Project Name: **SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania**
Project Code: **SCEAM** **Site ID: N22** **Observation ID: 1**
Agency Name: **TAS Department of Primary Industries and Fisheries**

Site Information

Desc. By: R. Moreton
Date Desc.: 18/07/05
Map Ref.: Sheet No. : 5037 1:25000
Northing/Long.: 5374720 AMG zone: 55
Easting/Lat.: 501247 Datum: GDA94
Locality: Property name: Woodside, Owned by David Archer. Near Cressy.
Elevation: 160 metres
Rainfall: 770
Runoff: Moderately rapid
Drainage: Imperfectly drained

Geology

ExposureType: Soil pit
Geol. Ref.: Ts
Conf. Sub. is Parent. Mat.: Probable
Substrate Material: 2 m deep,, Sandstone

Landform

Rel/Slope Class: Level plain <9m <1%
Morph. Type: Flat
Elem. Type: Terrace plain
Slope: 1 %
Pattern Type: Alluvial plain
Relief: No Data
Slope Category: Level
Aspect: 30 degrees

Surface Soil Condition

Soft, Surface crust

Erosion

Stable, Minor or present (wind);

Soil Classification

Australian Soil Classification:
Mottled Eutrophic Brown Dermosol Medium Non-gravelly Clay-loamy Clayey Deep
Mapping Unit: N/A
Principal Profile Form: N/A
ASC Confidence:
All necessary analytical data are available.
Great Soil Group: N/A

Site Disturbance

Vegetation

Surface Coarse Fragments

No surface coarse fragments

Profile Morphology

A11 0 - 0.18 m Dark brown (10YR3/3-Moist); , 0-0% ; Sandy clay loam (Light); Weak grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moist; Very weak consistence; Non-plastic; Non-sticky; Field pH 6.9 (pH meter); Few, fine (1-2mm) roots; Clear, Irregular change to -

A12p 0.18 - 0.24 m Light olive brown (2.5Y5/4-Moist); Mechanical, 10YR33, 2-10% , 15-30mm, Prominent; Mottles, 10YR56, 0-2% , 5-15mm, Distinct; Loamy sand; Single grain grade of structure; Weak grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Moist; Very weak consistence; Non-plastic; Non-sticky; Field pH 6.9 (pH meter); Few, fine (1-2mm) roots; Gradual, Irregular change to -

A2 0.24 - 0.4 m Greyish brown (2.5Y5/3-Moist); Mottles, 2.5Y54, 2-10% , 5-15mm, Distinct; Mottles, 10YR56, 2-10% , 5-15mm, Distinct; Loamy sand; Single grain grade of structure; Smooth-ped fabric; Moist; Very weak consistence; Non-plastic; Non-sticky; Field pH 5.3 (pH meter); Abrupt, Smooth change to -

B21 0.4 - 0.65 m Olive brown (2.5Y4/4-Moist); Mottles, 7.5YR46, 10-20% , 5-15mm, Prominent; Mottles, 2.5Y42, 0-2% , 0-5mm, Distinct; Clayey sand; Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moist; Firm consistence; Non-plastic; Slightly sticky; Other pans, Uncemented, Continuous, Massive; Clear, Wavy change to -

B22t 0.65 - 0.8 m Strong brown (7.5YR4/6-Moist); Mottles, 2.5Y44, 10-20% , 15-30mm, Distinct; Mottles, 2.5Y42, 0-2% ,

0-5mm, Distinct; Sandy light clay; Moderate grade of structure, 50-100 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moist; Firm consistence; Moderately plastic; Normal plasticity; Moderately sticky; Gradual, Smooth change to -

B3 0.8 - 1.05 m Strong brown (7.5YR4/6-Moist); Mottles, 2.5Y44, 2-10% , 5-15mm, Distinct; Sandy light clay; Moderate grade of structure, 50-100 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moist; Firm consistence; Very plastic; Normal plasticity; Very sticky; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Soft segregations;

Morphological Notes

A11 Penetration resitance: Soft. Salinity: 0.3 dSm^-1. Non water repellance

A12p Penetration resitance: Firm. Salinity: 0.2 dSm^-1. Emerson Dispersion: Slight Dispersal. Non water repellance

A2 Penetration resitance: Firm. Salinity: 0.3 dSm^-1. Non water repellance

B21 Penetration resitance: Very Stiff. Salinity: 0.1 dSm^-1. Emerson Dispersion: Slake. Non water repellance. Soil sampled 40-65 labelled B21C. The pan was pompaction or bonding between sand and more clay.

B22t Penetration resitance: Very Stiff. Emerson Dispersion: Slight Dispersal. Non water repellance, Soil sampled 65-80cm labelled B22D

B3 Penetration resitance: Very Stiff. Emerson Dispersion: Slight Dispersal. Non water repellance

Observation Notes

Substrate Grain size was sand sized (0.06-2mm) with amorphous texture & bedded structure. The Vegetation was newly sown pasture.

Substrate was most likely Tertiary Sediments originating from sandstone sediments and reworked wind bown sands.

Site Notes

Mode of Geomorphic Activity: Aggraded with the agent: Sheet wash. Inundation frequency: None. Land System: 393121

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM Site ID: N22 Observation 1
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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.075	4.9C 5.9A	0.033A	2.06A	0.38	0.13	0.09	0.17D 0.02G 0.3A		2.96B	
0.2 - 0.275	6.4C 6.8A	0.09A	6.49A	0.6	0.19	0.13	0.1D 0G 0.12A		7.53B	
0.4 - 0.65	5.9C 6.2A	0.065A	5.22A	3.48	0.2	0.18	0.0103225D 0G 0.019525A		9.099525B	
0.65 - 0.8	6.2C 6.5A	0.056A	6.68A	5.33	0.25	0.18	0.00555D 0G 0.01555A		12.45555B	

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

m	%	Clay %	mg/kg	%	%	%	Mg/m3	%
0 - 0.075		0.54B	25H 10.2I		0.03D			
0.2 - 0.275		1.46B	78H 29I		0.1D			
0.4 - 0.65		0.24B	1H 0.8I		0.03D			
0.65 - 0.8		0.28B	2H 1.1I		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	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

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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