

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** S36 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	H. Hawkins	Locality:	Black flat paddock, 'Brooklands' near Campbell Town
Date Desc.:	18/09/06	Elevation:	273 metres
Map Ref.:	GPS S.A. Off	Rainfall:	497
Northing/Long.:	5328110 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	532315 Datum: GDA94	Drainage:	Moderately well drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Probable
Geol. Ref.:	Qa	Substrate Material:	Soil pit, 0.77 m deep, Alluvium

Landform

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

Morph. Type:	Flat	Relief:	No Data
Elem. Type:	Terrace flat	Slope Category:	Level
Slope:	1 %	Aspect:	No Data

Surface Soil Condition Self-mulching

Erosion

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Haplic Self-Mulching Black Vertosol Non-gravelly Fine Medium fine Moderately 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

A11p 0 - 0.03 m Dry; Strong Sharp, Smooth	Black (10YR2/1-Moist); , 0-0% ; Light clay; Weak grade of structure, <2 mm, Granular; consistence; Very plastic; Normal plasticity; Slightly sticky; Few, coarse (>5mm) roots; change to -
A12 0.03 - 0.48 m mm, Coarse, (10 - plastic; Normal coarse fragments; ped faces or walls change to -	Black (10YR2/1-Moist); , 0-0% ; Light medium clay; Moderate grade of structure, 200-500 mm, Columnar; Moderate grade of structure, 100-200 mm, Angular blocky; Rough-ped fabric; 20) mm crack; Very coarse, (20 - 50) mm crack; Dry; Very strong consistence; Very plasticity; Moderately sticky; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, Many cutans, >50% of ped faces or walls coated, distinct; Common cutans, 10-50% of coated, faint; Common, very fine (0-1mm) roots; Few, coarse (>5mm) roots; Clear, Wavy change to -
A13 0.48 - 0.77 m mm, Angular Moderately cutans, >50% of coated, faint; Few, very	Black (10YR2/1-Moist); , 0-0% ; Medium clay (Heavy); Weak grade of structure, 100-200 blocky; Rough-ped fabric; Dry; Very strong consistence; Very plastic; Normal plasticity; sticky; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, coarse fragments; Many ped faces or walls coated, distinct; Common cutans, 10-50% of ped faces or walls fine (0-1mm) roots;

Morphological Notes

A11p	Sample S36A 0-75mm
A12	Colour of clayskins coating ped faces 1G 3/N. Sample S36B 150-225mm, S36C 250-450mm

A13

Colour of Clay skins 2G 3/5PB. S36D 500-750mm

Observation Notes

Lucerne planted in October 2005. Farmer said 150mm rain since December. Substrate of river cobbles, AT shape, constant cover over base of pit at 77cm.

Site Notes

Mode of Geomorphic Activity: Aggraded. Geomorphic Agent: Over bank stream and sheet wash. Inundation frequency: <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	5.7C 6.5A	0.142A	42.02A	18.68	0.54	1.01	0.09D 0G 0.13A		62.38B	
0.15 - 0.225	6C 6.9A	0.103A	37.99A	19.61	0.34	0.91	0.07D 0G 0.14A		58.99B	
0.25 - 0.45	5.8C 6.3A	0.083A	12.27A	3.43	0.23	0.28	0.04D 0.06G 0.13A		16.34B	
0.5 - 0.75	5.2C 6.7A	0.025A	8.11A	2.08	0.09	0.24	0.09D 0.1G 0.45A		10.97B	

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		6.03B	131H 43.2I		0.49D					
0.15 - 0.225		4.28B	37H 13.3I		0.34D					
0.25 - 0.45		3.38B	56H 19.7I		0.28D					
0.5 - 0.75		0.84B	6H 1.3I		0.06D					

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

for soluble

salts

15G_C_AL2
By AAS

Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and determination

15G1
15J_H
15N1
18A1
3A1
4A1

Exchange acidity (hydrogen and aluminium) by 1M potassium chloride
Sum of Ex. cations + Ex. acidity - Sum of basic exch. cations and exch. (Hydrogen)
Exchangeable sodium percentage (ESP)
Bicarbonate-extractable potassium
EC of 1:5 soil/water extract
pH of 1:5 soil/water suspension

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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