**Project Name:** **SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania**
**Project Code:** **SCEAM** **Site ID:** **N5** **Observation ID:** **1**
**Agency Name:** **TAS Department of Primary Industries and Fisheries**

## Site Information

**Desc. By:** R. Moreton **Locality:** Property owner, Kevin Huett. Property name, DALCOS.

**Date Desc.:** 16/09/05 **Elevation:** 290 metres
**Map Ref.:** GPS S.A. Off **Rainfall:** 1040
**Northing/Long.:** 5404643 AMG zone: 55 **Runoff:** Moderately rapid
**Easting/Lat.:** 469710 Datum: GDA94 **Drainage:** Well drained

## Geology

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

## Landform

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

**Morph. Type:** Mid-slope **Relief:** No Data
**Elem. Type:** Hillslope **Slope Category:** Very gently sloped
**Slope:** 1 % **Aspect:** 340 degrees

## Surface Soil Condition

Soft

## Erosion

Partial, Minor (sheet)

## Soil Classification

**Australian Soil Classification:** Haplic Mesotrophic Red Ferrosol Medium Non-gravelly Clay-loamy Clayey Deep **Mapping Unit:** N/A
**Principal Profile Form:** Gn4.11

**ASC Confidence:** All necessary analytical data are available. **Great Soil Group:** N/A

## Site Disturbance

## Vegetation

## Surface Coarse Fragments

20-50%, medium gravelly, 6-20mm, ,

## Profile Morphology

Ap 0 - 0.18 m Dark brown (7.5YR3/3-Moist); , 0-0% ; Clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; Moderate grade of structure, 2-5 mm, Polyhedral; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Very weak consistence; Slightly plastic; Moderately sticky; 0-2%, cobbly, 60-200mm, subrounded, dispersed, coarse fragments; Few, very fine (0-1mm) roots; Abrupt, Smooth change to -

B1t 0.18 - 0.5 m Dark reddish brown (5YR3/4-Moist); Mottles, 10R38, 0-2% , 0-5mm, Distinct; Clay loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Subangular blocky; Rough-ped fabric; Very weak consistence; Slightly plastic; Slightly sticky; 2-10%, medium gravelly, 6-20mm, subangular, dispersed, coarse fragments; Very few (0 - 2 %), Ferruginous, Medium (2 -6 mm), Nodules; Diffuse, Smooth change to -

B2t 0.5 - 0.8 m Yellowish red (5YR4/6-Moist); Substrate influence, 7.5YR58, 0-2% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 5-10 mm, Polyhedral; Moderate grade of structure, 2-5 mm, Subangular blocky; Rough-ped fabric; Few (<1 per 100mm2) Coarse (>5mm) macropores, Very weak consistence; Moderately plastic; Very sticky; 2-10%, medium gravelly, 6-20mm, subangular, dispersed, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Diffuse, Smooth change to -

B3t 0.8 - 1.05 m Yellowish red (5YR5/8-Moist); Substrate influence, 10R38, 10-20% , 0-5mm, Distinct; Mottles, 10YR58, 2-10% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 10-20 mm, Subangular

blocky;
Moderate grade of structure, 2-5 mm, Subangular blocky; Rough-ped fabric; Very weak consistence;
Moderately plastic; Very sticky; 10-20%, medium gravelly, 6-20mm, subangular, dispersed, coarse
fragments; Common (10 - 20 %), Ferruginous, Coarse (6 - 20 mm), Nodules;

## Morphological Notes

| | |
|---|---|
| Ap | Coarse fragments in AP Horizon and on surface consist of many Ferruginous and occasional Basalt (BA) cobble sized fragments. BA grain size 0.06-2mm, crystalline texture with massive structure and containing dark minerals (D). |
| B1t | BT1 Horizon sampled from .30 to .50m, Label N5C. |
| B2t | BC2 Horizon sampled from .50m to .80m, Label N5D. Cutans (7.5YR33) lining macropores/cracks |
| B3t | BC3 Horizon sampled from .80 to 1.05m, Label N5E. |

## Observation Notes

Landform has Volcanic Geomorphic Agent but the Substrate rock of Basalt (BA) was not reached during Soil Pit observation. Vegetation is completely cleared and was formerly a carrot crop.

## Site Notes

Element Slop Class: Very Gentle. Mode of Geomorphic Activity: Eroded or aggraded. Geomorphic agent was chanelled stream and/or Volcanic. Lapoinya Soil Class. Inundation frequency was no inundation.

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## Laboratory Test Results:

| Depth | pH | 1:5 EC | Exchangeable Cations Ca | Mg | K | Na | Exchangeable Acidity | CEC | ECEC | ESP |
|---|---|---|---|---|---|---|---|---|---|---|
| m | | dS/m | | | | Cmol (+)/kg | | | | % |
| 0 - 0.075 | 5.9C 6.5A | 0.07A | 15.99A | 2.44 | 0.78 | 0.14 | 0D 0G 0A | | 19.35B | |
| 0.2 - 0.275 | 6C 6.7A | 0.069A | 10.56A | 1.89 | 0.26 | 0.14 | 0D 0G 0A | | 12.85B | |
| 0.3 - 0.5 | 5.4C 5.8A | 0.031A | 4.61A | 1.56 | 0.04 | 0.1 | 0.0275925D 0.09G 0.0385A | | 6.3485B | |
| 0.5 - 0.8 | 5.9C 6A | 0.04A | 2.17A | 2.33 | 0.03 | 0.13 | 0.008525D 0G 0.018525A | | 4.678525B | |
| 0.8 - 1.05 | 5.3C 5.5A | 0.06A | 2.25A | 2.5 | 0.04 | 0.18 | 0.015325D 0.04G 0.025325A | | 4.995325B | |

| Depth | CaCO3 | Organic C | Avail. P | Total P | Total N | Total K | Bulk Density | Particle Size Analysis GV | CS | FS | Silt | Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | % | % | mg/kg | % | % | % | Mg/m3 | | | % | | |
| 0 - 0.075 | | 4.3B | 177H | | 0.37D | | | | | | | |
| 0.2 - 0.275 | | 2.61B | 44.2I 53H | | 0.22D | | | | | | | |
| 0.3 - 0.5 | | 0.89B | 10.4I 5H | | 0.09D | | | | | | | |

| | | | |
|---|---|---|---|
| | | 2.1I | |
| 0.5 - 0.8 | 0.6B | 4H | 0.08D |
| | | 2.2I | |
| 0.8 - 1.05 | 0.52B | 5H | 0.07D |
| | | 2.4I | |

**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 | Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment for soluble salts |
| 15A1_K | Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment for soluble salts |
| 15A1_MG | Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment for soluble salts |

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| | |
|---|---|
| 15A1_NA | Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment for soluble salts |
| 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 |