Project Name: HEL
Project Code: HEL **Site ID:** H142 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (TAS)

Site Information

Desc. By:	J. Loveday	**Locality:**	4KM south west of Burnie:
Date Desc.:	23/03/56	**Elevation:**	137 metres
Map Ref.:	Sheet No. : 8015 1:100000	**Rainfall:**	990
Northing/Long.:	145.8625	**Runoff:**	Rapid
Easting/Lat.:	-41.0611111111111	**Drainage:**	Well drained

Geology

ExposureType:	Soil pit	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	No Data	**Substrate Material:**	Auger boring, 2.5 m deep,Basalt

Land Form

Rel/Slope Class:	Undulating hills 90-300m 3-	**Pattern Type:**	Plateau
Morph. Type:	Ridge	**Relief:**	91 metres
Elem. Type:	Hillcrest	**Slope Category:**	Very gently sloped
Slope:	2 %	**Aspect:**	No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Mesotrophic Red Ferrosol
ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Gn4.11
Great Soil Group: Krasnozem

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage

Vegetation:

Surface Coarse Fragments:

Profile Morphology

0 - 0.08 m	Dark reddish brown (5YR3/4-Moist); ; Clay loam; Strong grade of structure, <2 mm, Subangular blocky; Weak consistence; 2-10%, Gravel, coarse fragments; Few (2 - 10 %), Ferruginous, Medium (2 -6 mm), Concretions; Diffuse change to -
0.08 - 0.17 m	Dark reddish brown (5YR3/4-Moist); ; Clay loam; Strong grade of structure, <2 mm, Subangular blocky; Weak consistence; 2-10%, Gravel, coarse fragments; Few (2 - 10 %), Ferruginous, Medium (2 -6 mm), Concretions; Clear change to -
0.18 - 0.25 m	Dark red (2.5YR2/5-Moist); ; Medium clay; Strong grade of structure, 5-10 mm, Subangular blocky; Weak consistence; 0-2%, coarse gravelly, 20-60mm, Basalt, coarse fragments; Few (2 - 10 %), Ferruginous, , Concretions; Diffuse change to -
0.25 - 0.33 m	Dark red (2.5YR2/5-Moist); ; Medium clay; Strong grade of structure, 5-10 mm, Subangular blocky; Weak consistence; 0-2%, coarse gravelly, 20-60mm, Basalt, coarse fragments; Few (2 - 10 %), Ferruginous, , Concretions; Diffuse change to -
0.33 - 0.48 m	Dark red (2.5YR3/5-Moist); ; Medium clay; Weak grade of structure, 5-10 mm, Subangular blocky; Weak consistence; 2-10%, medium gravelly, 6-20mm, Basalt, coarse fragments; Diffuse change to -
0.48 - 0.64 m	Dark red (2.5YR3/5-Moist); ; Medium clay; Weak grade of structure, 5-10 mm, Subangular blocky; Weak consistence; 2-10%, medium gravelly, 6-20mm, Basalt, coarse fragments; Diffuse change to -
0.64 - 0.79 m	Dark red (2.5YR3/6-Moist); ; Medium clay; Massive grade of structure; Weak consistence; 10-20%, Basalt, coarse fragments; Diffuse change to -
0.79 - 0.94 m	Dark red (2.5YR3/6-Moist); ; Light clay; Massive grade of structure; Weak consistence; 10-20%, Basalt, coarse fragments; Diffuse change to -
0.94 - 1.19 m	Dark red (2.5YR3/6-Moist); ; Light clay; Massive grade of structure; Weak consistence; 20-50%, Basalt, coarse fragments; Diffuse change to -
1.63 - 1.73 m	Light reddish brown (2.5YR6/4-Moist); ; Light clay;
2.29 - 2.39 m	Greyish brown (10YR5/2-Moist); , 2.5YR35;
2.54 - 2.64 m	;

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On compact decomposed BA with heavy BL staining:

Observation Notes

33-119CM BL STAINING ON GRAVELS:229-239CM MEALY DECOMPOSED BA WITH POCKETS OF 2.5YR35(M) CLAY:

Site Notes

BURNIE

Morphological Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.08	5.6A		13.9H	1.7	0.37	0.35	17H 36.8E		53.1B	
0.08 - 0.17	5.7A									
0.18 - 0.25	6A		11.5H	1.3	0.17	0.25	9.4H 23.8E		37B	
0.25 - 0.33	6.1A									
0.33 - 0.48	5.6A									
0.48 - 0.64	4.8A									
0.64 - 0.79	4.8A		2.9H	0.24	0.17	0.16	14.5H 25.2E		28.7B	
0.79 - 0.94	4.7A									
0.94 - 1.19	4.5A									
1.63 - 1.73	4.5A									
2.29 - 2.39	4.6A									

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis				
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.08		4.8D		0.252D	0.488A			1	3B	10	13	60
0.08 - 0.17		4.5D		0.23D	0.43A							
0.18 - 0.25		2.8D		0.15D	0.288A				3B	10	13	66
0.25 - 0.33												
0.33 - 0.48		1.7D										
0.48 - 0.64												
0.64 - 0.79				0.143D				2	2D	12	16	67
0.79 - 0.94												
0.94 - 1.19												
1.63 - 1.73												
2.29 - 2.39												

Depth	COLE	Gravimetric/Volumetric Water Contents							K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar		
m		g/g - m3/m3							mm/h	mm/h
0 - 0.08										
0.08 - 0.17										
0.18 - 0.25										
0.25 - 0.33										
0.33 - 0.48										
0.48 - 0.64										
0.64 - 0.79										
0.79 - 0.94										
0.94 - 1.19										
1.63 - 1.73										
2.29 - 2.39										

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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 (Ca2+,Mg2+,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)
2_LOI	Loss on Ignition (%)
2A1	Air-dry moisture content
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