - 1.1	6.4C 7.4A	0.068A	8.88A	10.77	0.31	1.55	0.01D 0G 0.017165A		21.52716B	

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		1.99B	122H 49I		0.17D					
0.2 - 0.275		1.29B	26H 14.4I		0.09D					
0.28 - 0.42		0.22B	4H 2.2I		0.02D					
0.45 - 0.8		0.47B	2H 1.1I		0.06D					
0.8 - 1.1		0.37B	10H 4.1I		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 (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_K for soluble	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_MG for soluble	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

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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
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