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# Corstorphine Hill

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## Introduction

Corstorphine Hill is only 161 metres (531 feet) high. Its long low L-shaped wood-covered ridge rises above Edinburgh's western suburbs at the back of Edinburgh Zoo. On the summit is a tower dedicated to Sir Walter Scott, and two prominent communication pylons.

The shape of Corstorphine Hill, and the useful rocks found here, are due to geological processes: both long ago, in the Carboniferous Period (around 340 million years ago) and the much more recent processes of erosion.

This webpage, based on our printed leaflet, guides you around the hill to find different rocks, evidence of their use by people, and a variety of views. The hill is now a [Local Geodiversity Site](#), having originally designated as a Regionally Important Geological Site in 2000. It is also a Local Nature Reserve. The area is managed by the City of Edinburgh Council Natural Heritage Service, assisted by the Friends of Corstorphine Hill.

## Visiting Corstorphine Hill

Corstorphine Hill is 5km west of Edinburgh city centre, lying between Corstorphine Road and Queensferry Road. There are many access points around the hill and a good path network. It is easy to get to the hill by bus, with many services along the main roads to the north and south. Lothian Buses services 1 and 26 terminate at Clermiston, on the west site of the hill. There are two small car parks and on-street parking. There is no visitor centre or facilities. You can find out more about visiting from the Edinburgh Outdoor website ([www.edinburghoutdoors.org.uk](http://www.edinburghoutdoors.org.uk)).

## Safety and Conservation

The walks described below follow paths that may be rough in places. There are steep cliffs. The site is a Local Geodiversity Site and a Local Nature Reserve. The [Friends of Corstorphine Hill](#) are a group of people who have joined together to help look after the Corstorphine Hill area, for the benefit of people, animals, plants and the landscape. Their website has a lot of useful information and the group organises events including open days at Clermiston Tower.

## Acknowledgements

The Corstorphine Hill leaflet was written originally by David McAdam and published in 2001. This edition produced by [Lothian and Borders GeoConservation](#), a committee of the Edinburgh Geological Society, a charity registered in Scotland Charity No: SC008011.

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## How Corstorphine Hill was formed (Figure 1)

1. Around 340 million years ago, a large river delta covered this area. Beds of sand were laid down by a river the size of the modern-day Mississippi. Silt and mud settled in tree-lined lagoons.
2. Gradual burial turned the sand into sandstone, the silt into flagstones. Volcanoes, such as Arthur's Seat, erupted around Edinburgh. At Corstorphine the molten rock (magma) did not reach the surface but was forced between the sedimentary strata to form a layer of igneous rock — a dolerite sill.

3. The Earth's tectonic plates moved and built mountains. The still-buried rock of Corstorphine Hill was tilted to the west. Erosion began and continued for hundreds of million years to reveal the tough dolerite rock.
4. Ice sheets flowed from the west during the last two million years. Laden with rocks, the ice sand-papered and moulded the top surface of the dolerite sill into glaciated pavements. To the east, steep slopes hide the softer sandstone and flagstone. The hill is a large 'roche moutonnée', a landform caused by ice erosion.
5. After the ice melted, 15 thousand years ago, trees covered the steep east slopes of the hill. Gorse and scrub grew on the ice-smoothed dolerite of the gentler west slopes. People quarried the dolerite for roadstone and both the dolerite and Ravelstone Sandstone for building. The height of the hill has been utilised for a memorial tower and communication pylons, as well as for a cup-mark site in earlier times.

## **Walks around Corstorphine Hill (Figure 2)**

'The Woods' is the local name for Corstorphine Hill and the extensive tree-cover is shown by darker green on the map. The woods are criss-crossed by many tracks and paths. It is easy to get lost!

### **North Ridge (purple route on map)**

The top of the hill is the best place to see the glaciated pavements, and the tilted top of the dolerite sill that forms gentle slopes to the west. Several dolerite quarries have been cut into the sill. Take in the view-point to the west. The steeper eastern slopes conceal sedimentary rocks as in the Pavement Quarry and sandstone quarries. Look for fossil shells and plant stems in the loose debris.

