

## 7. FORMER LEAD MINE

*On the return journey from the Lime Kiln to the car park along the track, at the point due south of the East Lomond peak, look down slope to the right to a group of farm buildings.*

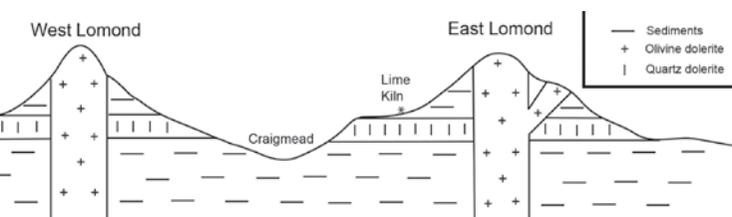
This is Hanging Myre Farm and lies close to an old lead and silver mine which was working around 1783. However it did not last for long. Professor M.F. Heddle, mineralogist and chemist at the University of St. Andrews, declared in 1901:

*"the content of silver and other wonders are the statements for the most part of interested parties They [the rocks] do not now even yield lead."*

The veins which contained lead and silver resulted from hot fluids from the quartz dolerite sill, which scavenged various elements from the host sediments, depositing them in fissures when the magma cooled.

To the south lies the town of Glenrothes, centre of an active coal-mining industry until the 1980's.

*Continue east along the wide track to the car park.*



Geological cross-section of the Lomond Hills

## Find Out More

The Living Lomonds Landscape Partnership is an association of organisations in Fife and Perth & Kinross. Our aim is to re-connect people with the living legacy of the Lomond and Benarty Hills through a range of community based activities, volunteering opportunities and projects.

Visit the Living Lomonds website [www.livinglomonds.org.uk](http://www.livinglomonds.org.uk) to print more copies of this leaflet and other themed walks in the area and to access the links detailed below.

### MAKE YOUR WALK ENJOYABLE

Please wear sturdy footwear, take suitable clothing and some water and be aware that the weather can quickly change. A walking pole could be useful.

### TRAVEL

From the A912 Muirhead to Falkland road take the turning at [NO2715.0613] signposted "East Lomond, Car Park, Picnic Area". This junction is 1.5km NW from the Muirhead roundabout and 2.2km SE of Falkland village. Follow this road and park in the public car park by the Relay Station masts. Public toilets are in the low stone building just east of the Relay Station masts.

### By Bus:

Local transport links on [www.travelinescotland.com](http://www.travelinescotland.com)

geoHeritage Fife was set up in 2000 to:

- \* publicise Fife's geological heritage
- \* provide educational resources in geology
- \* promote geotourism

geoHeritage Fife | 01334 828623 | Scottish Charity No. SC 032509  
Fife Local Geodiversity Sites (LGS) is concerned with identifying and assessing important sites and notifying the statutory planning authority of these sites. Fife RIGS was incorporated into geoHeritage Fife in 2005.

