

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** S8 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By: R. Moreton **Locality:** Chris Allwright. "Tarella", Near
 Kempton. Pit located 1km south of Tarella Homestead

Date Desc.: 04/04/06 **Elevation:** 136 metres
Map Ref.: GPS S.A. Off **Rainfall:** 521
Northing/Long.: 5290828 AMG zone: 55 **Runoff:** Very slow
Easting/Lat.: 508644 Datum: GDA94 **Drainage:** Imperfectly drained

Geology

Exposure Type: Soil pit **Conf. Sub. is Parent. Mat.:** Probable
Geol. Ref.: Qa **Substrate Material:** Soil pit, Alluvium

Landform

Rel/Slope Class: Rolling rises 9-30m 10-32% **Pattern Type:** Terraced land (alluvial)
Morph. Type: Flat **Relief:** No Data
Elem. Type: Terrace flat **Slope Category:** Very gently sloped
Slope: % **Aspect:** No Data

Surface Soil Condition Recently cultivated

Erosion

Soil Classification

Australian Soil Classification: Mapping Unit: N/A
 Haplic Eutrophic Black Dermosol Medium Non-gravelly Loamy Principal Profile Form: N/A
 Clayey Deep
ASC Confidence: Great Soil Group: N/A
 All necessary analytical data are available.

Site Disturbance

Vegetation

Surface Coarse Fragments 2-10%, cobbly, 60-200mm, ,

Profile Morphology

Ap 0 - 0.18 m of structure, Earthy fabric; medium gravelly, Smooth change to -	Black (5YR2.5/1-Moist); Dark greyish brown (10YR4/2-Dry); , 0-0% ; Loam; Strong grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Subangular blocky; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Dry; Weak consistence; 0-2%, 6-20mm, angular, dispersed, coarse fragments; Few, very fine (0-1mm) roots; Abrupt, -
B1t 0.18 - 0.32 m loam; Moderate Subangular moist; Firm Nodules; Few,	Black (7.5YR2/1-Moist); Substrate influence, 5YR33, 2-10% , 0-5mm, Prominent; Clay grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 5-10 mm, blocky; Earthy fabric; Many (>5 per 100mm2) Fine (1-2mm) macropores, Moderately consistence; Non-plastic; Very sticky; Few (2 - 10 %), Manganiferous, Fine (0 - 2 mm), very fine (0-1mm) roots; Clear, Smooth change to -
B2t 0.32 - 0.7 m grade of fabric; Many Moderately sticky; 0- 1mm) roots;	Black (7.5YR2/1-Moist); Mottles, 10YR42, 0-2% , 0-5mm, Faint; Silty clay loam; Moderate structure, 20-50 mm, Platy; Moderate grade of structure, 5-10 mm, Angular blocky; Earthy (>5 per 100mm2) Fine (1-2mm) macropores, Moist; Firm consistence; Non-plastic; 2%, coarse gravelly, 20-60mm, rounded, dispersed, coarse fragments; Few, very fine (0-1mm) roots; Clear, Smooth change to -
B31t 0.7 - 0.87 m fabric; Moderately subangular,	Dark brown (7.5YR3/2-Moist); , 0-0% ; Clay loam; Massive grade of structure; Earthy moist; Firm consistence; Non-plastic; Very sticky; 20-50%, coarse gravelly, 20-60mm, dispersed, coarse fragments; Sharp, Smooth change to -

B32 0.87 - 1.1 m Dark yellowish brown (10YR4/4-Moist); Mottles, 10YR21, 2-10% , 5-15mm, Distinct; Light medium clay;
Massive grade of structure; Earthy fabric; Moist; Weak consistence; Very plastic; Normal plasticity; Very sticky; Few cutans, <10% of ped faces or walls coated, faint;

Morphological Notes

B2t Soil sample S8C depth 35-70cm
B31t Soil sample S8d depth 70-87cm
B32 Colour of the Clay skins lining pores and cracks were 10YR 2/1. Soil sample S8E depth 87-110cm

Observation Notes

Vegetation: Ex Poppy crop, trash on surface.

Site Notes

Mode of Geomorphic Activity: Aggraded. Geomorphic Agent: Over-bank stream. Inundation frequency: once in 50-100 years for <1 day, to a depth of <50mm.

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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	6C 6.7A	0.081A	19A	6.29	0.47	0.43	0.08D 0G 0.11A		26.3B	
0.2 - 0.275	5.9C 6.8A	0.059A	16.82A	6.07	0.27	0.42	0.09D 0G 0.1A		23.68B	
0.35 - 0.7	6.6C 7.7A	0.103A	19.96A	7.48	0.2	0.53	0.03D 0G 0.03A		28.2B	
0.7 - 0.87	6.9C 7.6A	0.083A	13.48A	8.1	0.28	0.52	0.02D 0G 0.03A		22.41B	
0.87 - 0.11	6.8C 7.9A	0.075A	16.41A	12.62	0.44	0.81	0.01D 0G 0.01A		30.29B	

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		2.82B	55H 21.1I		0.24D					
0.2 - 0.275		2.08B	19H 8.7I		0.15D					
0.35 - 0.7		2.13B	12H 5.7I		0.14D					
0.7 - 0.87		0.92B	11H 4.5I		0.08D					
0.87 - 0.11		0.5B	11H 4.8I		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 (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