

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N9 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

| | | | |
|------------------------|----------------------|-------------------|---------------------------|
| Desc. By: | Christopher Grose | Locality: | Annandale, Near Tunbridge |
| Date Desc.: | 25/07/05 | Elevation: | 233 metres |
| Map Ref.: | GPS S.A. Off | Rainfall: | 514 |
| Northing/Long.: | 5339051 AMG zone: 55 | Runoff: | Slow |
| Easting/Lat.: | 530601 Datum: GDA94 | Drainage: | Moderately well drained |

Geology

| | | | |
|----------------------|----------|------------------------------------|-------------------|
| ExposureType: | Soil pit | Conf. Sub. is Parent. Mat.: | Probable |
| Geol. Ref.: | No Data | Substrate Material: | Soil pit, No Data |

Landform

| | | | |
|-------------------------|-----------------------------------|----------------------|-------|
| Rel/Slope Class: | Gently undulating plains <9m 1-3% | Pattern Type: | Plain |
|-------------------------|-----------------------------------|----------------------|-------|

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|---------------------|-------|------------------------|--------------------|
| Morph. Type: | Flat | Relief: | No Data |
| Elem. Type: | Plain | Slope Category: | Very gently sloped |
| Slope: | 3 % | Aspect: | 225 degrees |

Surface Soil Condition Firm

Erosion

Soil Classification

| | | |
|--|--------------------------------|-----|
| Australian Soil Classification: | Mapping Unit: | N/A |
| Eutrophic Subnatic Brown Sodosol Medium Non-gravelly Loamy Clayey Deep | Principal Profile Form: | N/A |
| 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

| | | |
|------|---------------|--|
| Ap | 0 - 0.1 m | Very dark greyish brown (10YR3/2-Moist); , 0-0% ; Sandy loam; Weak grade of structure, 2-5 mm, Granular; crack; Moderately moist; Very weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Ferricrete, coarse fragments; Few, very fine (0-1mm) roots; Sharp, Wavy change to - |
| B1 | 0.1 - 0.35 m | Dark yellowish brown (10YR4/4-Moist); , 0-0% ; Medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, Ferricrete, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, dispersed, (1-2mm) roots; Clear, Wavy change to - distinct; Few, fine |
| B21c | 0.35 - 0.65 m | Brown (10YR4/3-Moist); Mottles, 10YR54, 2-10% , 5-15mm, Faint; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, Ferricrete, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Gradual, Wavy change to - |
| B22t | 0.65 - 0.9 m | Dark yellowish brown (10YR4/5-Moist); , 0-0% ; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm consistence; Many cutans, >50% of ped faces or walls coated, distinct; Clear, Wavy change to - |
| B3 | 0.9 - 1.05 m | Yellowish brown (10YR5/4-Moist); , 0-0% ; Medium clay; Strong grade of structure, 20-50 |

mm, Angular

Moist; Firm

blocky; Smooth-ped fabric; Few (<1 per 100mm²) Very fine (0.075-1mm) macropores,
consistence; Many cutans, >50% of ped faces or walls coated, distinct;

Morphological Notes

B21c large pieces of charcoal.

Observation Notes

Substrate not reached. Land use: recently sowed to barley. Large pieces of charcoal, layer 3.

Site Notes

Mode of Geomorphic Activity: Aggraded. No inundation

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Laboratory Test Results:

| Depth | pH | 1:5 EC | Ca | Exchangeable Mg | Cations K | Na | Exchangeable Acidity | CEC | ECEC | ESP |
|---------------|--------------|--------|-------|-----------------|-----------|-------------|----------------------------------|-----|-----------|-----|
| m | | dS/m | | | | Cmol (+)/kg | | | | % |
| 0 - 0.075 | 6C 6.7A | 0.113A | 9.28A | 4.5 | 0.5 | 0.63 | 0.09D 0G 0.16A | | 15.07B | |
| 0.125 - 0.2 | 5.4C 6.4A | 0.101A | 6.78A | 8.61 | 0.35 | 1.5 | 0.1D 0.02G 0.11A | | 17.35B | |
| 0.035 - 0.065 | 7.2C 7.9A | 0.238A | 9.91A | 15.58 | 0.65 | 4.17 | 0.01D 0G 0.02A | | 30.33B | |
| 0.065 - 0.09 | 7.8C 8.2A | 0.412A | 9.19A | 16.82 | 0.64 | 6.84 | 0.01055D 0G | | 33.51055B | |
| 0.09 - 0.105 | 7.7C 8A | 0.777A | 6.98A | 16.67 | 0.47 | 8.35 | 0.02055A 0.01D 0G 0.02A | | 32.49B | |

| Depth | CaCO3 | Organic C Clay | Avail. P | Total P | Total N | Total K | Bulk Density | Particle Size Analysis |
|---------------|-------|----------------|-------------|---------|---------|---------|--------------|------------------------|
| m | % | % | mg/kg | % | % | % | Mg/m3 | GV CS FS Silt |
| 0 - 0.075 | | 2.6B | 53H 15I | | 0.2D | | | |
| 0.125 - 0.2 | | 1.51B | 27H 3.2I | | 0.12D | | | |
| 0.035 - 0.065 | | 0.78B | 1H 0.7I | | 0.07D | | | |
| 0.065 - 0.09 | | 0.5B | 1H 0.7I | | 0.06D | | | |
| 0.09 - 0.105 | | 0.27B | 2H 1I | | 0.04D | | | |

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 (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment |
| 15A1_K for soluble | salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment |
| 15A1_MG for soluble | salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment |
| 15A1_NA for soluble | salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment |
| 15G_C_AL2 By AAS | salts Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and detremination |
| 15G1 | Exchange acidity (hydrogen and aluminium) by 1M potassium chloride |

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|---------|---|
| 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 |