### **Rest-and-be-Thankful (red route on map)**

The ridge of Corstorphine Hill extends east along a glaciated pavement on the top of the ridge. The path goes between the Zoo and Murrayfield Golf Course. Look out for zebras, ostriches or antelopes in the Zoo's African Plains enclosure. Three of the illustrated view-points can be seen from here. The Rest-and-be-Thankful is the spot where travellers used to pause and get their first glimpse of Edinburgh before continuing into the city.

### **Corstorphine Hill Tower (blue route on map)**

From the Clerwood bus terminus, walk 100 metres along the path beside Clermiston Road. Cross and take the gated track, uphill past the old walled garden to the tower. The tower can also be reached easily from Kaimes Road or the Rest-and-be-Thankful.

## **Highlights**

Corstorphine Hill Tower [NT 2064 7384] is a memorial to Sir Walter Scott (1771–1832) a prolific Scottish historical novelist and poet. The tower, constructed in 1871 is also known as the Clermiston Tower or the Scott Tower. It is built on glaciated dolerite at the summit of Corstorphine Hill. It is square in plan, with buttressed corners and has a corbelled, battlemented parapet surrounded by a small tower. It is built of coursed dolerite from quarries on the hill, with dressed Edinburgh sandstone.

The tree cover hinders views from Corstorphine Hill. Views from four good vantage points are illustrated. From the top of the tower, an even more magnificent all round view can be obtained.

The Walled Garden [NT 2036 7376] A wall can be a good place to see natural local stone. Early walls across the hill used dolerite. Later walls may use imported stone. The east wall of the Walled Garden was restored in 2004 and its geology is described in detail in a leaflet written by Grant M Young available from the Friends of Corstorphine Hill.

Dolerite Quarries [NT 2049 7436] and [NT 2034 7478] to the north of the hill reveal the inside of the sill, seen here tilting to the west. It is a massive, hard, crystalline igneous rock. The magma cooled into solid rock. As this hot rock continued to cool, it contracted and prominent cracks, called joints, developed. Commonly known as whin or whinstone, dolerite was once quarried for building walls and houses. Elsewhere in the Lothian area, it is still quarried for aggregate.

Pavement Quarry [NT 2036 7498] reveals slabby sedimentary siltstone strata, hardened by the heat of the dolerite magma. These thin slabs proved ideal as flagstones.

Fossils of mussel-like shells occur in loose blocks in the quarry. These molluscs lived in lagoons and also attached themselves to fragments of wood washed into rivers from trees along the banks.

Spectacular ice-smoothed surfaces on the western slopes [NT 2053 7415] are known as a glacial pavement. Grooves, sandpapered by boulders and pebbles at the base of the ice-sheet, are all oriented at 80°N, the direction of ice flow.

Boulder clay is the name given to the piles of moraine containing clay, stones, pebbles and boulders left behind by the ice 15 thousand years ago. This underlies the cultivated grass fields on the lower slopes. These have ridges aligned in the same directions as the glacial pavements.

Spoil heaps of large boulders were created by the quarrymen throwing unwanted blocks down the north-east slopes.

## **The Wider Geology**

From Corstorphine Hill the full width of the Midland Valley can be appreciated. To the north-west, you can see the 600 million-year-old rocks of the southern Highlands, over 80km away. The rounded Lammermuir Hills of folded 500 to 400 million-year-old greywacke and mudstone — part of the Southern Uplands — lie 40km to the south-east.

The hills in the Midland Valley are mainly hard igneous rocks. Blackford Hill, the Ochil Hills and the Pentland Hills are 400 million year old (Lower Devonian) andesite lava flows and ash layers, with sandstone and conglomerate. The other hills are of Carboniferous age, 360 to 300 million years old. Some are the sites of volcanoes with their basalt lavas, such as Arthur's Seat, the hills of Fife and East Lothian, and the Bathgate Hills. Others, such as Dalmahoy Hill, Cramond Island and Salisbury Crags, are dolerite sills like Corstorphine Hill.

This are also signs in the landscape of how the geology has been used by people — including the red oil-shale bings in West Lothian, the remains of a century of extraction of hydrocarbons from rock.

## **Archaeology**

Well-formed cup markings on a glacial pavement of dolerite were rediscovered in 1991. Their location offers wide views to the west. They are probably part of a sacred landscape of Neolithic or early Bronze Age (c3600-1500 BC), but their precise purpose remains tantalisingly unknown. At the end of the 19th century, quarrying uncovered remains of settlement debris: shells, bones, stone tools and pottery. (contributed by Anna and Graham Ritchie).

