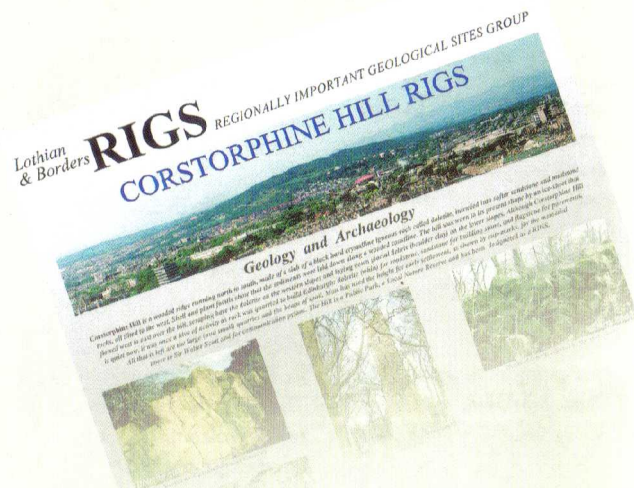


Why do geological features such as Corstorphine Hill need caring for?

Geology has a great influence on everyday life including beautiful landscape and biodiversity. Soils and rocks provide essentials of life like water and raw materials for manufacturing and construction. Land is needed for housing, commerce, mineral extraction, waste disposal, forestry, recreation, wildlife conservation, etc. These may destroy, damage, bury or obscure geological features.



What is a RIGS? What are its planning implications?

A RIGS is a landscape, landform or rock feature identified by the local RIGS Group as having particular value for educational and tourist interpretation; for academic research; for the history of science; or for its aesthetic appearance. With the permission of the landowner, such as Edinburgh Council for Corstorphine Hill, RIGS are indicated to the local Council.

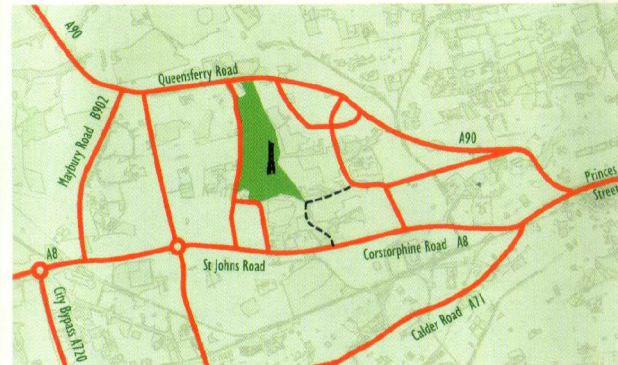
Copies of the leaflet from the supporting organisations.
Bulk copies and the posters from
Lothian & Borders RIGS Group
Chairman (Mike Browne), Secretary (David McAdam),
c/o British Geological Survey, Murchison House,
Edinburgh, EH9 3LA

How to reach Corstorphine Hill

By bus: many services run along Corstorphine Road and Queensferry Road; some along Clermiston Road North and Drum Brae Drive; LRT No. 26 and First No. 86 run along Clermiston Road to the Clerwood Terminus.

By car: two small car parks (P) or park carefully on street.

On foot: many access points for walkers round the hill.



Original leaflet designed and produced by Graphic Services, Heriot-Watt University, 2001. Supported by Hanson Environmental Fund, Curry Fund of the Geologists' Association, Friends of Corstorphine Hill, National Museums of Scotland, British Geological Survey, Corstorphine Community Council, Corstorphine Trust, Drum Brae Community Council, Edinburgh Geological Society, Edinburgh Rangers Service, Edinburgh Science Festival and Green Belt Trust.

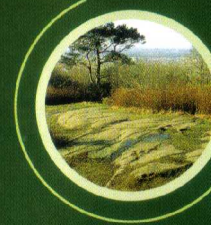
Reprint with minor alterations, 2004. Supported by Scottish Natural Heritage, Friends of Corstorphine Hill, National Museums of Scotland and British Geological Survey.



