Project Name: **SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania**
Project Code: **SCEAM** **Site ID:** **N38** **Observation ID:** **1**
Agency Name: **TAS Department of Primary Industries and Fisheries**

Site Information

Desc. By: H. Hawkins **Locality:** Fairfeild, Near Epping Forest. Owned by Phillip Osbourne

Date Desc.: 23/05/06 **Elevation:** 167 metres
Map Ref.: GPS S.A. Off **Rainfall:** 579
Northing/Long.: 5380236 AMG zone: 55 **Runoff:** Slow
Easting/Lat.: 529157 Datum: GDA94 **Drainage:** Imperfectly drained

Geology

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

Landform

Rel/Slope Class: Level plain <9m <1% **Pattern Type:** Terraced land (alluvial)
Morph. Type: Flat **Relief:** No Data
Elem. Type: Terrace plain **Slope Category:** Level
Slope: 2 % **Aspect:** No Data

Surface Soil Condition

Firm

Erosion

Soil Classification

Australian Soil Classification: **Mapping Unit:** N/A
Hypocalcic Supracalcic Brown Sodosol Medium Non-gravelly Loamy Clayey Deep **Principal Profile Form:** N/A

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

Site Disturbance

Vegetation

Surface Coarse Fragments

No surface coarse fragments

Profile Morphology

Ap 0 - 0.11 m Brown (7.5YR4/3-Moist); , 0-0% ; Clay loam, fine sandy; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 20-50 mm, Platy; Earthy fabric; Moist; Weak consistence; Moderately plastic; Normal plasticity; Slightly sticky; Many, very fine (0-1mm) roots; Abrupt, Wavy change to -

A12 0.11 - 0.2 m Dark greyish brown (10YR4/2-Moist); Mechanical, 10YR36, 0-2% , 0-5mm, Faint; Mottles, 10YR21, 0-2% , 0-5mm, Faint; Loam (Heavy); Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Moderately plastic; Normal plasticity; Slightly sticky; Common, very fine (0-1mm) roots; Sharp, Broken change to -

A2 0.2 - 0.28 m Light brownish grey (10YR6/2-Moist); Mottles, 10YR36, 2-10% , 5-15mm, Distinct; Clay loam, sandy; Moderate grade of structure, 50-100 mm, Prismatic; Moderate grade of structure, 20-50 mm, Platy; Rough-ped fabric; Moist; Weak consistence; Very plastic; Normal plasticity; Moderately sticky; Common, very fine (0-1mm) roots; Sharp, Broken change to -

B11 0.28 - 0.37 m Greyish brown (2.5Y5/3-Moist); Mottles, 10YR46, 2-10% , 5-15mm, Faint; Medium clay; Strong grade of structure, 50-100 mm, Prismatic; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Moist; Weak consistence; Moderately plastic; Normal plasticity; Moderately sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Few, very fine (0-1mm) roots; Abrupt, Wavy change to -

B12 0.37 - 0.65 m Brown (10YR4/3-Moist); , 0-0% ; Medium clay; Strong grade of structure, 50-100 mm,

Angular blocky; Smooth-ped fabric; Moist; Weak consistence; Moderately plastic; Normal plasticity; Moderately sticky; Common cutans, 10-50% of ped faces or walls coated, distinct; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Concretions; Few, very fine (0-1mm) roots; Clear, Smooth change to -

B21 0.65 - 0.8 m Yellowish brown (10YR5/4-Moist); Mottles, 10YR56, 20-50% , 15-30mm, Distinct; Medium heavy clay; Strong grade of structure, 100-200 mm, Angular blocky; Rough-ped fabric; Moist; Firm consistence; Very plastic; Normal plasticity; Very sticky; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Few, very fine (0-1mm) roots; Clear, Smooth change to -

B22 0.8 - 1.1 m Greyish brown (2.5Y5/3-Moist); Mottles, 10YR58, 2-10% , 5-15mm, Faint; Medium heavy clay; Strong grade of structure, 100-200 mm, Angular blocky; Rough-ped fabric; Moist; Very firm consistence; Very plastic; Normal plasticity; Very sticky; Few (2 - 10 %), Calcareous, Very coarse (20 - 60 mm), Soft segregations; Few, very fine (0-1mm) roots;

Morphological Notes

Ap	Minor Compaction at the base of Ap
A2	Intermitent A2, worm casts present. N38C sampled 23-28cm
B11	Colour of Cutans is 10yr2/2 and coats Ped Faces. N38D asmpled 30-37cm
B12	Coour of Cutans 10yr43. N38E sampled 40-60cm
B21	N38F sampled 68-78cm
B22	N38G sampled 85-105cm

Observation Notes

Substrate not reached. Vegetation was tubble turnips

Site Notes

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	6.5C 7A	0.114A	7.85A	1.15	0.61	0.16	0.04D 0G 0.06A		9.83B	
0.15 - 0.225	4.9C 5.7A	0.062A	4.54A	0.91	0.34	0.16	0.06D 0.06G 0.15A		6.1B	
0.23 - 0.28	5.1C 6.3A	0.052A	3.28A	2.52	0.25	0.33	0.03D 0.06G 0.09A		6.47B	
0.3 - 0.37	6.3C 7.3A	0.16A	9.53A	15.98	0.75	2.48	0.01D 0G 0.02A		28.76B	
0.4 - 0.6	8.1C 8.8A	0.381A	11.56A	15.49	0.69	4.12	0D 0G 0A		31.86B	
0.68 - 0.78	8.3C 9A	0.631A	9.42A	13.67	0.58	5.65	0D 0G 0A		29.32B	
0.85 - 0.105	8.3C 9A	0.788A	8.47A	16.57	0.68	6.81	0.01D 0G 0.01A		32.54B	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	GV	Particle Size Analysis CS	FS	Silt

m	%	Clay %	mg/kg	%	%	%	Mg/m3	%
0 - 0.075		1.93B	133H 46.6I		0.15D			
0.15 - 0.225		1.5B	132H 45.2I		0.12D			
0.23 - 0.28		0.47B	15H 8.9I		0.04D			
0.3 - 0.37		0.84B	7H 3.5I		0.08D			
0.4 - 0.6		0.55B	3H 2.2I		0.05D			
0.68 - 0.78		0.22B	3H 1.8I		0.04D			
0.85 - 0.105		0.17B	3H 2I		0.03D			

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

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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
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