

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N37 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	H. Hawkins	Locality:	Fairfield, near Epping Forest
Date Desc.:	13/07/06	Elevation:	168 metres
Map Ref.:	GPS S.A. Off	Rainfall:	583
Northing/Long.:	5381679 AMG zone: 55	Runoff:	Moderately rapid
Easting/Lat.:	528409 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:	Stagnant alluvial plain
Morph. Type:	Flat	Relief:	No Data
Elem. Type:	Plain	Slope Category:	Level
Slope:	0 %	Aspect:	No Data

Surface Soil Condition Self-mulching

Erosion

Soil Classification

Australian Soil Classification:	Mottled Self-Mulching Black Vertosol Non-gravelly Fine Medium fine Deep	Mapping Unit:	N/A
		Principal Profile Form:	N/A

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

Vegetation

Surface Coarse Fragments 0-2%, medium gravelly, 6-20mm, ,

Profile Morphology

A1p 0 - 0.25 m mm, Polyhedral; mm crack; Few consistence; Slightly faint; Many, very	Very dark brown (10YR2/2-Moist); , 0-0% ; Clay loam; Strong grade of structure, 20-50 Strong grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm plastic; Normal plasticity; Slightly sticky; Few cutans, <10% of ped faces or walls coated, fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt, Wavy change to -
B1 0.25 - 0.44 m Strong grade of Subangular blocky; macropores, Many cutans, 2mm) roots;	Very dark grey (2.5Y3/1-Moist); Mottles, 10YR46, 2-10% , 0-5mm, Faint; Light clay; structure, 20-50 mm, Subangular blocky; Strong grade of structure, 10-20 mm, Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) Moderately moist; Very firm consistence; Very plastic; Normal plasticity; Slightly sticky; >50% of ped faces or walls coated, distinct; Many, very fine (0-1mm) roots; Few, fine (1- Clear, Smooth change to -
B21 0.44 - 0.74 m structure, 20- consistence; coated, faint;	(/Moist); Mottles, 10YR46, 10-20% , 0-5mm, Distinct; Light medium clay; Strong grade of 50 mm, Columnar; Rough-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm Very plastic; Normal plasticity; Slightly sticky; Few cutans, <10% of ped faces or walls Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Smooth change to -
B22 0.74 - 0.89 m structure, 20-50 mm, consistence; Very faint; Few	Mottles, 10YR46, 20-50% , 0-5mm, Prominent; Light medium clay; Strong grade of Polyhedral; Rough-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm plastic; Normal plasticity; Slightly sticky; Few cutans, <10% of ped faces or walls coated,

Smooth change to - cutans, <10% of ped faces or walls coated, faint; Few, very fine (0-1mm) roots; Clear,

B23 0.89 - 1 m Mottles, 10YR58, 20-50% , 5-15mm, Prominent; Medium heavy clay; Strong grade of structure, 50-100 mm, Polyhedral; Rough-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Very plastic; Normal plasticity; Slightly sticky; Many cutans, >50% of ped faces or walls coated, distinct; Common cutans, 10-50% of ped faces or walls coated, faint;

Morphological Notes

A1p Clay skins coating ped faces 10yr33
B1 Clay skins coating ped faces 2.5Y41. N37C sampled 25-40cm
B21 Colour: 2G4 5 PB. Clay skins coating ped faces 2G 3 5PB. N37D sampled 47-70cm
B22 Colour: 2G 3 5BG. Clay skins coating ped faces 2G 3 10B. N37E sampled 75-85cm

B23 Colour: 2G2.5 5BG. Clay skins coating ped faces 2G 3 5PB. N37F sampled 90-100cm

Observation Notes

Substrate: Alluvium (AL) from over bank flow, Vegetation: Cropping Site.

Site Notes

Mode of Geomorphic Activity: Aggraded. Agent: Over Bank Stream. Inundation < once per 100 years.

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Ca	Exchangeable Mg	Cations K	Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP %
0 - 0.075	5.4C 6.1A	0.114A	16.31A	8.17	0.44	0.58	0.06D 0.05G 0.11A		25.61B	
0.2 - 0.275	5.4C 6.1A	0.141A	17.76A	8.33	0.35	0.73	0.05D 0.06G 0.07A		27.24B	
0.25 - 0.4	4.8C 5.5A	0.157A	9.12A	8.61	0.21	1.02	0.15D 0.37G 0.77A		19.73B	
0.47 - 0.7	4.9C 5.6A	0.165A	7.88A	9.84	0.23	1.05	0.11D 0.35G 0.5A		19.5B	
0.75 - 0.85	5.1C 5.8A	0.135A	8.64A	10.81	0.26	1.04	0.06D 0.2G 0.21A		20.96B	
0.9 - 1	5.7C 6.5A	0.093A	9.41A	11.3	0.21	0.99	0.02D 0G 0.17A		22.08B	

Depth m	CaCO3 %	Organic C Clay %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle GV CS	Size FS	Analysis Silt
0 - 0.075		4.03B	26H 7.9I		0.44D					
0.2 - 0.275		4.24B	21H 7.3I		0.44D					
0.25 - 0.4		1.97B	7H 2.2I		0.28D					
0.47 - 0.7		0.91B	3H 0.7I		0.1D					
0.75 - 0.85		0.72B	2H 0.5I		0.15D					
0.9 - 1		0.57B	2H		0.09D					

0.6l

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 (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_K	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_MG	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts

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15A1_NA for soluble	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15G_C_AL2 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
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 longer	Bicarbonate-extractable phosphorus - automated colour. Based on Colwell (1965). Method no
	recommended
9C2	Olsen-extractable phosphorus - automated colour