

Shetland's volcano

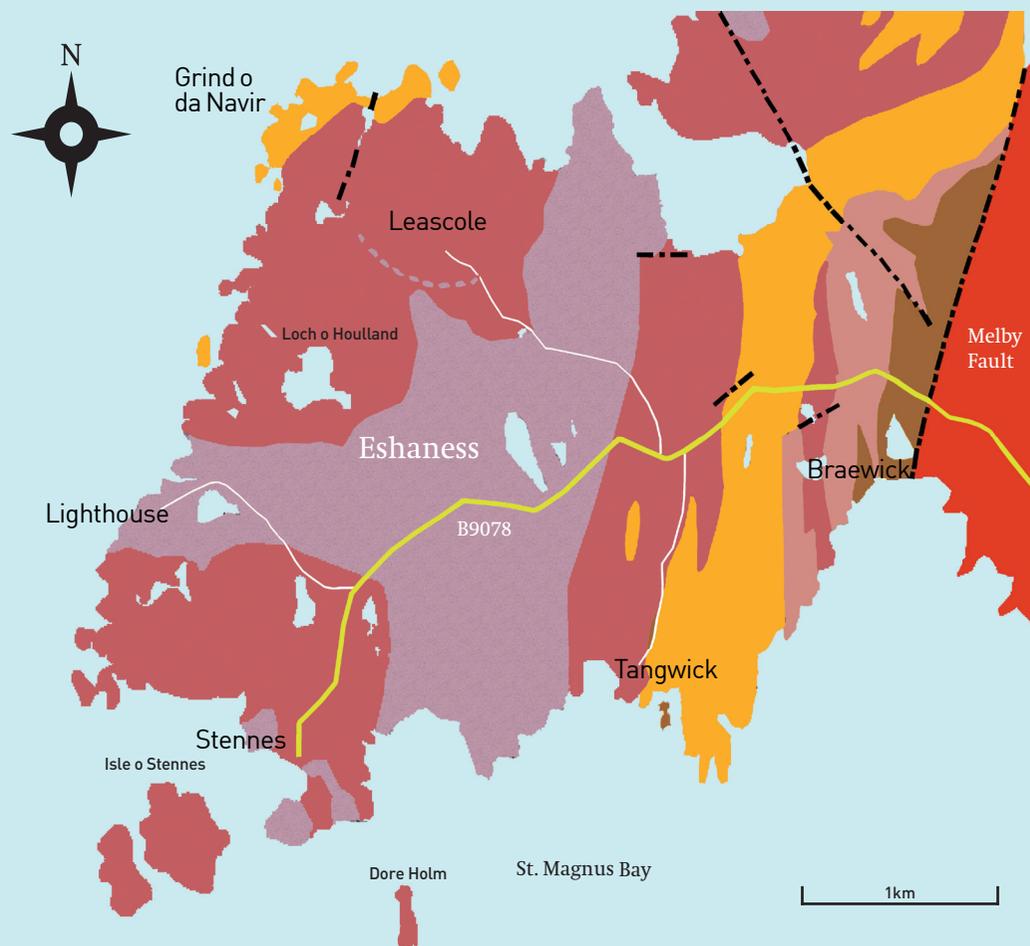
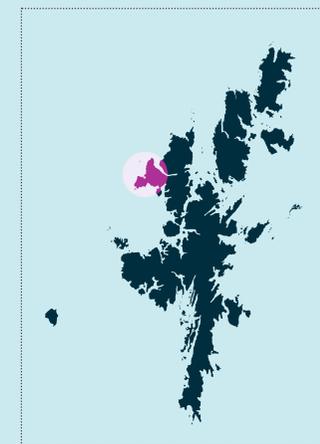


Journey through an ancient landscape and discover a blast from the past...



