

**Project Name:** SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania  
**Project Code:** SCEAM **Site ID:** S17 **Observation ID:** 1  
**Agency Name:** TAS Department of Primary Industries and Fisheries

#### Site Information

|                        |                      |                   |                         |
|------------------------|----------------------|-------------------|-------------------------|
| <b>Desc. By:</b>       |                      | <b>Locality:</b>  | Strelley, Near Richmond |
| <b>Date Desc.:</b>     | 20/05/05             | <b>Elevation:</b> | 62 metres               |
| <b>Map Ref.:</b>       | GPS S.A. Off         | <b>Rainfall:</b>  | 538                     |
| <b>Northing/Long.:</b> | 5268874 AMG zone: 55 | <b>Runoff:</b>    | Moderately rapid        |
| <b>Easting/Lat.:</b>   | 537880 Datum: GDA94  | <b>Drainage:</b>  | Well drained            |

#### Geology

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

#### Landform

|                         |                                 |                        |                    |
|-------------------------|---------------------------------|------------------------|--------------------|
| <b>Rel/Slope Class:</b> | Rolling low hills 30-90m 10-32% | <b>Pattern Type:</b>   | Hills              |
| <b>Morph. Type:</b>     | Mid-slope                       | <b>Relief:</b>         | No Data            |
| <b>Elem. Type:</b>      | Hillslope                       | <b>Slope Category:</b> | Very gently sloped |
| <b>Slope:</b>           | 15 %                            | <b>Aspect:</b>         | 272 degrees        |

#### Surface Soil Condition Firm

#### Erosion

#### Soil Classification

|   |  |                                |     |
|---|--|--------------------------------|-----|
| <b>Australian Soil Classification:</b>                            |  | <b>Mapping Unit:</b>           | N/A |
| Haplic Eutrophic Brown Dermosol Thick Gravelly Clayey Clayey Deep |  | <b>Principal Profile Form:</b> | N/A |

|   |  |                          |     |
|---|--|--------------------------|-----|
| <b>ASC Confidence:</b>                                    |  | <b>Great Soil Group:</b> | N/A |
| Analytical data are incomplete but reasonable confidence. |  |                          |     |

#### Site Disturbance

#### Vegetation

#### Surface Coarse Fragments 10-20%, coarse gravelly, 20-60mm, ,

#### Profile Morphology

|  |   |
|--|---|
| <b>A1</b> 0 - 0.18 m<br>mm, Subangular<br><br>Few (<1 per<br><br>Slightly sticky; 2-10%,<br><br>1mm) roots;                  | Very dark grey (7.5YR3/1-Moist); , 0-0% ; Light clay; Moderate grade of structure, 5-10<br>blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric;<br>100mm2) Very fine (0.075-1mm) macropores, Dry; Weak consistence; Non-plastic;<br>subrounded, dispersed, coarse fragments; Field pH 6 (pH meter); Common, very fine (0-<br>Clear, Smooth change to -   |
| <b>A3</b> 0.18 - 0.4 m<br>Moderate<br><br>100mm2) Very fine<br>subangular,<br>Diffuse, Smooth                                | (/Moist); , 0-0% ; Light clay; Moderate grade of structure, 20-50 mm, Subangular blocky;<br>grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Few (<1 per<br>(0.075-1mm) macropores, Dry; Firm consistence; Non-plastic; Slightly sticky; 2-10%,<br>dispersed, coarse fragments; Field pH 6 (pH meter); Common, very fine (0-1mm) roots;<br>change to -  |
| <b>B2</b> 0.4 - 0.66 m<br>Moderate grade of<br><br>Subangular blocky;<br>moist; Firm<br>dispersed, coarse<br>meter); Common, | (/Moist); Substrate influence, 7.5YR56, 2-10% , 0-5mm, Prominent; Medium clay;<br>structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm,<br>Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately<br>consistence; Slightly plastic; Normal plasticity; Slightly sticky; 10-20%, subangular,<br>fragments; Many cutans, >50% of ped faces or walls coated, distinct; Field pH 6.9 (pH<br>very fine (0-1mm) roots; Clear, Wavy change to - |
| <b>B3</b> 0.66 - 0.8 m<br>clay; Weak grade<br><br>Slightly<br>fragments; Many  | Dark brown (7.5YR3/3-Moist); Mottles, 7.5YR2.51, 2-10% , 5-15mm, Distinct; Medium<br>of structure, 20-50 mm, Platy; Rough-ped fabric; Moderately moist; Very firm consistence;<br>plastic; Normal plasticity; Slightly sticky; 10-20%, subangular, dispersed, coarse  |

