

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** S11 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:		Locality:	Glen Quoin, Near Richmond
Date Desc.:	09/05/05	Elevation:	120 metres
Map Ref.:	GPS S.A. Off	Rainfall:	553
Northing/Long.:	5270296 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	525995 Datum: GDA94	Drainage:	No Data

Geology

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

Landform

Rel/Slope Class:	Rolling rises 9-30m 10-32%	Pattern Type:	Low hills
Morph. Type:	Lower-slope	Relief:	No Data
Elem. Type:	Footslope	Slope Category:	Gently inclined
Slope:	4 %	Aspect:	27 degrees

Surface Soil Condition Firm

Erosion

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Eutrophic Mottled-Mesonatric Brown Sodosol Thick Non-gravelly Sandy Clayey 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

A11	0 - 0.1 m	(/-Moist); , 0-0% ; Loamy sand; Weak grade of structure, 10-20 mm, Subangular blocky; Weak grade of structure, 2-5 mm, Subangular blocky; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Weak consistence; Non-plastic; Non-sticky; Field pH 7.4 (pH meter); Common, very fine (0-1mm) roots; Clear, Wavy change to -
A12	0.1 - 0.19 m	(/-Moist); Mottles, 10YR71, 0-2% , 0-5mm, Faint; Sandy loam; Weak grade of structure, 2-5 mm, Subangular blocky; Single grain grade of structure; Sandy (grains prominent) fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Dry; Firm consistence; Non-plastic; Non-sticky; Field pH 7.1 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Irregular change to -
A2	0.19 - 0.37 m	Light grey (10YR7/1-Moist); Mottles, 7.5YR2.52, 10-20% , 5-15mm, Distinct; Mottles, 5YR44, 2-10% , 0-5mm, Faint; Sandy loam; Weak grade of structure, 5-10 mm, Subangular blocky; Single grain grade of structure; Sandy (grains prominent) fabric; Few (<1 per 100mm2) Fine (1-2mm) macropores, Dry; Firm consistence; Non-plastic; Non-sticky; Field pH 6.9 (pH meter); Common, very fine (0-1mm) roots; Sharp, Smooth change to -
B1	0.37 - 0.45 m	Dark reddish brown (5YR3/3-Moist); Mottles, 5YR44, 2-10% , 5-15mm, Faint; Substrate influence, 10YR36, 2-10% , 0-5mm, Distinct; Light medium clay; Massive grade of structure; Very coarse, (20 - 50) mm crack; Dry; Strong consistence; Slightly plastic; Subplastic; Moderately sticky; 10-20%, fine gravelly, 2-6mm, rounded, dispersed, Sandstone, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Soft segregations; Field pH 7.6 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -

B2 0.45 - 0.85 m Yellowish brown (10YR5/6-Moist); Mottles, 5YR33, 2-10% , 5-15mm, Distinct; Substrate influence,
10R36, 0-2% , 0-5mm, Distinct; Medium heavy clay; Massive grade of structure;
Extremely coarse, (50 - 100) mm crack; Moderately moist; Strong consistence; Moderately plastic; Subplastic;
Moderately sticky;
0-2%, fine gravelly, 2-6mm, rounded, dispersed, Sandstone, coarse fragments; Few
cutans, <10% of ped
faces or walls coated, faint; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Soft
segregations; Field
pH 8.2 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11 salinity: 0.2 dSm-1
A12 salinity: 0.0 dSm-1. Extremely compacted
A2 salinity: 0.0 dSm-1. Extremely compacted
B1 Colour of clayskins lining pores and cracks 5yr33. salinity: 0.1 dSm-1. Sample S11C 37-45cm
B2 Colour of clayskins lining pores and cracks 5yr33. salinity: 0.4 dSm-1. Huge crack through
B2 - perhaps larger structure? Extremely soapy horizon, and dispersive in water. S11D 60-80cm

Observation Notes

Irrigated Clover. Started to get into weathered sandstone and very hard clay at 80cm

Site Notes

Mode of Geomorphic Agent: Eroded. Agent: Sheet wash. Inundation frequency: none.

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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	5.8C 6.5A	0.128A	6.23A	1.43	0.22	0.37	0.05D 0G 0.08A		8.33B	
0.2 - 0.275	5.2C 6A	0.087A	4.98A	1.88	0.28	0.45	0.12D 0.03G 0.2A		7.79B	
0.37 - 0.45	6.7C 7.9A	0.214A	6.61A	10.5	0.27	2.32	0.11645D 0G 0.14825A		19.84825B	
0.6 - 0.8	7.2C 7.4A	0.252A	5.32A	11.75	0.36	3.6	0.0868875 D 0G 0.0995A		21.1295B	

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		2.03B	72H 42.1I		0.17D					
0.2 - 0.275		1.42B	39H 12.7I		0.09D					
0.37 - 0.45		0.82B	2H 1.3I		0.09D					
0.6 - 0.8		0.25B	1H 1.1I		0.04D					

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 determination
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