

**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania  
**Project Code:** SCEAM **Site ID:** N61 **Observation ID:** 1  
**Agency Name:** TAS Department of Primary Industries and Fisheries

**Site Information**

**Desc. By:** R. Moreton **Locality:** Alluvial plain, property Symons Plains,  
 near Perth. Andrew

**Date Desc.:** 10/11/06 **Elevation:** 160 metres  
**Map Ref.:** GPS S.A. Off **Rainfall:** 610  
**Northing/Long.:** 5388878 AMG zone: 55 **Runoff:** Very slow  
**Easting/Lat.:** 522368 Datum: GDA94 **Drainage:** Poorly drained

**Geology**

**ExposureType:** Soil pit **Conf. Sub. is Parent. Mat.:** Almost certain or certain  
**Geol. Ref.:** Ts **Substrate Material:** Soil pit, , Alluvium

**Landform**

**Rel/Slope Class:** Level plain <9m <1% **Pattern Type:** Alluvial plain  
**Morph. Type:** Flat **Relief:** No Data  
**Elem. Type:** Plain **Slope Category:** Level  
**Slope:** 0 % **Aspect:** No Data

**Surface Soil Condition** Firm

**Erosion**

**Soil Classification**

**Australian Soil Classification:** Eutrophic Mottled-Mesonatric Brown Sodosol Medium Non-gravelly Silty Clayey Deep **Mapping Unit:** N/A  
**Principal Profile Form:** N/A  
**ASC Confidence:** All necessary analytical data are available. **Great Soil Group:** N/A

**Site Disturbance**

**Vegetation**

**Surface Coarse Fragments** No surface coarse fragments

**Profile Morphology**

<p>A1p 0 - 0.17 m structure, 5-10 mm, fabric; Few (&lt;1 per sticky; Many, very</p>	<p>Very dark greyish brown (10YR3/2-Moist); , 0-0% ; Silty loam; Moderate grade of Subangular blocky; Moderate grade of structure, 2-5 mm, Subangular blocky; Earthy 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Non-plastic; Slightly fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Smooth change to -</p>
<p>A2p 0.17 - 0.28 m Distinct; Silty 100mm2) Fine (1- (10 - 20 %), Smooth</p>	<p>Yellowish brown (10YR5/4-Moist); White (2.5Y8/1-Dry); Mottles, 10YR51, 2-10% , 0-5mm, loam; Weak grade of structure, &lt;2 mm, Angular blocky; Earthy fabric; Few (&lt;1 per 2mm) macropores, Moist; Very weak consistence; Non-plastic; Slightly sticky; Common Ferromanganiferous, Coarse (6 - 20 mm), Nodules; Few, very fine (0-1mm) roots; Abrupt, change to -</p>
<p>B1t 0.28 - 0.5 m Mottles, 20-50 mm, ped fabric; Fine, consistence; Gradual, Smooth</p>	<p>Dark greyish brown (10YR4/2-Moist); Mottles, 2.5YR36, 20-50% , 15-30mm, Prominent; 10YR44, 10-20% , 15-30mm, Distinct; Light medium clay; Moderate grade of structure, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth- (0 - 5) mm crack; Few (&lt;1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm Moderately plastic; Normal plasticity; Moderately sticky; Few, very fine (0-1mm) roots; change to -</p>
<p>B2t 0.5 - 0.95 m clay; Moderate Moist; Firm Manganiferous,</p>	<p>Reddish brown (2.5YR5/4-Moist); Mottles, 10YR58, 0-2% , 5-15mm, Distinct; Medium grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; consistence; Moderately plastic; Normal plasticity; Moderately sticky; Very few (0 - 2 %),</p>

to - Medium (2 -6 mm), Root linings; Few, very fine (0-1mm) roots; Gradual, Smooth change

B3t 0.95 - 1.1 m Greyish brown (2.5Y5/2-Moist); Mottles, 10YR56, 10-20% , 5-15mm, Distinct; Medium clay; Massive  
grade of structure; Moist; Firm consistence; Moderately plastic; Normal plasticity;  
Moderately sticky;  
Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Root linings;

#### Morphological Notes

A1p Sample N61A: depth 0 - 75 mm.  
A2p Sample N61B: depth 200 - 275 mm.  
B1t Sample N61C: depth 300 - 500 mm. B1 sodic, soapy.  
B2t Sample N61D: depth 500 to 800 mm. B2 sodic, soapy.  
B3t Sample N61E: depth 800 to 950 mm. B3 sodic, soapy.

#### Observation Notes

Vegetation: rye grass pasture.

#### Site Notes

Mode of geomorphic activity, eroded and aggraded. Agents: sheet wash and wind. Innundation frequency possibly once per 100 years at a duration of less than one day and at a depth of less than 50 mm.

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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	6.1C 6.6A	0.071A	5.22A	0.6	0.67	0.11	0.04D 0G 0.06A		6.66B	
0.2 - 0.275	5.3C 5.8A	0.051A	3.42A	0.42	0.28	0.1	0.05D 0.1G 0.11A		4.33B	
0.3 - 0.5	6.7C 7.7A	0.096A	6.47A	13.62	0.4	2.44	0D 0G 0.04A		22.97B	
0.5 - 0.8	6.9C 7.7A	0.147A	4.08A	13.58	0.3	3.64	0D 0G 0.1A		21.7B	
0.8 - 0.95	6.9C 7.7A	0.211A	3.96A	14.84	0.26	4.78	0D 0G 0.03A		23.87B	
0.95 - 1.1	6.4C 7.5A	0.334A	3.54A	12.59	0.32	5.92	0.01D 0G 0.04A		22.41B	

Depth m	CaCO3 %	Organic C Clay %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle GV	Size CS	Analysis FS	Silt
0 - 0.075		2.01B	80H 30.7I		0.15D						
0.2 - 0.275		1.33B	51H 22.7I		0.12D						
0.3 - 0.5		0.51B	3H 0.8I		0.11D						
0.5 - 0.8		0.24B	2H 0.6I		0.08D						
0.8 - 0.95		0.22B	2H 0.6I		0.11D						
0.95 - 1.1		0.23B	5H 1.8I		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  salts
15A1_K 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  salts
15A1_MG 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  salts

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15A1_NA 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 salts
15G_C_AL2 By AAS	Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and detremination
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 longer	Bicarbonate-extractable phosphorus - automated colour. Based on Colwell (1965). Method no
	recommended
9C2	Olsen-extractable phosphorus - automated colour