With thanks to our funders

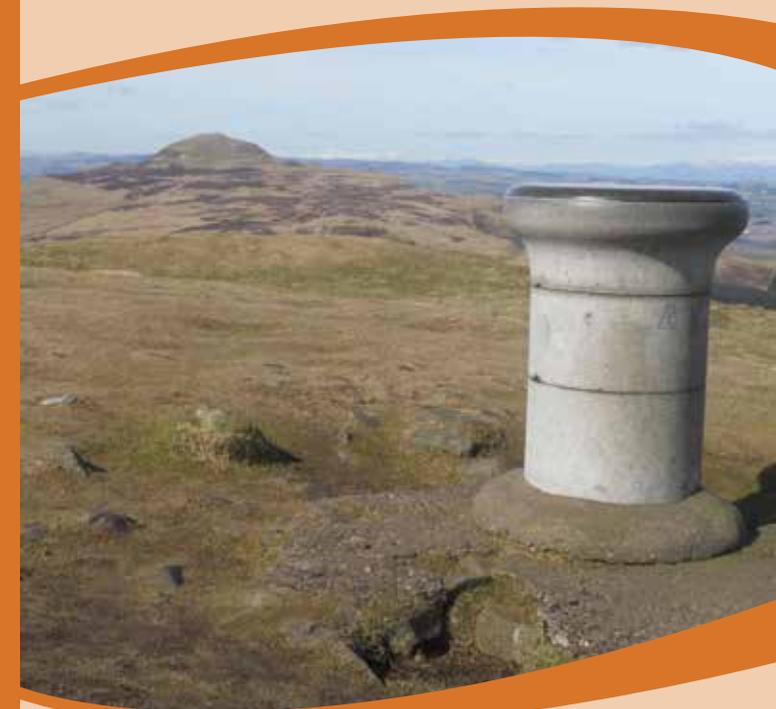


KINBURN (St Andrews)  
CHARITABLE TRUST



## East Lomond

### Geology Themed Walk



Re-connecting people  
with the hills

Historic Landscape



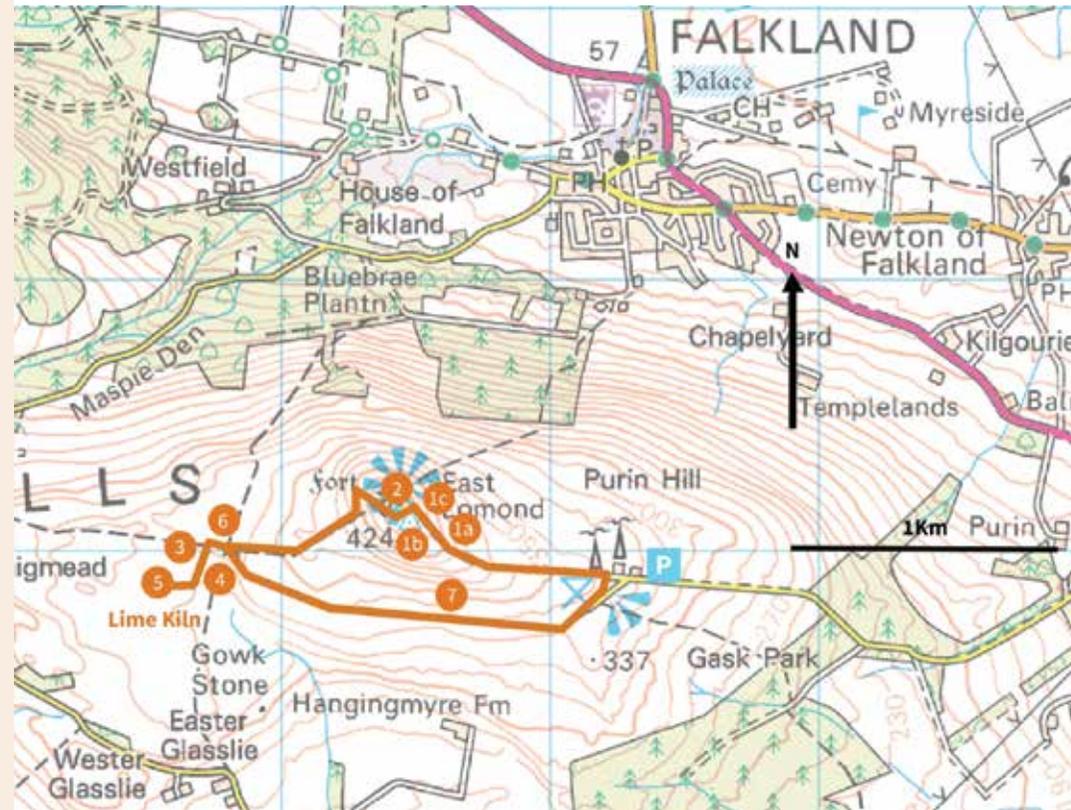
LOTTERY FUNDED

## Geological History

The oldest rocks of the area are **sedimentary** rocks deposited in southern desert latitudes during the Devonian period 410-354 million years (Ma) ago. Most of the local rocks formed during the Carboniferous Period, 354 -299 Ma, when this part of the Earth lay close to the Equator. The landscape was dominated by rivers carrying sediment eroded from the Highlands into deltas and lagoons. These layers of sediment now form sandstone and mudstone. Coal seams formed from the decay of lush tropical forests. Limestone was deposited when the sea flooded low lying areas, preserving fossils of shells, crinoids ("sea lilies") and corals.

The Lomond Hills, the Bishop Hill and Benarty are the result of the intrusion 307 Ma ago of a layer of molten **magma** between layers of **sedimentary** rock, to form a sill of the dark-coloured **igneous** rock quartz **dolerite**. Rock previously overlying the sill has mostly been eroded away, and the hard dolerite has protected the underlying **sedimentary** rock from later erosion. The sill forms the ridge between the Lomonds, the shoulder at the west end of the West Lomond, and the upper parts of the Bishop Hill and Benarty. The Lomond Hills peaks are two extinct volcanic pipes, which cut through the sill and are now filled with 297 Ma old olivine **dolerite**.

Between 19 000 and 13 000 years ago the area was covered by ice, which modified the underlying landscape.



### GLOSSARY

**ANDESITE:** A volcanic lava, dark and fine-grained.

**DOLERITE:** A coarse-grained igneous rock intruded into older rocks. Prefixed by "Quartz" or "Olivine" depending on the characteristic mineral.

**GRANITE:** A coarse-grained igneous rock, intruded deep underground.

**IGNEOUS:** Rocks formed from the cooling of molten magma

**JOINTED:** Cracks in rocks.

**LIMESTONE:** A sedimentary rock made of calcium carbonate, often containing fossils.

**METAMORPHIC:** Rock modified by intense heat and/or pressure.

**MUDSTONE:** A sedimentary rock formed mostly from mud.

**SANDSTONE:** A sedimentary rock formed by the accumulation of sand grains.

**SEDIMENTARY:** Rocks formed from sediments eroded from older rocks.

### GRADING ROUTE

**Terrain:** Follow the old drovers' road west and discover the geology of East Lomond and visit the old Limekiln a fascinating part of the industrial history of the Lomond Hills.

