

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N16 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	R. Moreton	Locality:	Mt Joy, Near Cressy
Date Desc.:	09/05/05	Elevation:	165 metres
Map Ref.:	GPS S.A. Off	Rainfall:	601
Northing/Long.:	5378487 AMG zone: 55	Runoff:	Moderately rapid
Easting/Lat.:	516990 Datum: GDA94	Drainage:	Imperfectly drained

Geology

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

Landform

Rel/Slope Class: Undulating low hills 30-90m 3-10% **Pattern Type:** Low hills

Morph. Type:	No Data	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	Very gently sloped
Slope:	4 %	Aspect:	52 degrees

Surface Soil Condition Firm

Erosion

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Eutrophic Mottled-Subnatic Brown Sodosol Medium Slightly gravelly Loamy Clayey Deep	Principal Profile Form:	N/A
ASC Confidence: Analytical data are incomplete but reasonable confidence.	Great Soil Group:	N/A

Site Disturbance

Vegetation

Surface Coarse Fragments 0-2%, cobbly, 60-200mm, ,

Profile Morphology

Ap 0 - 0.18 m 10-20 mm, fabric; Few (<1 per sticky; 2-10%, fine (1-2mm)	Very dark brown (10YR2/2-Moist); , 0-0% ; Fine sandy loam; Moderate grade of structure, Subangular blocky; Moderate grade of structure, 5-10 mm, Subangular blocky; Earthy 100mm ²) Fine (1-2mm) macropores, Moist; Very weak consistence; Non-plastic; Slightly medium gravelly, 6-20mm, subangular, dispersed, Dolerite, coarse fragments; Common, roots; Abrupt, Smooth change to -
A2e 0.18 - 0.24 m 10YR22, 0-2% , 5- prominent) fabric; Sharp, Smooth	Dark greyish brown (10YR4/2-Moist); Light grey (10YR7/2-Dry); Biological mixing, 15mm, Distinct; Clayey fine sand; Single grain grade of structure; Sandy (grains Moist; Very weak consistence; Non-plastic; Slightly sticky; Few, very fine (0-1mm) roots; change to -
B1 0.24 - 0.43 m 5YR46, 2-10% Angular blocky; mm crack; faces or walls coated,	Very dark grey (10YR3/1-Moist); Mottles, 7.5YR58, 20-50% , 15-30mm, Distinct; Mottles, , 5-15mm, Prominent; Light medium clay; Moderate grade of structure, 20-50 mm, Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) Moist; Weak consistence; Very plastic; Very sticky; Common cutans, 10-50% of ped distinct; Few, very fine (0-1mm) roots; Gradual, Wavy change to -
B21 0.43 - 0.64 m Medium clay; Moderately sticky; Few (2 - 10 %), Smooth	Dark yellowish brown (10YR4/4-Moist); Mottles, 10YR46, 2-10% , 5-15mm, Distinct; Massive grade of structure; Smooth-ped fabric; Moist; Firm consistence; Very plastic; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Dolerite, coarse fragments; Ferromanganiferous, Medium (2 -6 mm), Nodules; Few, very fine (0-1mm) roots; Gradual, change to -

B22	0.64 - 0.9 m	Brown (10YR4/3-Moist); Mottles, 2.5Y42, 10-20% , 30-mm, Distinct; Mottles, 10YR46, 2-10% , 5-15mm,
Moist; Firm		Distinct; Sandy medium clay; Massive grade of structure; Sandy (grains prominent) fabric;
dispersed,		consistence; Slightly plastic; Very sticky; 0-2%, medium gravelly, 6-20mm, subrounded,
Nodules;		Dolerite, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Coarse (6 - 20 mm),
		Gradual, Smooth change to -
B3	0.9 - 1.1 m	Light olive brown (2.5Y5/6-Moist); Mottles, 2.5Y56, 10-20% , 15-30mm, Distinct; Sandy
light clay;		Massive grade of structure; Earthy fabric; Moist; Firm consistence; Slightly plastic; Very
sticky; 10-20%,		medium gravelly, 6-20mm, subrounded, dispersed, Dolerite, coarse fragments;

Morphological Notes

Ap	Penetration redistance: Soft
A2e	Penetration redistance: Soft
B1	Penetration redistance: Firm. Sliken sides lined pores/cracks. N16C sampled 25-40cm
B21	Penetration redistance: Stiff. N16D sampled 45-60cm
B22	Penetration redistance: Stiff. N16E sampled 65-90cm
B3	Penetration redistance: Stiff

Observation Notes

Ne or Br Soil Class. Vegetation was Pasture. Inundation frequency was no inundation. Mode of Geomorph Activity: Eroded or Aggraded.
Geomorphic agent: sheet wash.

Site Notes

Previous weeks rainfall 77mm

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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	6.5C 7.3A	0.089A	7.44A	1.06	0.32	0.12	0.03D 0G 0.04A		8.98B	
0.15 - 0.225	5.9C 6.7A	0.059A	3.68A	0.93	0.11	0.18	0.01D 0G 0.02A		4.92B	
0.25 - 0.4	5.5C 6.2A	0.123A	3.99A	14.4	0.15	2.19	0.0564D 0G 0.159325A		20.88932B	
0.45 - 0.6	6.1C 6.9A	0.121A	2.99A	12.2	0.11	2.2	1.681825E -02D 0G 2.681825E -02A		17.52682B	
0.65 - 0.9	6.9C 7.8A	0.173A	2.34A	9.63	0.1	2.71	0.01D 0G 0.02A		14.8B	
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		1.82B	40H 0I		0.15D					
0.15 - 0.225		0.95B	15H 7.8I		0.08D					

0.25 - 0.4	1.06B	1H	0.09D
		0.6I	
0.45 - 0.6	0.56B	1H	0.06D
		0.8I	
0.65 - 0.9	0.21B	2H	0.02D
		1.7I	

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 (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
	salts
15A1_K for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
	salts
15A1_MG for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
	salts
15A1_NA for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
	salts

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15G_C_AL2	Exchangeable aluminium - meq per 100g of soil - Aluminium By KCl extraction and detremination
By AAS	
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	Bicarbonate-extractable phosphorus - automated colour. Based on Colwell (1965). Method no
longer	
	recommended
9C2	Olsen-extractable phosphorus - automated colour