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labrigs@bgs.ac.uk

www.edinburghgeolsoc.org/rigs

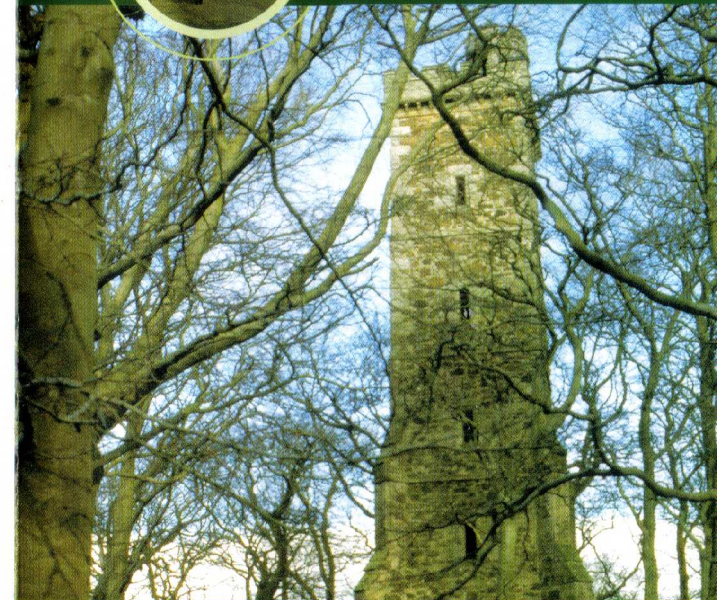
Corstorphine Hill



Geology
and Panoramas



Archaeology
and Walks



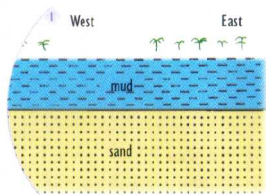
Regionally Important Geological Site



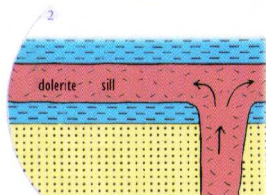
Lothian & Borders
RIGS Group



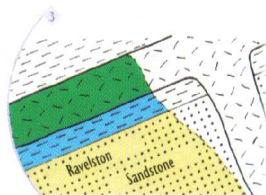
Making of Corstorphine Hill...



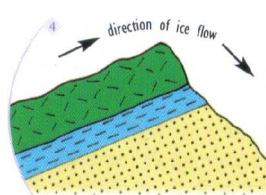
1 Some 340 million years ago Corstorphine was the site of a Mississippi-like delta. Beds of sand were laid down by a large river. Silt and mud settled in a tree-lined lagoon.



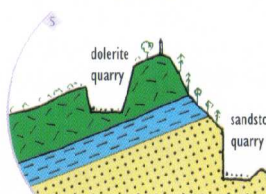
2 Burial turned the sand into sandstone, the silt into flagstones. Volcanoes, such as Arthur's Seat erupted around Edinburgh. At Corstorphine the molten rock (magma) did not reach the surface but was forced (intruded) between the strata to form a layer (sill) of whinstone (dolerite).



3 The Earth's plates moved and built mountains. The still-buried Corstorphine Hill was tilted to the west. Erosion began the process of wearing down the mountains over many millennia to reveal the Corstorphine Hill we see today.



4 Ice-sheets flowed from the west during the last 2 million years. Laden with rocks, the ice sandpapered and moulded the top surface of the dolerite sill into glaciated pavements. To the east, steep slopes hide the softer sandstone and flagstone. Further east, ice moulded the land into tail-features.



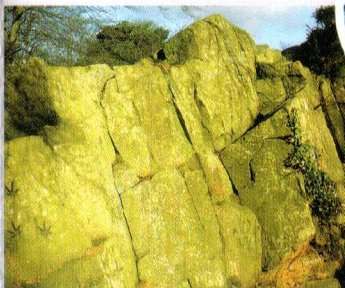
5 After the ice melted less than 15 thousand years ago, trees clothed the steep east slopes of the hill, mainly gorse and scrub on the ice-smoothed dolerite of the gentler west slopes. Man quarried the dolerite as whinstone and the Ravelston Sandstone as building stone; and used its height for a cup-mark site, a memorial tower and communication pylons.

...some Geology

Sandstone wall: Walls can be the best place to see natural stone. Early walls used dolerite from the hill; later walls, as this example, may use imported stone.



Dolerite quarry: Inside of dolerite sill seen tilting to the west. It is a massive, hard, crystalline igneous rock. Prominent cracks, called joints, formed as rock shrank when the magma cooled. Commonly known as whin or whinstone, once quarried for building walls and houses, and now won, as at Ratho, for surfacing roads.