Wide firm, grassy path with long fairly steep section leading down to car park. Can be muddy after rain.



strenuous

**Distance:** 2.5 miles/4km

**Time:** 1 3/4 hours

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## 1. EAST LOMOND VOLCANIC ROCK

*Start at the picnic area near the Relay Station. Take the main path towards the top of East Lomond hill.*

1a. This view of East Lomond from the path shows the distinctive rounded top with a shoulder to the left (south), formed by an intrusion of **olivine dolerite** (see the dotted lines). This intrusion cut through the older **quartz dolerite** sill - see geological cross-section.

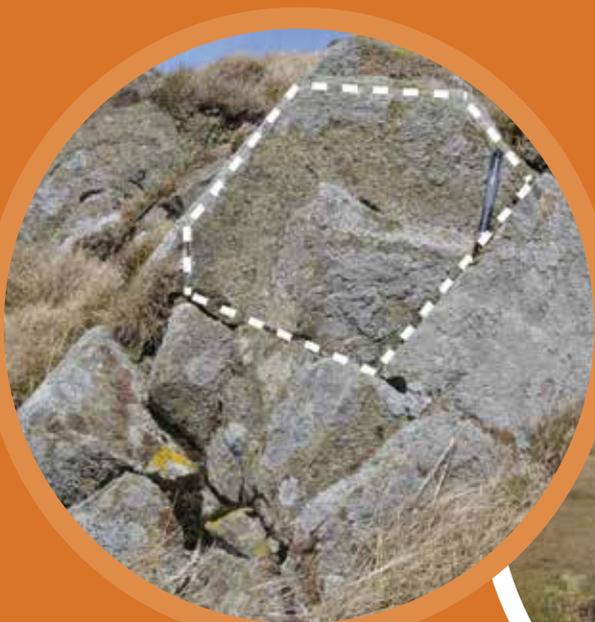


Go through gate in fence and continue on main path towards summit, to rock outcrops as the path begins final ascent to summit. At first outcrop walk left (west) 30m to a rock exposure on the grassy slope to the right. Climb up the grassy slope to inspect the rocks.



1b. Exposure of dark **olivine dolerite** shows six-sided columnar jointing. The columnar structure is caused by shrinkage as the molten rock cooled.

1c. Irregular jointing in **olivine dolerite** can be seen in the footpath.



## 2. VIEW FROM SUMMIT

A viewpoint plaque sits on a plinth of fine grained grey **granite**. To the north the low land in the foreground is Stratheden, underlain by relatively soft red **sandstone** and **mudstone** of Devonian age (410 - 354 Ma old). The uplands immediately to the north are Devonian lavas of the North Fife Hills. Further north and west the hills of the southern Highlands are made of hard, ancient **metamorphic** rock. Immediately to the west are the West Lomond and Bishop Hills (see separate leaflets). On the west side of the summit **dolerite** is again exposed, and is **jointed** and hard.

## 3. SHARKS IN THE HILL PLINTH

*Retrace your steps to the car park. At the picnic area turn right (west) and follow the path for about 1.5km around the hill and through a gate on the left signposted "Limekiln Trail".*

A steeper descent is possible from the SW side of the summit, but should only be attempted if confident of footwear and fitness on steep grassy slopes. Go through the gate labelled 'Limekiln Trail'.

At the plaque entitled "Sharks in the Hills" note the plinth on which it sits. It is faced with a variety of local rocks - golden and grey **sandstones**, **dolerite**, **limestone** and crumbly lava.

*Behind the plinth there is a scree slope which was the site of a former limestone quarry.*



## 4. OLD QUARRY

In the low cliff is an outcrop of mudstone which overlies the limestone quarried here. Do not climb this cliff – the rock face is unstable. Pieces of mudstone can be seen at the bottom of the scree slope, and may contain small fragments of plant and shell fossils.

*Follow the circular path to the kiln.*

The **limestone** is exposed in the path east of the flooded quarry.



## 5. LIME KILN

The kiln was built around 1825 to burn the local **limestone**. It was filled from the top with layers of **limestone** and locally mined coal. After burning, lime was scraped out from the holes (“eyes”) at the base of the kiln. The lime was used in agriculture and lime mortar.



**Disturbed ground - site of old limestone quarry**

## 6. FORMER QUARRY

*Retrace your steps to the gate signposted “Limekiln Trail”. Cross the track to the opposite (north) side and look over to an area of hummocky ground.*

This rough ground is the site of an earlier limestone quarry known as East Law Quarry. It was worked in the early 19th century.