very fine (0-1mm) cutans, >50% of ped faces or walls coated, distinct; Field pH 8.5 (pH meter); Common, roots; Sharp, Smooth change to -

C 0.8 - 1.5 m Pinkish white (5YR8/2-Moist); Substrate influence, 7.5YR58, 20-50% , 15-30mm, Prominent; Rough-ped fabric; Moderately moist; Very weak consistence; 50-90%, coarse gravelly, 20-60mm, angular platy, dispersed, Dolerite, coarse fragments; Field pH 9.1 (pH meter); Common, very fine (0-1mm) roots;

### Morphological Notes

A1 Salinity: 0.2 dSm-1  
A3 Salinity: 0.0 dSm-1. Slight compaction.  
B2 Colour of clay skins coating ped faces 10YR 21. Salinity: 0.0 dSm-1. Some larger live roots.

Sample S17C 40-60cm

B3 Colour of Clayskins coating Ped faces 10YR 21. Salinity: 0.0 dSm-1. Some larger live roots.

Sample S17D 65-80cm

C Salinity: 0.1 dSm-1

### Observation Notes

Lettuce Crop. Substrate was highly weathered

### Site Notes

Geomorphic Activity: Eroded or aggraded. Geomorphic Agent: Sheet Wash. Inundation Frequency: None. Ite raised be. Site Raised Beds

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### Laboratory Test Results:

| Depth        | pH           | 1:5 EC | Ca     | Exchangeable | Cations | Na          | Exchangeable             | CEC | ECEC     | ESP |
|--------------|--------------|--------|--------|--------------|---------|-------------|--------------------------|-----|----------|-----|
| m            |              | dS/m   |        | Mg           | K       | Cmol (+)/kg | Acidity                  |     |          | %   |
| 0 - 0.075    | 5.3C<br>5.9A | 0.104A | 16.4A  | 7.92         | 0.57    | 0.43        | 0.07D<br>0.02G<br>0.08A  |     | 25.4B    |     |
| 0.15 - 0.225 | 5.3C<br>6.1A | 0.094A | 16.68A | 8.3          | 0.55    | 0.48        | 0.15D<br>0.02G<br>0.16A  |     | 26.17B   |     |
| 0.4 - 0.6    | 6.3C<br>7.1A | 0.086A | 18.9A  | 13.31        | 0.27    | 0.85        | 0.1235D<br>0G<br>0.1335A |     | 33.4635B |     |
| 0.65 - 0.8   | 7.6C<br>8.1A | 0.218A | 25.33A | 18.17        | 0.33    | 1.39        | 0.01D<br>0G<br>0.02A     |     | 45.24B   |     |

| Depth        | CaCO3 | Organic C | Avail. P      | Total P | Total N | Total K | Bulk Density | Particle Size Analysis |
|--------------|-------|-----------|---------------|---------|---------|---------|--------------|------------------------|
| m            | %     | Clay %    | mg/kg         | %       | %       | %       | Mg/m3        | GV CS FS Silt          |
| 0 - 0.075    |       | 3.05B     | 117H<br>44.4I |         | 0.25D   |         |              |                        |
| 0.15 - 0.225 |       | 3.05B     | 117H<br>44.5I |         | 0.19D   |         |              |                        |
| 0.4 - 0.6    |       | 1.26B     | 5H<br>2.9I    |         | 0.13D   |         |              |                        |
| 0.65 - 0.8   |       | 0.79B     | 4H<br>2.6I    |         | 0.08D   |         |              |                        |

### 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<br>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<br>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<br>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<br>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<br>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   |

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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   |