

Kilchoan

Information Sheet



Location: KILCHOAN

Conservation designations: Geological Conservation Review Site

Grid reference: NM49161 62840

Address: Mingary Pier, Kilchoan, PH33 4LJ. Ferry terminal for Tobermory

Parking available: Yes. Free in ferry car park

Personnel to be contacted prior to visit: None (Calmac Ferries to arrange parking for large groups)

Useful equipment:

- Camera
- Wellington boots and waterproof clothing
- Walking pole
- Binoculars
- Drawing equipment
- Clinometer

Relevance national curriculum:

Earth Resources units of Environmental Science at Nat 3, 4,5 & higher
National Curriculum Es and Os such as SCN 2-17a

Rock types and geological processes observed: Basalt, sandstone, schists, granophyre, gabbro, dolerite, shale, cone sheets

Geological structures: Sedimentary bedding, cone sheets, ring dykes, dykes, sills

Earth processes: eg. Igneous intrusions, weather and erosion

Geological periods present: Precambrian; Triassic; Jurassic; Palaeogene

Site specific hazards and risks:

- Inclement weather (leading to hypothermia, sunburn etc.) and/or people being ill prepared for walk (leading to hypothermia, sprained ankles, lack of fitness for route etc.)
- Tidal zone – if venturing out to shore be sure to check the tidal forecast
- Tripping and slipping from high dykes and cone sheets
- Ticks (Lymes disease)
- Anaphylactic shock from insect or sea creature bites and stings

Mitigation measures:

- Park in ferry parking area and stay off the road
- Watch weather and tidal forecast and take extra weather protection e.g. sunscreen, hat, waterproofs. Hand out kit list in advance and check kit before setting off.
- Take first aid kit and emergency communication. First aider present.
- Keep everyone together, warn of dangerous areas and set boundaries
- Issue tick warning and advice. Include tick remover in first aid kit.
- Take insect repellent

Did you know: The cone-sheets at Kilchoan are part of the Ardnamurchan complex, underlying one of the four great volcanoes of the Island of Mull, Ardnamurchan, Rum and Skye that marked the opening of the North Atlantic. Related features can be found at the Giant's Causeway and Causeway Coast World Heritage Site in Northern Ireland. The plate tectonic processes responsible for the formation of these features are still in operation at the Mid Atlantic Ridge and can be seen in Reykjanes and Katla UNESCO Global Geopark in Iceland today.

Topics to cover before visit: Plate tectonics, igneous and sedimentary processes

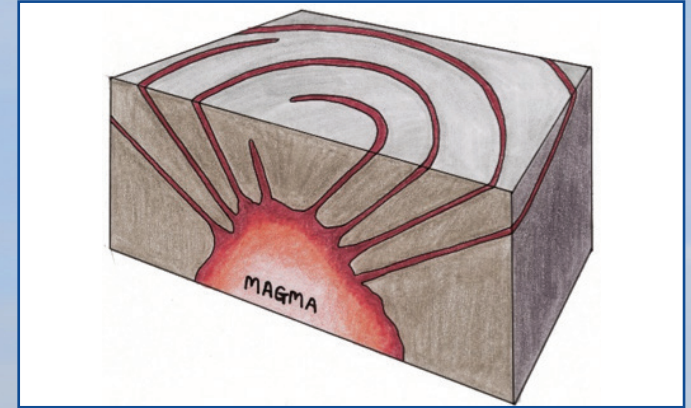
Keywords: Volcano, Lava, Magma, Basalt, Ring-Complex, Sedimentary Rocks, Triassic, Intrusions, Palaeogene, Palaeocene, Fractures, Cone Sheets.



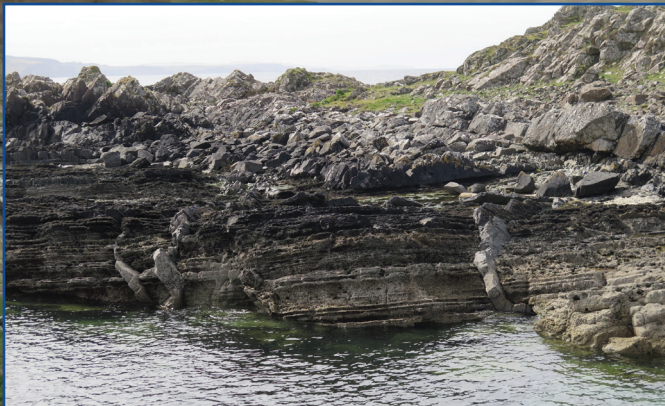
Feature 1: An aerial view of the geological map looking across the Ardnamurchan peninsula showing the rocks arranged in overlapping rings.



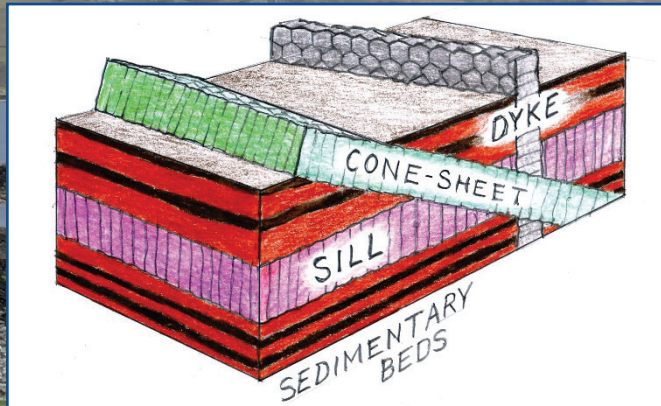
Feature 2: Thick cone-sheets inclined towards the left, north of the Pier.



Feature 3: Funnel-shaped cone sheets focused on a magma chamber.



Feature 4: Triassic sedimentary rocks cut by cone-sheets and two narrow dykes, Mingary Pier.



Feature 5: Bedded sedimentary rocks (in red) intruded by a sill, a cone-sheet and a dyke.



Feature 6: Ben Hiant from the Pier, with cone-sheets in the foreground.

Geological history*:

The Ardnamurchan volcano stood here 60 million years ago. Most of the volcano has been eroded away and at the surface we see rocks that formed in a magma chamber beneath. Together with centres on Mull, Rum and Skye, it is one of four great volcanoes in the West Highlands that formed as the North Atlantic began to open.

Ardnamurchan is a world-famous example of a 'ring complex' (Feature 1). It is composed of rings of gabbro that are cut by 'cone-sheets' of basalt (Feature 2) which focus on three centres, the site of moving magma chambers (Feature 3). At Mingary Pier cone sheets and dykes (Features 4, 5) cut through Triassic and Jurassic sediments that formed the foundations of the volcano.