

Project Name: TYE
Project Code: TYE **Site ID:** H160 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (TAS)

Site Information

Desc. By:	G.M. Dimmock	Locality:	Road cut on south side of Lyell Highway:2.5KM east of right angle bend in highway at Hamilton:
Date Desc.:	02/05/57	Elevation:	213 metres
Map Ref.:		Rainfall:	510
Northing/Long.:	146.816666666667	Runoff:	Rapid
Easting/Lat.:	-42.55	Drainage:	Well drained

Geology

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

Land Form

Rel/Slope Class:	No Data	Pattern Type:	Hills
Morph. Type:	No Data	Relief:	No Data
Elem. Type:	Cutface	Slope Category:	Moderately inclined
Slope:	0 %	Aspect:	No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	N/A
Mottled Calcareous Red Ferrosol		Principal Profile Form:	Gn3.13
ASC Confidence:		Great Soil Group:	Brown clay

All necessary analytical data are available.

Site Disturbance: Limited clearing, for example selective logging

Vegetation: Low Strata - Tussock grass, 0.51-1m, Mid-dense. *Species includes - Danthonia species
Tall Strata - Tree, , Sparse. *Species includes - Eucalyptus pauciflora, Bursaria spinosa

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.04 m	Black (5YR2/1-Moist); ; Clay loam (Heavy); Moderate grade of structure, Granular; Moderately moist; Very weak consistence; 2-10%, coarse gravelly, 20-60mm, Dolerite, coarse fragments; Abundant Sharp, Irregular change to -
AB	0.04 - 0.1 m	Dark reddish brown (5YR2/2-Moist); ; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Very strong consistence; 2-10%, Gravel, coarse fragments;
B21	0.1 - 0.25 m	Dark reddish brown (2.5YR2/3-Moist); ; Heavy clay; Strong grade of structure, 50-100 mm, Angular blocky; Dry; Very strong consistence; 10-20%, Gravel, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct;
B22	0.28 - 0.38 m	Dark reddish brown (2.5YR2/3-Moist); ; Heavy clay; Strong grade of structure, 50-100 mm, Angular blocky; Dry; Very strong consistence; 0-2%, cobbly, 60-200mm, Dolerite, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct;
B23	0.38 - 0.51 m	Dark reddish brown (2.5YR2/3-Moist); ; Heavy clay; Strong grade of structure, 50-100 mm, Angular blocky; Dry; Very strong consistence; 2-10%, cobbly, 60-200mm, Dolerite, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct;
BC	0.53 - 0.64 m	Dark reddish brown (2.5YR2/3-Moist); ; 10YR4/4; Heavy clay; Weak grade of structure, 50-100 mm, Angular blocky; Moderately moist; Strong consistence; 2-10%, Gravel, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Few (2 - 10 %), Calcareous, , Soft segregations;
C	0.64 - 0.71 m	Dark yellowish brown (10YR4/4-Moist); ; Sandy medium clay (Light); Moderately moist; Strong consistence; 10-20%, Gravel, coarse fragments; Common (10 - 20 %), Calcareous, , Soft segregations;
C	0.71 - 0.84 m	Dark yellowish brown (10YR4/4-Moist); ; Heavy clay; Moderately moist; Weak consistence; 0-2%, Gravel, coarse fragments; Few (2 - 10 %), Calcareous, , Soft segregations;
C	0.84 - 1.07 m	Olive brown (2.5Y4/4-Moist); ; Heavy clay; Moderately moist; Very weak consistence; Very few (0 - 2 %), Calcareous, , Soft segregations;

Morphological Notes

Observation Notes

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84-107CM CLAY WITH MEALY DECOMPOSED DR:CLAYSKINS PRESENT ON POLISHED AGGREGATES IN MAIN CLAY HORIZON:

Site Notes

ELLENDALE

Observation ID: 1

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 - 0.04	6.7A	0.065A	17.5H	10.9	1.5	0.41	4.7H		38.7B	
0.04 - 0.1	7A	0.065A	22.8H	18.2	1.2	0.93	8.4E		51.2B	
0.1 - 0.25	7.7A	0.077A					8.1E			
0.28 - 0.38	8.3A	0.113A	28.3H	36.2	0.81	3	2.8E		71.1B	
0.38 - 0.51	8.7A	0.235A	29.7H	36.2	0.69	3.2				
0.53 - 0.64	8.9A	0.381A								
0.64 - 0.71	8.9A	0.438A								
0.71 - 0.84	8.9A	0.488A								
0.84 - 1.07	8.9A	0.399A	30.7H	45.3	0.23	5.4				

Depth m	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density Mg/m3	Particle		Size FS %	Analysis	
	%	%	P mg/kg	P %	N %	K %		GV	CS		Silt	Clay
0 - 0.04		3.7D		0.03D	0.276A			6	17D	30	17	28
0.04 - 0.1		3.8D		0.023D	0.259A			13	15B	22	10	45
0.1 - 0.25	<0.5A	1.9D			0.163A							
0.28 - 0.38	<0.5A	1.5D			0.134A			3	7D	14	2	78
0.38 - 0.51	0.75A	1.2D		0.016D	0.11A			8	11B	13	4	72
0.53 - 0.64	1.25A	0.64D			0.059A			5	10D	19	1	62
0.64 - 0.71	4.25A											
0.71 - 0.84	2.5A											
0.84 - 1.07	0.5A			0.003D	0.014A				11B	15	20	49

[illegible]

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Laboratory Analyses Completed for this profile

12_HCL_FE	Total element - Fe(%) - Total acid(HCl) extractable Fe
13C1_FE	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15E1_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) by compulsive exchange, no pretreatment for soluble
15E1_K	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_MG	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_NA	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15G_C_H1	Exchangeable hydrogen - meq per 100g of soil - Hydrogen By back titration of A or B
15G1_H	Hydrogen Cation - meq per 100g of soil - 1M KCl Exch. Acidity By titration to pH 8.0
15J_H	Sum of Ex. cations + Ex. acidity - Sum of basic exch. cations and exch. (Hydrogen)
19A1	Carbonates - rapid titration
2_LOI	Loss on Ignition (%)
2A1	Air-dry moisture content
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
5A2	Chloride - 1:5 soil/water extract, automated colour
6A1_UC	Organic carbon (%) - Uncorrected Walkley and Black method
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9A_HCL	Total element - P(%) - By boiling HCl
P10_GRAV	Gravel (%)
P10_PB_C	Clay (%) - Plummet balance
P10_PB_CS	Coarse sand (%) - Plummet balance
P10_PB_FS	Fine sand (%) - Plummet balance
P10_PB_Z	Silt (%) - Plummet balance
P10A1_C	Clay (%) - Pipette
P10A1_CS	Coarse sand (%) - Pipette
P10A1_FS	Fine sand (%) - Pipette
P10A1_Z	Silt (%) - Pipette
XRD_C_Gt	Goethite - X-Ray Diffraction
XRD_C_Ka	Kaolin - X-Ray Diffraction
XRD_C_Qz	Quartz - X-Ray Diffraction
XRD_C_St	Smectite - X-Ray Diffraction