

# Lower Lecket Hill Lava Member

From Earthwise

[Jump to navigation](#) [Jump to search](#)

□

## Contents

- [1 Lower Lecket Hill Lava Member \(LLHLA\), Campsie Block, Carboniferous, Midland Valley of Scotland](#)
  - [1.1 Name](#)
  - [1.2 Lithology](#)
  - [1.3 Stratotype](#)
  - [1.4 Lower and upper boundaries](#)
  - [1.5 Thickness](#)
  - [1.6 Distribution and regional correlation](#)
  - [1.7 Age](#)
- [2 References](#)

## Lower Lecket Hill Lava Member (**LLHLA**), Campsie Block, Carboniferous, Midland Valley of Scotland

Lower Lecket Hill Lava Member is part of the [Clyde Plateau Volcanic Formation](#).

### Name

Previously named the Lower Lecket Hill Lavas (Forsyth et al., 1996)<sup>[1]</sup>.

### Lithology

The Lower Lecket Hill Lava Member consists of lavas of plagioclase-microphyric trachybasalt (hawaiite) (of 'Jedburgh' type) to basaltic-trachyandesite (mugearite) and trachyandesite (benmoreite). Basaltic tuff-breccia and lapilli-tuff are present between the lavas. Along the southern escarpment of the Campsie Fells, the pyroclastic rocks are up to 4 m thick, and incorporate large scoria bombs. Craig (1980)<sup>[2]</sup> interpreted these deposits as indicating derivation of at least some of the Lower Lecket Hill Lava Member from eruptive sources associated with the South Campsie Linear Vent System. In addition, in the vicinity of Meikle Bin (NS 6672 8217) and nearby to the south, the member is apparently interdigitated with tuff, interpreted as a tuff cone deposit (Craig, 1980)<sup>[2]</sup>. In the Alnwick Burn (NS 628 807 to NS 636 803) there are at least seven successive lava flows. These are transitional between trachybasalt (hawaiite) and basaltic-trachyandesite (mugearite) and platy-jointing is common. Only three lavas are present in the Goat Burn (NS 637 793) on the southern escarpment north of the Campsie Fault. The lowest of these is a trachyandesite (benmoreite) lava (Craig, 1980)<sup>[2]</sup>, 12 m thick, with well-developed platy jointing near its base and a crude columnar structure throughout the remainder of the unit. This is separated from a second lava, which is 5 m thick, by 2 m of 'coarse and scoriaceous' tuff (Craig, 1980)<sup>[2]</sup>. The third lava is of basaltic-trachyandesite (mugearite), and is approximately 10 m thick. To the north of Little Bin (NS 673 831), the member is represented by a single lava of basaltic-trachyandesite (mugearite).

## Stratotype

The type area is the easternmost Campsie Fells, and western Kilsyth Hills, north of Glasgow (NS 6178 8000 to NS 6764 8240) (Forsyth et al., 1996)<sup>[1]</sup>. A reference section is the Alnwick Burn, western Kilsyth Hills from (NS 6284 8071 to NS 6365 8057) where at least seven successive lavas have been identified (Craig, 1980)<sup>[2]</sup>.

## Lower and upper boundaries

Across the northern and north-western parts of its outcrop, the base of the Lower Lecket Hill Lava Member appears to be conformable or disconformable on the underlying [Campsie Lava Member](#). However, in the southern and south-eastern parts of its outcrop (NS 6489 7904 to NS 7034 8060) the base is unconformable on older members; on the southern flanks of Cort-ma Law, the Lower Lecket Hill Lava Member rests unconformably on progressively older members from west to east, including the [Loup of Fintry Lava Member](#), and eventually (NS 6548 7914) the [Campsie Lava Member](#); and between the east flank of Brown Hill (NS 6598 7890) and the south-west flank of Garrel Hill (NS 7030 8065) the member rests unconformably either on the [Laird's Hill Lava Member](#), or on the [Campsie Lava Member](#). The unconformity may extend to the western limit of outcrop (NS 6178 8000) where there appears to be thinning of the underlying [Campsie Lava Member](#).

The Lower Lecket Hill Lava Member is generally overlain with apparent conformity or disconformity by the [Boyd's Burn Lava Member](#), whose geographical extent is similar to that of the Lower Lecket Hill Lava Member. The lithological change is mostly to plagioclase-macrophyric hawaiite lavas ('Markle' type). However, in the Meikle Bin area (NS 667 822), lavas of the Lower Lecket Hill Lava Member pass directly upwards into the remnant of the tephra cone associated with the Meikle Bin Trachytic Vent (Waterhead Centre).

## Thickness

Some 50 m at Alnwick Burn (NS 628 807 to NS 636 803); 29 m thick at Goat Burn (NS 637 793) (Craig, 1980)<sup>[2]</sup>.

## Distribution and regional correlation

The member is restricted to the Campsie Block (Forsyth et al., 1996)<sup>[1]</sup> and has a limited geographical extent in the easternmost Campsie Fells and western Kilsyth Hills, north of Glasgow. These rocks mostly crop out in the escarpment north of the Campsie Fault, to the south-west of Lairs (NS 6424 7994), and on the southern flanks of Cort-ma Law (NS 6515 7995). They also crop out: on the upper flanks of Brown Hill (NS 6645 7897), but not on the summit; on the upper flanks of Laird's Hill (NS 6957 8018); on Plea Muir (NS 691 808) east to the south flank of Garrel Hill (NS 7044 8104); on the lower eastern, northern and western flanks of Lecket Hill (NS 6445 8121), including the Alnwick Burn Valley (NS 632 805) ; and on the lower slopes of Meikle Bin (NS 6672 8217).

## Age

Mid Visean (Arundian to Asbian).

## References

- <sup>[1]</sup> <sup>[2]</sup> Forsyth, I H, Hall, I H S, and McMillan, A A. 1996. Geology of the Airdrie district. *Memoir of the British Geological Survey*, Sheet 31W (Scotland)

2. ↑ [2.0](#) [2.1](#) [2.2](#) [2.3](#) [2.4](#) [2.5](#) Craig, P M. 1980. The volcanic geology of the Campsie Fells area, Stirlingshire. Unpublished PhD Thesis, University of Lancaster

Retrieved from

'[http://earthwise.bgs.ac.uk/index.php?title=Lower\\_Lecket\\_Hill\\_Lava\\_Member&oldid=52639](http://earthwise.bgs.ac.uk/index.php?title=Lower_Lecket_Hill_Lava_Member&oldid=52639)'  
Category:

- [Carboniferous lithostratigraphical nomenclature](#)

## Navigation menu

### Personal tools

- Not logged in
- [Talk](#)
- [Contributions](#)
- [Log in](#)
- [Request account](#)

### Namespaces

- [Page](#)
- [Discussion](#)

### Variants

### Views

- [Read](#)
- [Edit](#)
- [View history](#)
- [PDF Export](#)

### More

### Search

### Navigation

- [Main page](#)
- [Recent changes](#)
- [Random page](#)
- [Help about MediaWiki](#)

## Tools

- [What links here](#)
- [Related changes](#)
- [Special pages](#)
- [Permanent link](#)
- [Page information](#)
- [Cite this page](#)
- [Browse properties](#)

• This page was last modified on 26 July 2021, at 15:53.

- [Privacy policy](#)
- [About Earthwise](#)
- [Disclaimers](#)