Photomicrograph: Crystals in dolerite as seen under a geological microscope.

Pavement Quarry: Slabby sedimentary siltstone strata, hardened by the heat of the dolerite magma, proved ideal as flagstones. Fossils occur in loose blocks.



Fossils of mussel-like shells which lived in lagoons and fragments of wood washed into rivers from trees along the banks.

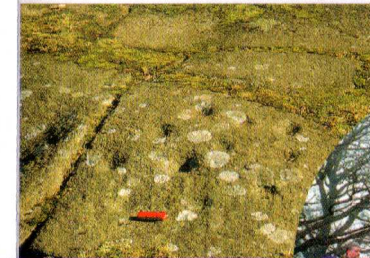


...and Archaeology

Well-formed cup-markings on a glacial pavement of dolerite, rediscovered in 1991. Their location offers wide views to the west. They were 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.

Anna and Graham Ritchie.



Glacial Pavement:

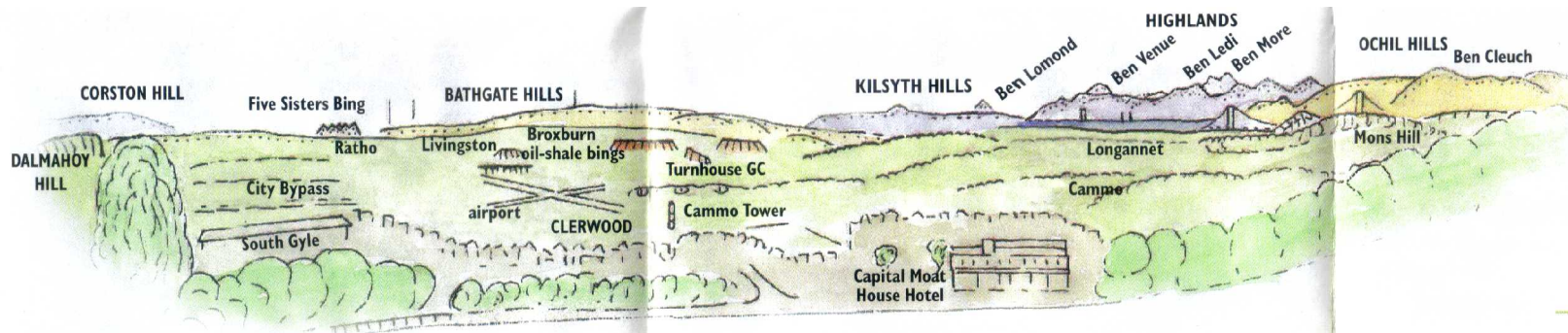
Spectacular ice-smoothed surfaces on the western slopes. Grooves, sandpapered by boulders and pebbles at the base of the ice-sheet, are all oriented at 80°, the direction of flow.



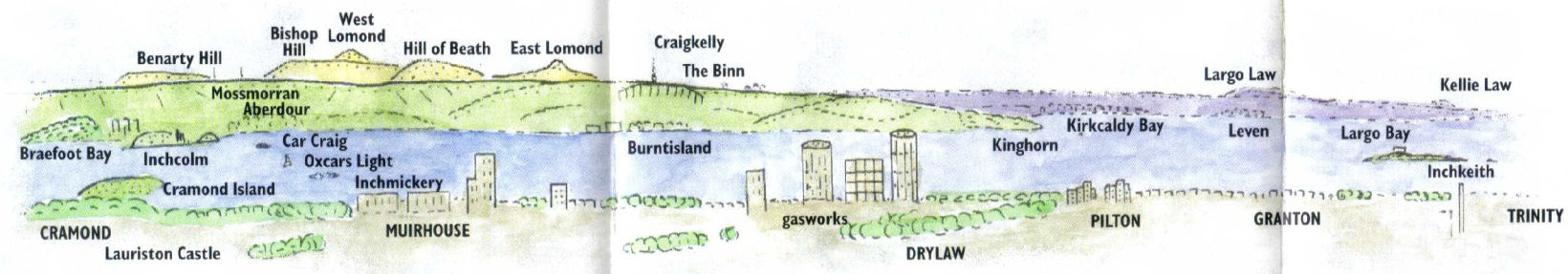
Boulder clay: the morainic debris of clay, stones, pebbles and boulders left by the ice 15 thousand years ago forming the cultivated grass fields on the lower slopes. These have ridges aligned in the same direction as the glacial pavements.



