**Project Name:** HEL
**Project Code:** HEL **Site ID:** H136 **Observation ID:** 1
**Agency Name:** CSIRO Division of Soils (TAS)

## Site Information

**Desc. By:** J. Loveday
**Locality:** 3.2KM north of Stowport on east side of road to Burnie:
**Date Desc.:** 22/02/56
**Elevation:** 91 metres
**Map Ref.:** Sheet No. : 8015 1:100000
**Rainfall:** 990
**Northing/Long.:** 145.936111111111
**Runoff:** Rapid
**Easting/Lat.:** -41.0861111111111
**Drainage:** Well drained

## Geology

**ExposureType:** Soil pit
**Conf. Sub. is Parent. Mat.:** No Data
**Geol. Ref.:** No Data
**Substrate Material:** Auger boring, 2 m deep,Basalt

## Land Form

**Rel/Slope Class:** No Data
**Pattern Type:** Plateau
**Morph. Type:** No Data
**Relief:** 46 metres
**Elem. Type:** No Data
**Slope Category:** No Data
**Slope:** 0 %
**Aspect:** No Data

## Surface Soil Condition (dry):

## Erosion:

## Soil Classification

**Australian Soil Classification:**
Haplic Eutrophic 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, but never cultivated

## Vegetation:

## Surface Coarse Fragments:

## Profile Morphology

| | | |
|---|---|---|
| A | 0 - 0.08 m | Dark reddish brown (5YR3/4-Moist); ; Clay loam; Strong grade of structure, 2-5 mm, Subangular blocky; Moist; Weak consistence; , fine (1-2mm) roots; Diffuse change to - |
| A | 0.08 - 0.15 m | Dark reddish brown (5YR3/4-Moist); ; Clay loam; Strong grade of structure, 2-5 mm, Subangular blocky; Moist; Weak consistence; Very few (0 - 2 %), Unidentified, Fine (0 - 2 mm), Concretions; Clear change to - |
| B | 0.18 - 0.29 m | Dark red (2.5YR3/5-Moist); ; Medium clay; Strong grade of structure, 5-10 mm, Subangular blocky; Moist; Weak consistence; Very few (0 - 2 %), Unidentified, Fine (0 - 2 mm), Concretions; Diffuse change to - |
| B | 0.29 - 0.38 m | Dark red (2.5YR3/5-Moist); ; Medium clay; Strong grade of structure, 5-10 mm, Subangular blocky; Moist; Weak consistence; Very few (0 - 2 %), Unidentified, Fine (0 - 2 mm), Concretions; Diffuse change to - |
| B | 0.38 - 0.53 m | Reddish brown (2.5YR4/4-Moist); ; Medium clay; Weak grade of structure, 5-10 mm, Subangular blocky; Moist; Weak consistence; Very few (0 - 2 %), Unidentified, Fine (0 - 2 mm), Concretions; Diffuse change to - |
| B | 0.53 - 0.69 m | Reddish brown (2.5YR4/4-Moist); ; Medium clay; Massive grade of structure; Moist; Weak consistence; Very few (0 - 2 %), Unidentified, Fine (0 - 2 mm), Concretions; Diffuse change to - |
| B | 0.69 - 0.84 m | Reddish brown (2.5YR4/4-Moist); ; Medium clay; Massive grade of structure; Moist; Weak consistence; Very few (0 - 2 %), Unidentified, Fine (0 - 2 mm), Concretions; Diffuse change to - |
| | 0.91 - 1.09 m | Red (2.5YR4/6-Moist); ; Medium clay; Massive grade of structure; Weak consistence; Diffuse change to - |
| | 1.24 - 1.45 m | Yellowish red (5YR4/6-Moist); , 2.5YR36; Medium clay; Massive grade of structure; Very firm consistence; , Ferruginous-organic, Coarse (6 - 20 mm), Soft segregations; |
| | 1.93 - 2.03 m | Greyish brown (10YR5/2-Moist); , 10YR56; Very strong consistence; |
| | 2.03 - 2.13 m | ; |

## Morphological Notes

On compact decomposed basalt:

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0-8CM WORMS ACTIVE:193-203CM VERY COMPACT DECOMPOSED BASALT:

**Site Notes**

BURNIE

**Observation 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 | 5.9A | | 17.6H | 2.5 | 0.76 | 0.31 | 14.7H<br>33.5E | | 54.7B | |
| 0.08 - 0.15 | 5.9A | | 16.6H | 2.7 | 0.71 | 0.26 | 16H<br>33E | | 53.3B | |
| 0.18 - 0.29 | 6.1A | | | | | | | | | |
| 0.29 - 0.38 | 6.4A | | 8.1H | 1.6 | 0.67 | 0.23 | 6.5H<br>17.7E | | 28.3B | |
| 0.38 - 0.53 | 6.3A | | | | | | | | | |
| 0.53 - 0.69 | 6.3A | | 6H | 1.65 | 0.44 | 0.23 | 6.3H<br>15.5E | | 23.8B | |
| 0.69 - 0.84 | 6A | | | | | | | | | |
| 0.91 - 1.09 | 5.6A | | | | | | | | | |
| 1.24 - 1.45 | 4.8A | | | | | | | | | |
| 1.93 - 2.03 | 4.7A | | | | | | | | | |
| 2.03 - 2.33 | 2A | | | | | | | | | |

| 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 | | 6.4D | | 0.123D | 0.638A | | | | 2D | 14 | 41 | 24 |
| 0.08 - 0.15 | | 5.4D | | 0.111D | 0.657A | | | | 1D | 13 | 41 | 27 |
| 0.18 - 0.29 | | 2.7D | | | 0.25A | | | | | | | |
| 0.29 - 0.38 | | 1.8D | | 0.07D | 0.179A | | | | 1D | 13 | 29 | 56 |
| 0.38 - 0.53 | | 1.4D | | | | | | | | | | |
| 0.53 - 0.69 | | | | 0.062D | | | | | 1D | 9 | 23 | 69 |
| 0.69 - 0.84 | | | | | | | | | | | | |
| 0.91 - 1.09 | | | | | | | | | | | | |
| 1.24 - 1.45 | | | | | | | | | | | | |
| 1.93 - 2.03 | | | | | | | | | | | | |
| 2.03 - 2.33 | | | | | | | | | | | | |

| 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 - 0.15 | | | | | | | | | | |
| 0.18 - 0.29 | | | | | | | | | | |
| 0.29 - 0.38 | | | | | | | | | | |
| 0.38 - 0.53 | | | | | | | | | | |
| 0.53 - 0.69 | | | | | | | | | | |
| 0.69 - 0.84 | | | | | | | | | | |
| 0.91 - 1.09 | | | | | | | | | | |
| 1.24 - 1.45 | | | | | | | | | | |
| 1.93 - 2.03 | | | | | | | | | | |
| 2.03 - 2.33 | | | | | | | | | | |

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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_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 |