

Project Name: SCEAM - Soil Condition Evaluation & Monitoring Project, Tasmania
Project Code: SCEAM **Site ID:** N15 **Observation ID:** 1
Agency Name: TAS Department of Primary Industries and Fisheries

Site Information

Desc. By:	D.B. Kidd	Locality:	Scone, Sand paddock. Owner: Bill Gibson
Date Desc.:	19/10/05	Elevation:	150 metres
Map Ref.:	GPS S.A. Off	Rainfall:	620
Northing/Long.:	5393832 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	515459 Datum: GDA94	Drainage:	Poorly drained

Geology

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

Landform

Rel/Slope Class:	Gently undulating plains <9m 1-3% (alluvial)	Pattern Type:	Terrace
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Morph. Type:	Open depression (vale)	Relief:	No Data
Elem. Type:	Terrace plain	Slope Category:	Very gently sloped
Slope:	4 %	Aspect:	38 degrees

Surface Soil Condition Firm

Erosion

Soil Classification

Australian Soil Classification:	Eutrophic Mottled-Mesonatric Grey Sodosol Medium Non-gravelly Loamy Clayey 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

Ap	0 - 0.2 m	Very dark greyish brown (10YR3/2-Moist); , 0-0% ; Fine sandy loam; Weak grade of structure, 5-10 mm, Subangular blocky; Weak grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Non-plastic; Non-sticky; Many, very fine (0-1mm) roots; Abrupt, Wavy change to -
A21	0.2 - 0.27 m	Dark greyish brown (10YR4/2-Moist); , 0-0% ; Loamy sand; Weak grade of structure, 5-10 mm, Angular blocky; Weak grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Non-plastic; Silcrete, Weakly cemented, Discontinuous, Massive; Common, very fine (0-1mm) roots; change to -
A22	0.27 - 0.33 m	Light brownish grey (2.5Y6/3-Dry); Greyish brown (2.5Y5/3-Moist); , 0-0% ; Loamy sand; Weak grade of structure, 5-10 mm, Subangular blocky; Weak grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Non-plastic; Moderately sticky; Silcrete, Weakly cemented, Discontinuous, Massive; Common, very fine (0-1mm) roots; Sharp, Wavy change to -
B21	0.33 - 0.59 m	Dark grey (10YR4/1-Moist); Mottles, 7.5YR46, 10-20% , 5-15mm, Distinct; Medium heavy clay; Weak grade of structure, 20-50 mm, Polyhedral; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moist; Firm consistence; Very plastic; Superplastic; Slightly sticky; Many cutans, >50% of ped faces or walls coated, distinct; Common (10 - 20 %), Manganiferous, Coarse (6 - 20

mm), Soft

segregations; Few, very fine (0-1mm) roots; Gradual, Smooth change to -

B22t 0.59 - 0.9 m Olive brown (2.5Y4/4-Moist); , 0-0% ; Heavy clay; Massive grade of structure; Moist; Firm consistence;
walls coated, Slightly plastic; Superplastic; Slightly sticky; Common cutans, 10-50% of ped faces or distinct;

Morphological Notes

Ap Sample N15A 0-75mm
A21 Rusty root linings. Sample N15B 150-225mm
A22 Rusty root linings. Sample N25C 20-33mm
B21 Sample N25D 330-590mm
B22t Sample N15E 600-9010mm

Observation Notes

Vegetation: Pasture/Clover

Site Notes

Geomorphic Action: Aggraded, Agent: Wind. Inundation: < 1 per 100years

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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				Na Cmol (+)/kg				%
0 - 0.075	5.5C 6.3A	0.108A	4.74A	0.9	0.27	0.45	0.1D 0G 0.11A		6.47B	
0.15 - 0.225	4.6C 5.8A	0.06A	1.61A	0.32	0.2	0.28	0.08D 0.08G 0.28A		2.69B	
0.2 - 0.33	4.9C 6.2A	0.055A	1.3A	0.42	0.16	0.54	0D 0.33G 0.14A		2.56B	
0.33 - 0.59	6.7C 7.5A	0.136A	6.7A	14.89	0.43	4.26	0.01D 0G 0.03A		26.31B	
0.6 - 0.9	7.1C 8.4A	0.243A	6.56A	15.26	0.43	6.44	0D 0G 0.01A		28.7B	

Depth	CaCO3	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis
m	%	%	mg/kg	%	%	%	Mg/m3	GV CS FS Silt
0 - 0.075		2.49B	27H 35.7I		0.22D			
0.15 - 0.225		1.28B	48H 27.6I		0.11D			
0.2 - 0.33		0.62B	10H 4.5I		0.07D			
0.33 - 0.59		0.69B	2H 0.7I		0.12D			
0.6 - 0.9		0.44B	2H 0.9I		0.13D			

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