

**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania  
**Project Code:** SCEAM **Site ID:** S16 **Observation ID:** 1  
**Agency Name:** TAS Department of Primary Industries and Fisheries

#### Site Information

**Desc. By:** **Locality:** Houston, Near Cambridge. Pit Dug next to irrigation pipe,  
 this means pit is not

**Date Desc.:** 20/05/05 **Elevation:** 8 metres  
**Map Ref.:** GPS S.A. Off **Rainfall:** 532  
**Northing/Long.:** 5259033 AMG zone: 55 **Runoff:** Slow  
**Easting/Lat.:** 537815 Datum: GDA94 **Drainage:** Poorly drained

#### Geology

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

#### Landform

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

**Morph. Type:** Flat **Relief:** No Data  
**Elem. Type:** Terrace flat **Slope Category:** Level  
**Slope:** 2 % **Aspect:** 3 degrees

**Surface Soil Condition** Firm

#### Erosion

#### Soil Classification

**Australian Soil Classification:** **Mapping Unit:** N/A  
 Sodic Eutrophic Brown Dermosol Medium Non-gravelly Clayey **Principal Profile Form:** N/A  
 Clayey Deep

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

#### Site Disturbance

#### Vegetation

**Surface Coarse Fragments** 0-2%, medium gravelly, 6-20mm, ,

#### Profile Morphology

<p>A1 0 - 0.18 m</p> <p>grade of</p> <p>Rough-ped</p> <p>Moist; Firm</p> <p>dispersed, coarse</p> <p>fine (0-1mm)</p>	<p>Very dark grey (2.5Y3/1-Moist); , 2.5YR48, 2-10% , 0-5mm, Distinct; Light clay; Moderate structure, 10-20 mm, Angular blocky; Weak grade of structure, 5-10 mm, Angular blocky; fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, consistence; Non-plastic; Non-sticky; 2-10%, medium gravelly, 6-20mm, subrounded, fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Common, very roots; Abrupt, Smooth change to -</p>
<p>B21 0.18 - 0.43 m</p> <p>clay; Moderate</p> <p>Angular blocky;</p> <p>macropores,</p> <p>6mm, rounded,</p> <p>Few, very fine (0-</p>	<p>Very dark grey (5Y3/1-Moist); Mottles, 10YR68, 2-10% , 0-5mm, Distinct; Light medium grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) Moderately moist; Weak consistence; Non-plastic; Slightly sticky; 0-2%, fine gravelly, 2-dispersed, coarse fragments; Many cutans, &gt;50% of ped faces or walls coated, distinct; 1mm) roots; Diffuse, Smooth change to -</p>
<p>B22 0.43 - 0.8 m</p> <p>Platy; Moderate</p> <p>Few (&lt;1 per</p> <p>Moderately</p> <p>&gt;50% of ped</p>	<p>Olive (5Y4/3-Moist); , 0-0% ; Medium clay; Moderate grade of structure, 200-500 mm, grade of structure, 50-100 mm, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; 100mm2) Very fine (0.075-1mm) macropores, Moist; Very weak consistence; Non-plastic; sticky; 2-10%, fine gravelly, 2-6mm, rounded, dispersed, coarse fragments; Many cutans, faces or walls coated, distinct; Few, very fine (0-1mm) roots; Diffuse, Wavy change to -</p>

B3	0.8 - 0.92 m	Light olive brown (2.5Y5/6-Moist); Mottles, 2.5Y64, 20-50% , 5-15mm, Faint; Substrate influence,
Platy; Weak		10YR68, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 50-100 mm,
Few (<1 per		grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack;
Non-plastic;		100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence;
Abrupt, Wavy		Non-sticky; 10-20%, medium gravelly, 6-20mm, rounded, dispersed, coarse fragments;
		change to -
C	0.92 - 1.3 m	Light olive brown (2.5Y5/6-Moist); Substrate influence, 10YR68, 2-10% , 5-15mm,
Distinct; Rough-ped		fabric; Moderately moist; Firm consistence; Non-plastic; Non-sticky; 50-90%, medium
gravelly, 6-20mm,		rounded, stratified, coarse fragments;
B21		Colour of Clay skins coating Ped faces 5Y 31. Penetration resistance: Firm
B22		Colour of Clay skins coating Ped faces 5Y 43. Penetration resistance: Soft. Sample S16C
50-70cm		
B3		Colour of Clay skins coating Ped faces 2.5Y 56. Penetration resistance: Firm. Sample
S16D 80-		90cm
C		Penetration resistance: Firm. River gravel at 90+cm.

#### **Observation Notes**

Lettuce crop.

#### **Site Notes**

Geomorphic Agent: Sheet Wash. Mode of geomorphic Activity: Aggraded. Inundation Frequency: Once in 50-100 years, for < 1day, at a depth of < 50mm.

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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 6.4A	0.096A	11.14A	6.61	0.58	0.67	0.05D 0G 0.08A		19.08B	
0.15 - 0.225	5.7C 6.7A	0.103A	10.87A	8.86	0.36	1.07	0.15D 0G 0.23A		21.39B	
0.5 - 0.7	7.1C 8.2A	0.211A	11.31A	18.07	0.42	4.15	0.1047D 0G 0.14425A		34.09425B	
0.8 - 0.9	7.6C 8.4A	0.296A	10.16A	14.09	0.36	4.73	0.033D 0G 0.043A		29.383B	

  

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		1.86B	128H 56.1I		0.26D						
0.15 - 0.225		1.55B	54H 21I		0.19D						
0.5 - 0.7		0.58B	2H 1I		0.06D						

0.8 - 0.9	0.21B	1H 0.6I	0.04D
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**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
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 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

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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