

**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania  
**Project Code:** SCEAM **Site ID:** C18 **Observation ID:** 1  
**Agency Name:** TAS Department of Primary Industries and Fisheries

#### Site Information

<b>Desc. By:</b>	R. Moreton	<b>Locality:</b>	Property owned by Wayne Tennant, Near Tugoui
<b>Date Desc.:</b>	19/04/05	<b>Elevation:</b>	29 metres
<b>Map Ref.:</b>	GPS S.A. Off	<b>Rainfall:</b>	1266
<b>Northing/Long.:</b>	5468261 AMG zone: 55	<b>Runoff:</b>	Very slow
<b>Easting/Lat.:</b>	322820 Datum: GDA94	<b>Drainage:</b>	Imperfectly drained

#### Geology

<b>ExposureType:</b>	Soil pit	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	Qa	<b>Substrate Material:</b>	Soil pit, No Data

#### Landform

<b>Rel/Slope Class:</b>	Level plain <9m <1%	<b>Pattern Type:</b>	Alluvial plain
<b>Morph. Type:</b>	Flat	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Fan	<b>Slope Category:</b>	Level
<b>Slope:</b>	1 %	<b>Aspect:</b>	300 degrees

**Surface Soil Condition** Firm

#### Erosion

#### Soil Classification

<b>Australian Soil Classification:</b>	Basic Inceptic Tenosol Thick Non-gravelly Loamy Clayey Deep	<b>Mapping Unit:</b>	N/A
		<b>Principal Profile Form:</b>	N/A
<b>ASC Confidence:</b>	Analytical data are incomplete but reasonable confidence.	<b>Great Soil Group:</b>	N/A
<b>Australian Soil Classification:</b>	Basic Black-Orthic Tenosol Thick Non-gravelly Loamy Clayey Deep	<b>Mapping Unit:</b>	N/A
<b>Form:</b>		<b>Principal Profile</b>	N/A
<b>ASC Confidence:</b>	Analytical data are incomplete but reasonable confidence.	<b>Great Soil Group:</b>	N/A

#### Site Disturbance

#### Vegetation

**Surface Coarse Fragments** No surface coarse fragments

#### Profile Morphology

<b>A1</b>	0 - 0.2 m	Black (10YR2/1-Moist); , 0-0% ; Fine sandy loam; Moderate grade of structure, 2-5 mm, Polyhedral; fabric; Moderately very fine (0-1mm)
<b>2A1b</b>	0.2 - 0.36 m	(7.5YR2.5/1-Moist); Mottles, 5YR33, 20-50% , 0-5mm, Distinct; Loamy fine sand; Weak grade of structure, 2-5 mm, Subangular blocky; Single grain grade of structure; Sandy (grains prominent) fabric; subrounded, dispersed, Nodules; Field
<b>2A2b</b>	0.36 - 0.7 m	Very dark grey (10YR3/1-Moist); Mottles, 10YR51, 0-2% , 5-15mm, Distinct; Silty loam; Massive grade of structure; Sandy (grains prominent) fabric; Dry; Very weak consistence; Non-plastic; Slightly sticky; 0- (pH meter);
<b>2B1b</b>	0.7 - 0.82 m	Very dark grey (10YR3/1-Moist); Mottles, 7.5YR46, 2-10% , 0-5mm, Distinct; Light clay; Earthy fabric; Moderately moist; Firm consistence; Slightly plastic; Normal plasticity; Slightly sticky; 0- 2%, fine gravelly,

Ferruginous, Coarse (6 - meter); Sharp,	2-6mm, subrounded, dispersed, Quartz, coarse fragments; Very few (0 - 2 %), 20 mm), Nodules; Organic pan, Uncemented, Continuous, Massive; Field pH 6 (pH Smooth change to -
3B2b     0.82 - 1.25 m of structure; Slightly sticky;	Black (10YR2/1-Moist); Mottles, 10YR31, 2-10% , 5-15mm, Faint; Loam; Massive grade Sandy (grains prominent) fabric; Moderately moist; Very weak consistence; Non-plastic; Field pH 6 (pH meter);

**Morphological Notes**

A1 2A1b	Penetration resistance: Soft. Salinity measure 0.1 dSm <sup>-1</sup> Penetration resistance: Firm. Salinity measure 0.0 dSm <sup>-1</sup>
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2A2b Penetration resistance: Soft. Salinity measure 0.0 dSm<sup>-1</sup>  
 2B1b Penetration resistance: Firm. Salinity measure 0.0 dSm<sup>-1</sup>  
 3B2b Penetration resistance: Soft. Salinity measure 0.1 dSm<sup>-1</sup>. C18C sample 82-125cm

#### Observation Notes

Vegetation was Irrigated Pasture. Paddock is hump and hollow therefore suspected buried horizons. Mode of Geomorphic Activity:  
 Aggraded. Agent: Wind. Inundation Frequency: None.

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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 6.3A	0.157A	10.68A	4.48	0.45	0.27	0.1477525 D 0G		16.03275B	
0.2 - 0.275	5.2C 6A	0.138A	9.77A	4.35	0.38	0.29	0.15275A 0.14465D 0.1G		14.96725B	
0.82 - 1.25	5.7C 6.3A	0.093A	10.8A	1.91	0.25	0.22	0.17725A 0.0541375 D 0G 0.063A		13.243B	

Depth m	CaCO <sub>3</sub> %	Organic C Clay %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m <sup>3</sup>	Particle GV CS	Size FS	Analysis Silt
0 - 0.075		5.08B	89H 0I		0.29D					
0.2 - 0.275		5.49B	60H 0I		0.37D					
0.82 - 1.25		1.58B	2H 1.9I		0.09D					

#### 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 <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_K for soluble	salts Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_MG for soluble	salts Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_NA	salts Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment

for soluble

salts

15G\_C\_AL2  
By AAS

Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and determination

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

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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