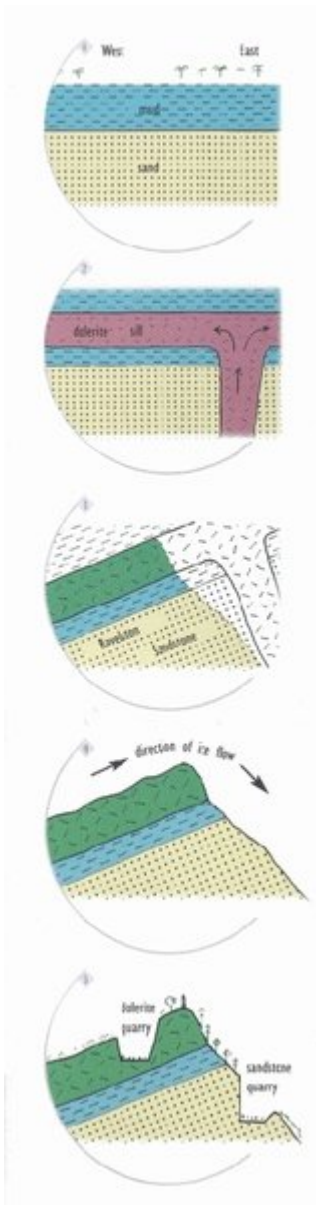
## **Panoramas**

View west (Figure 3) From the Pentland Hills on the left, across the Bathgate Hills and the distant Highland peaks to the Ochil Hills.

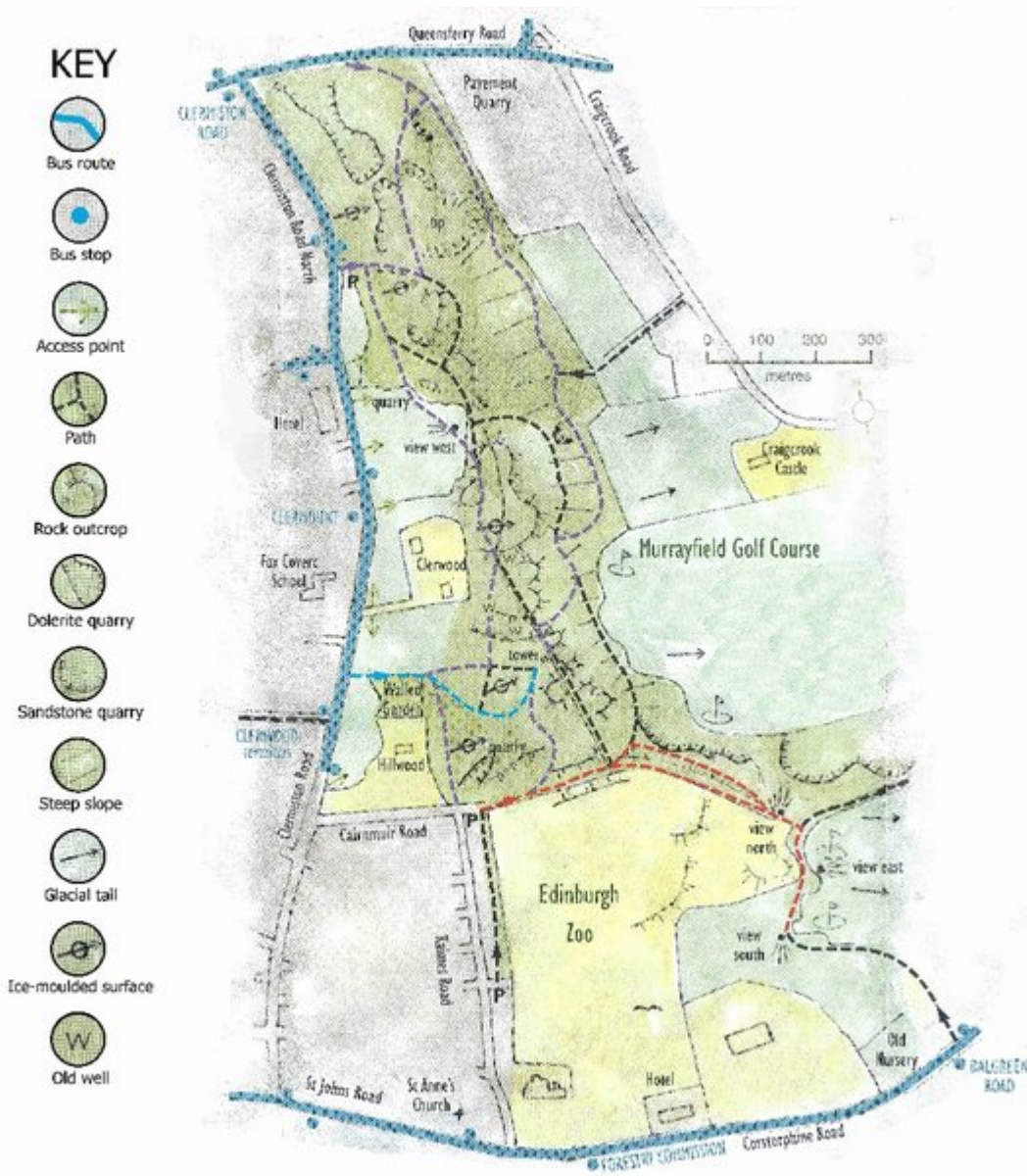
View north (Figure 4) Looking across the northern suburbs of Edinburgh and the island-studded Firth of Forth to the volcanic hills of Fife.

