

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** S22 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	R. Moreton Jones	Locality:	"Daisy Banks", near Richmond. Andrew
Date Desc.:	08/12/05	Elevation:	114 metres
Map Ref.:	GPS S.A. Off	Rainfall:	540
Northing/Long.:	5269766 AMG zone: 55	Runoff:	Very rapid
Easting/Lat.:	533860 Datum: GDA94	Drainage:	Imperfectly drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Probable
Geol. Ref.:	Ts Sandstone	Substrate Material:	Soil pit, 0.89 m deep,,

Landform

Rel/Slope Class:	Steep hills 90-300m 32-56%	Pattern Type:	Hills
Morph. Type:	Mid-slope	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	Moderately inclined
Slope:	30 %	Aspect:	10 degrees

Surface Soil Condition Firm

Erosion Active, Moderate (sheet)

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Sodic Eutrophic Brown Dermosol Medium Non-gravelly Clay-loamy Clayey 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 2-10%, coarse gravelly, 20-60mm, , ; 2-10%, stony, 200-600mm, ,

Profile Morphology

A1	0 - 0.18 m	Very dark brown (10YR2/2-Moist); , 0-0% ; Sandy clay loam; Moderate grade of structure, 5-10 mm, Polyhedral; Moderate grade of structure, 2-5 mm, Polyhedral; Rough-ped fabric; Few (<1 per 100mm2)
Normal		Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Slightly plastic; plasticity; Moderately sticky; 0-2%, cobbly, 60-200mm, subangular, dispersed, coarse fragments; Common, very fine (0-1mm) roots; Abrupt, Smooth change to -
B1	0.18 - 0.42 m	Very dark greyish brown (10YR3/2-Moist); , 0-0% ; Clay loam; Strong grade of structure, 50-100 mm, Angular blocky; Strong grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Few (<1 per 100mm2) Medium (2-5mm) macropores, Moderately moist; Very strong consistence; Moderately plastic; Subplastic; Very sticky; 0-2%, coarse gravelly, 20-60mm, subrounded, dispersed, coarse fragments; Few, very fine (0-1mm) roots; Clear, Wavy change to -
B2	0.42 - 0.78 m	Brown (10YR4/3-Moist); Dark yellowish brown (10YR4/4-Dry); Biological mixing, 10YR33, 2-10% , 5-15mm, Distinct; Medium clay (Light); Strong grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Moist; Very firm consistence; Moderately plastic; Normal plasticity; Moderately sticky; Very few (0 - 2 %), Ferruginous, Medium (2 -6 mm), Nodules; Few, very fine (0-1mm) roots; Clear, Smooth change to -
B3	0.78 - 0.89 m	Brown (10YR4/3-Moist); Light yellowish brown (10YR6/4-Dry); , 0-0% ; Medium clay; Massive grade of structure; Rough-ped fabric; Moist; Firm consistence; Moderately plastic; Normal plasticity; Moderately sticky; Abrupt, Smooth change to -
C	0.89 - 1.05 m	Light olive brown (2.5Y5/4-Moist); Substrate influence, 7.5YR58, 2-10% , 5-15mm,

Prominent; Sandy

consistence;

light clay; Massive grade of structure; Rough-ped fabric; Moderately moist; Weak

Moderately plastic; Moderately sticky;

Morphological Notes

A1 Penetration Resistance: Firm
 B1 Penetration Resistance: Hard. Soil sampled 18-42cm S22B
 B2 Penetration Resistance: Very Stiff. Soil sampled 42-78 S22C
 B3 Penetration Resistance: Stiff. Soil Sampled 78-89cm S22D
 C Penetration Resistance: Hard. Soil sampled 89-105cm S22E

Observation Notes

Vegetation: A few scattered shrubs and Eucalypt trees

Site Notes

Mode of geomorphic activity: Eroded or aggraded. Geomorphic Agent: Sheet Wash. Inundation Frequency: No inundation.

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Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.075	5.3C 6.4A	0.057A	11.39A	5.36	1.02	0.6	0.04D 0G 0.05A		18.42B	
0.18 - 0.42	5.7C 7A	0.051A	9.27A	11.99	0.45	1.31	0.03D 0G 0.03A		23.05B	
0.42 - 0.78	6.4C 7.5A	0.149A	8.19A	15.64	0.4	3.07	0.03D 0G 0.03A		27.33B	
0.78 - 0.89	7.1C 8A	0.253A	6.75A	15.49	0.46	4.3	0.03D 0G 0.03A		27.03B	
0.89 - 1.05	8.1C 9A	0.516A	8.03A	13.32	0.44	4.59	0.01D 0G 0.02A		26.4B	

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		3.09B	5H 2.8I		0.22D			
0.18 - 0.42		1.64B	2H 1I		0.11D			
0.42 - 0.78		0.76B	2H 0.6I		0.08D			
0.78 - 0.89		0.45B	2H 0.9I		0.05D			
0.89 - 1.05		0.28B	2H 0.5I		0.05D			

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

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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	Bicarbonate-extractable phosphorus - automated colour. Based on Colwell (1965). Method no
longer	
	recommended
9C2	Olsen-extractable phosphorus - automated colour