

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N28 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	R. Moreton	Locality:	Property name: Rushy Lagoon, near Gladstone
Date Desc.:	14/04/05	Elevation:	41 metres
Map Ref.:	GPS S.A. Off	Rainfall:	792
Northing/Long.:	5471059 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	587655 Datum: GDA94	Drainage:	Imperfectly drained

Geology

ExposureType:	Existing vertical exposure	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	Qa	Substrate Material:	No Data

Landform

Rel/Slope Class:	Undulating low hills 30-90m 3-10%	Pattern Type:	Low hills
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Morph. Type:	Lower-slope	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	Very gently sloped
Slope:	%	Aspect:	No Data

Surface Soil Condition Firm

Erosion

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Melanic Humosequic Semiaquic Podzol Thick Non-gravelly Loamy Clay-loamy Deep	Principal Profile Form:	N/A
ASC Confidence:	Great Soil Group:	N/A
Analytical data are incomplete but reasonable confidence.		

Site Disturbance

Vegetation

Surface Coarse Fragments No surface coarse fragments

Profile Morphology

A1	0 - 0.2 m	Black (10YR2/1-Moist); , 0-0% ; Sandy loam; Weak grade of structure, 2-5 mm, Polyhedral; Single grain
		grade of structure, <2 mm, Granular; Sandy (grains prominent) fabric; Moderately moist; consistency; Non-plastic; Non-sticky; Field pH 5.3 (pH meter); Abundant, very fine (0-1mm) roots;
		Abrupt, Wavy change to -
A2	0.2 - 0.48 m	Greyish brown (10YR5/2-Moist); , 0-0% ; Loamy sand; Single grain grade of structure, Granular; Sandy
		(grains prominent) fabric; Moderately moist; Very weak consistency; Non-plastic; Non-sticky; Field pH
		4.7 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
B11hs	0.48 - 0.56 m	(7.5YR2.5/1-Moist); , 10YR46, 0-2% , 5-15mm, Faint; Loam; Massive grade of structure; Earthy fabric;
		Moderately moist; Very weak consistency; Non-plastic; Non-sticky; Organic pan, Weakly cemented,
		Continuous, Massive; Field pH 4.8 (pH meter); Few, very fine (0-1mm) roots; Clear, Wavy change to -
B12s	0.56 - 0.65 m	Dark yellowish brown (10YR4/6-Moist); , 10YR33, 2-10% , 5-15mm, Distinct; , 2.5Y64, 0-2% , 30-mm,
		Distinct; Clay loam; Massive grade of structure; Earthy fabric; Dry; Weak consistency; Non-plastic; Non-
		sticky; Few (2 - 10 %), Ferruginous, Medium (2 -6 mm), Nodules; Ferricrete, Weakly cemented,
		Continuous, Concretionary; Field pH 4.7 (pH meter); Clear, Smooth change to -
B2	0.65 - m	Yellowish brown (10YR5/6-Moist); ; Sandy light clay; Moderate grade of structure, 20-50 mm, Angular
		blocky; Moderate grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Moderately moist; Firm
		consistency; Slightly plastic; Normal plasticity; Moderately sticky; 0-2%, medium gravelly, 6-20mm,

subrounded, dispersed, coarse fragments; Field pH 4.7 (pH meter);

Morphological Notes

A1 Charcoal Pieces in A1, Approx. 2-5mm. Penetration resistance: Soft
A2 Bleached white sand - possible preferential water path, colour 10YR 7/1. Penetration resistance:
Firm
B11hs Penetration resistance: Stiff. N28C sampled 48-56cm
B12s Gritty Clay Loam. Penetration resistance: Hard. N28D sampled 56-65cm
B2 Sand Lense on top of B2, bleached. Stiff

Observation Notes

Vegetation was improved irrigated pasture. Substrate not observed.

Site Notes

Mode of Geomorphic Activity: Eroded or aggraded. Geomorphic Agent: Channelled Stream. Inundation frequency: None.

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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	4.6C 5.6A	0.075A	5.75A	1.13	0.17	0.18	0.240705D		7.47116B	
0.2 - 0.275	4.2C 5.4A	0.038A	1.02A	0.25	0.04	0.1	0.08G 0.24116A 0.1929625D		1.61375B	
0.48 - 0.56	4.2C 5.1A	0.065A	1.09A	0.66	0.03	0.2	0.07G 0.20375A 0.54325D		4.6025B	
0.56 - 0.65	4.2C 5.1A	0.086A	0.54A	1.07	0.11	0.3	1.78G 2.6225A 0.3705D 1.11G 1.81475A		3.83475B	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis
m	%	Clay %	mg/kg	%	%	%	Mg/m3	GV CS FS Silt %
0 - 0.075		3.26B	13H 3.2I		0.26D			
0.2 - 0.275		0.68B	3H 0I		0.05D			
0.48 - 0.56		1.45B	45H 23.6I		0.12D			
0.56 - 0.65		0.2B	2H 1.7I		0.02D			

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

15A1_K for soluble	salts Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_MG for soluble	salts Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_NA for soluble	salts Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, no pretreatment
15G_C_AL2 By AAS	salts 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

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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