View east (Figure 5) From Rest-and-be-Thankful the full glory of the volcanic hills of Edinburgh can be seen, along with the hills of East Lothian beyond. The distant Lammermuir Hills to the south-east complete the view.

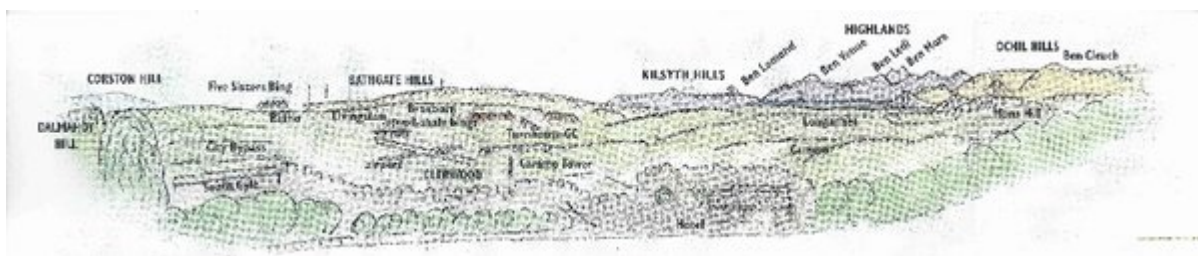
View south (Figure 6) To the full length of the Pentland Hills.



(Figure 1) How Corstorphine Hill was formed.



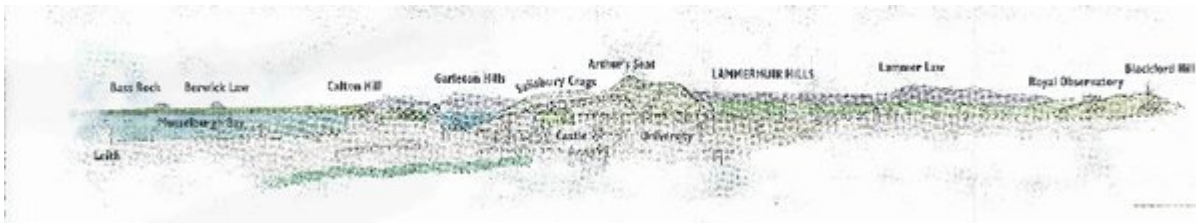
(Figure 2) Map, walks around Corstorphine Hill.



(Figure 3) Panorama. View west. From the Pentland Hills on the left, across the Bathgate Hills and the distant Highland peaks to the Ochil Hills



(Figure 4) Panorama. View north. Looking across the northern suburbs of Edinburgh and the island-studded Firth of Forth to the volcanic hills of Fife.



(Figure 5) Panorama. View east. From Rest-and-be-Thankful the full glory of the volcanic hills of Edinburgh can be seen, along with the hills of East Lothian beyond. The distant Lammermuir Hills to the south-east complete the view.



(Figure 6) Panorama. View south. To the full length of the Pentland Hills.