

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** C23 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:		Locality:	Peter Martin. Arthur River Park, near
Roger River			
Date Desc.:	20/04/05	Elevation:	34 metres
Map Ref.:	GPS S.A. Off	Rainfall:	1393
Northing/Long.:	5449344 AMG zone: 55	Runoff:	Moderately rapid
Easting/Lat.:	328065 Datum: GDA94	Drainage:	Poorly drained

Geology

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

Landform

Rel/Slope Class:	Undulating rises 9-30m 3-10%	Pattern Type:	Alluvial plain
Morph. Type:	Flat	Relief:	No Data
Elem. Type:	Backplain	Slope Category:	Very gently sloped
Slope:	3 %	Aspect:	307 degrees

Surface Soil Condition Firm

Erosion

Soil Classification

Australian Soil Classification:		Mapping Unit:	N/A
Humose-Acidic Dermosolic Oxyaquic Hydrosol Medium Non-gravelly Clay-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

A1	0 - 0.15 m	Dark brown (10YR3/3-Moist); , 0-0% ; Silty clay loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm consistence; Field pH 7.2 (pH meter); Many, very fine (0-1mm) roots; Abrupt, Wavy change to -
B1	0.15 - 0.35 m	Dark yellowish brown (10YR4/6-Moist); , 0-0% ; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Firm consistence; Slightly plastic; Normal plasticity; Slightly sticky; Field pH 6.5 (pH meter); Common, very fine (0-1mm) roots; Clear, Smooth change to -
B2	0.35 - 1 m	Dark yellowish brown (10YR4/6-Moist); , 0-0% ; Medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Moist; Firm consistence; Slightly plastic; Normal plasticity; Slightly sticky; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

B1	Rusty Root linings. Charcoal approx. 1cm in diameter. Sample C23C
B2	Colour of clay skins lining pores/cracks, 10YR 4/6. Charcoal approx. 1cm in diameter.
Sample	C23D taken 60-90cm

Observation Notes

Vegetation was Irrigated Pasture.

Site Notes

Mode of Geomorphic Agent: Aggraded. Agent: Sheet Wash. Inundation frequency: less than 100 years, of less than

1 day at a depth of less than 50mm.

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Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable Cations		Na	Exchangeable	CEC	ECEC	ESP
m		dS/m		Mg	K	Cmol (+)/kg	Acidity			%
0 - 0.075	4.7C 5.6A	0.102A	8.31A	3.04	0.6	0.28	0D 0.44G 0A		12.23B	
0.2 - 0.275	4.8C 5.8A	0.044A	4.34A	3.21	0.42	0.18	0D 0.4G 0A		8.15B	
0.3 - 0.6	4.9C 5.6A	0.154A	3.14A	1.7	0.82	0.16	0.18D 0.3G 0.54A		6.36B	
0.6 - 0.9	4.5C 5.4A	0.073A	1.22A	1.51	0.19	0.14	0.27D 0.88G 1.59375A		4.65375B	

Depth	CaCO ₃	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis
m	%	Clay %	mg/kg	%	%	%	Mg/m ³	GV CS FS Silt
0 - 0.075		5.71B	132H 0I		0.39D			
0.2 - 0.275		2.81B	16H 0I		0.16D			
0.3 - 0.6		1.57B	5H 2.3I		0.13D			
0.6 - 0.9		1.06B	2H 1.4I		0.09D			

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
15A1_NA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,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

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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