- Ronas Hill Granite
- Andesite Lavas
- Andesite Agglomerate
- Ignimbrite & Rhyolite
- Basalt Lavas
- Sandstone

- Fault
- Major road
- Minor road



© Davy Cooper



An ancient landscape

420 million years ago, three ancient continents collided to form a huge new landmass called Pangaea. These continents carried what are now North America, Northern, and Western Europe. 'Britain' formed part of this new super-continent. Shetland lay near the Equator and experienced a tropical climate, which varied from wet and humid to dry and arid.



© Paul Harvey

During the Devonian period, 350 - 400 million years ago, Himalayan sized mountains ran along the line of the continental collision. The metamorphic rocks of Shetland and Scotland are what remains of this mountain chain. As the mountains eroded, rivers carried sediments into the valleys below.

The Eshaness volcano lay at the north end of a broad valley containing a massive freshwater lake called Lake Orcadie.

The spectacular cliffs at the end of this trail cut right through the flank of what was the Eshaness volcano. The cliffs reveal layer upon layer of lava and 'pyroclastic' rock, (volcanic ash that was blasted through the air from the volcanic crater). As eruption followed eruption, these layers built up rapidly. They formed a very steep and unstable cone around a central vent, from which the lava and ash continued to spew.

Volcanoes such as these are called stratocone volcanoes. The volcanic cone at Eshaness eroded away long ago.

As the lava cooled, joints and fractures formed in the rocks. The sea has exploited these to carve caves, stacks, blowholes and *geos* (narrow inlets). The rocks have been folded and tilted so as you walk northwards you'll pass through increasingly old lava flows.

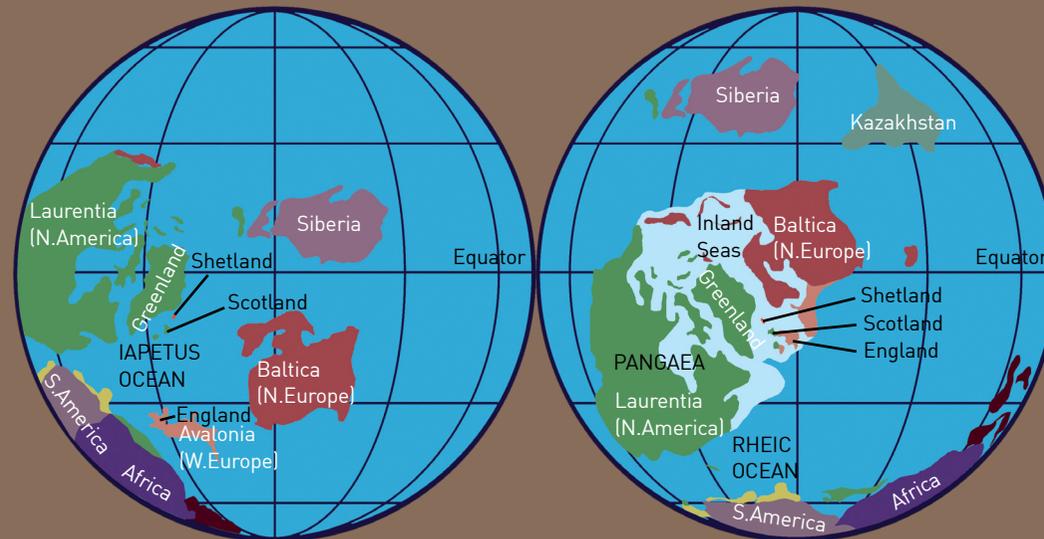
You may wish to refer to BGS Geological map of Scotland Sheet 129 (Northmaven) as you travel along the trail. It will point out various volcanic features along the way.

Eshaness was a stratocone volcano, similar to Mt Fuji in Japan



Courtesy of Wikimedia Commons

Locations of Shetland, Scotland and England before and after the formation of Pangaea



Billion Years Ago

4.6

↓
Age of the Earth

2.8

↓
Oldest rocks in Shetland formed

Million Years Ago

420

↓
Continents collide to form Pangaea. England and Scotland are joined for the first time.

400

↔
Devonian period

350

60

↓
Pangaea splits, dividing North America from Europe, and forming the Atlantic Ocean

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