

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** S30 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	R. Moreton	Locality:	Owner: Webster Walnuts, "Swansea", near Swansea
Date Desc.:	28/03/06	Elevation:	11 metres
Map Ref.:	GPS S.A. Off	Rainfall:	603
Northing/Long.:	5342122 AMG zone: 55	Runoff:	Moderately rapid
Easting/Lat.:	586566 Datum: GDA94	Drainage:	Well drained

Geology

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

Landform

Rel/Slope Class:	Gently undulating plains <9m 1-3%	Pattern Type:	Alluvial plain
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Morph. Type:	Flat	Relief:	No Data
Elem. Type:	Terrace plain	Slope Category:	Level
Slope:	2 %	Aspect:	150 degrees

Surface Soil Condition Soft

Erosion

Soil Classification

Australian Soil Classification:	Melanic Eutrophic Black Dermosol Thick Non-gravelly Clay-loamy Clay-loamy Deep	Mapping Unit:	N/A
ASC Confidence:	All necessary analytical data are available.	Principal Profile Form:	N/A
		Great Soil Group:	N/A

Site Disturbance

Vegetation

Surface Coarse Fragments No surface coarse fragments

Profile Morphology

A1	0 - 0.32 m	Black (10YR2/1-Moist); Very dark greyish brown (10YR3/2-Dry); , 0-0% ; Clay loam; Strong grade of blocky; Earthy consistence; Non-plastic; Slightly sticky; Common, very fine (0-1mm) roots; Clear, Smooth change to -
A3	0.32 - 0.55 m	Very dark grey (10YR3/1-Moist); , 0-0% ; Clay loam; Strong grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moist; Weak consistence; Non-plastic; Slightly sticky; Few, fine (1-2mm) roots; Gradual, Smooth change to -
AB	0.55 - 0.68 m	Very dark brown (10YR2/2-Moist); Mottles, 7.5YR44, 2-10% , 5-15mm, Distinct; Clay of structure, 2-5 mm, Polyhedral; Strong grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Moist; Weak consistence; Non-plastic; Slightly sticky; Few, fine (1-2mm) roots; Clear, Smooth change to -
B2t	0.68 - 0.95 m	(/-Moist); Mottles, 7.5YR34, 2-10% , 0-5mm, Distinct; Fine sandy clay loam; Moderate grade of structure, <2 mm, Polyhedral; Weak grade of structure, 5-10 mm, Subangular blocky; Sandy (grains prominent) fabric; Moist; Very weak consistence; Non-plastic; Slightly sticky; Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B3t	0.95 - 1.2 m	Very dark brown (10YR2/2-Moist); Mottles, 7.5YR44, 10-20% , 5-15mm, Distinct; Sandy loam; Moderate grade of structure, 2-5 mm, Polyhedral; Moderate grade of structure, 20-50 mm, Angular

blocky; Sandy

very fine (0-

(grains prominent) fabric; Moist; Very weak consistence; Non-plastic; Slightly sticky; Few,
1mm) roots;

Morphological Notes

A1 Few quantities of charcoal fragments throughout soil profile. Penetration resistance: Soft
A3 Soil sampled S30C sampled from depth 35-55cm. Penetration resistance: Firm
AB Soil sampled S30D sampled from depth 55-68cm. Penetration resistance: Firm
B2t Soil sampled S30E sampled from depth 68-95cm. Penetration resistance: Firm
B3t Soil sampled S30F sampled from depth 95-120cm. Penetration resistance: Firm

Observation Notes

Vegetation is Walnut with Pasture inbetween.

Site Notes

Mode of geomorphic activity: Aggraded. Sheet wash and over-bank stream the geomorphic agents. No Inundation.

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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	5.4C 6.2A	0.109A	24.82A	7.69	1.38	0.38	0.16D 0.01G 0.17A		34.44B	
0.2 - 0.275	5.7C 6.6A	0.052A	24.18A	8.77	0.3	0.44	0.07D 0G 0.08A		33.77B	
0.35 - 0.55	6.3C 7.3A	0.149A	24.79A	11.79	0.09	0.5	0.01D 0G 0.02A		37.19B	
0.55 - 0.68	6.5C 7.6A	0.126A	20.87A	10.6	0.09	0.68	0.01D 0G 0.02A		32.26B	
0.68 - 0.95	6.2C 7.4A	0.103A	14.69A	9.03	0.08	0.62	0.01D 0G 0.02A		24.44B	
0.95 - 1.2	6.9C 7.6A	0.066A	10.49A	7.35	0.07	0.49	0.01D 0G 0.02A		18.42B	

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		6.75B	59H 20.9I		0.59D			
0.2 - 0.275		5.13B	16H 7.1I		0.38D			
0.35 - 0.55		3.09B	5H 1.8I		0.28D			
0.55 - 0.68		2.28B	6H 2.2I		0.21D			
0.68 - 0.95		1.31B	4H 1.3I		0.08D			
0.95 - 1.2		0.74B	6H 2.4I		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

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