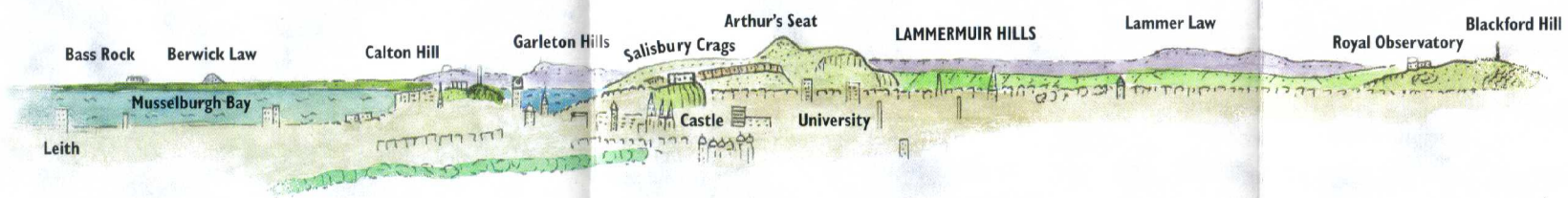
Spoil: Large boulders rejected by the quarrymen tipped down the north-east slopes.



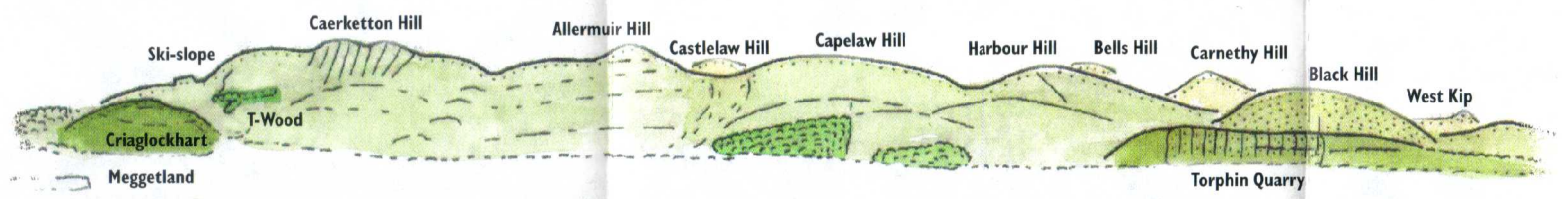
View west
from the Pentland Hills, the Bathgate Hills, the distant Highland hills to the Ochil Hills.



View north
across the northern suburbs of Edinburgh and the island-studded Firth of Forth to the volcanic hills of Fife.



View east
from Rest-and-be-Thankful the full glory of the volcanic hills of Edinburgh and East Lothian beyond, with the Lammermuir Hills in the distance.

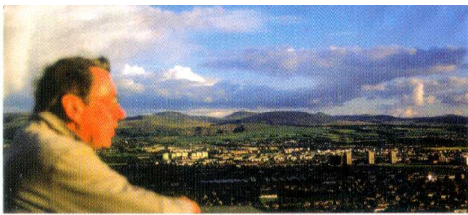


View south
to the full length of the Pentland Hills.

Mainly for the geologist: from Corstorphine Hill, the full width of the Midland Valley of Scotland can be appreciated: from the 600 million-year-old Southern Highland bens over 80 km away to the north-west, to the rounded Lammermuir Hills of folded 500 to 400 million-year-old Silurian and Ordovician greywackes and shales, 40 km 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 lavas and ashes, with sandstones and conglomerates. The other hills are Lower Carboniferous, 325 to 300 million years old. Some are the sites of volcanoes and 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. Man's influence on the glaciated landscape is clear: from the red oil-shale bings of West Lothian to the modern Gyle Centre.



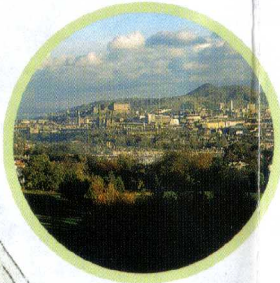
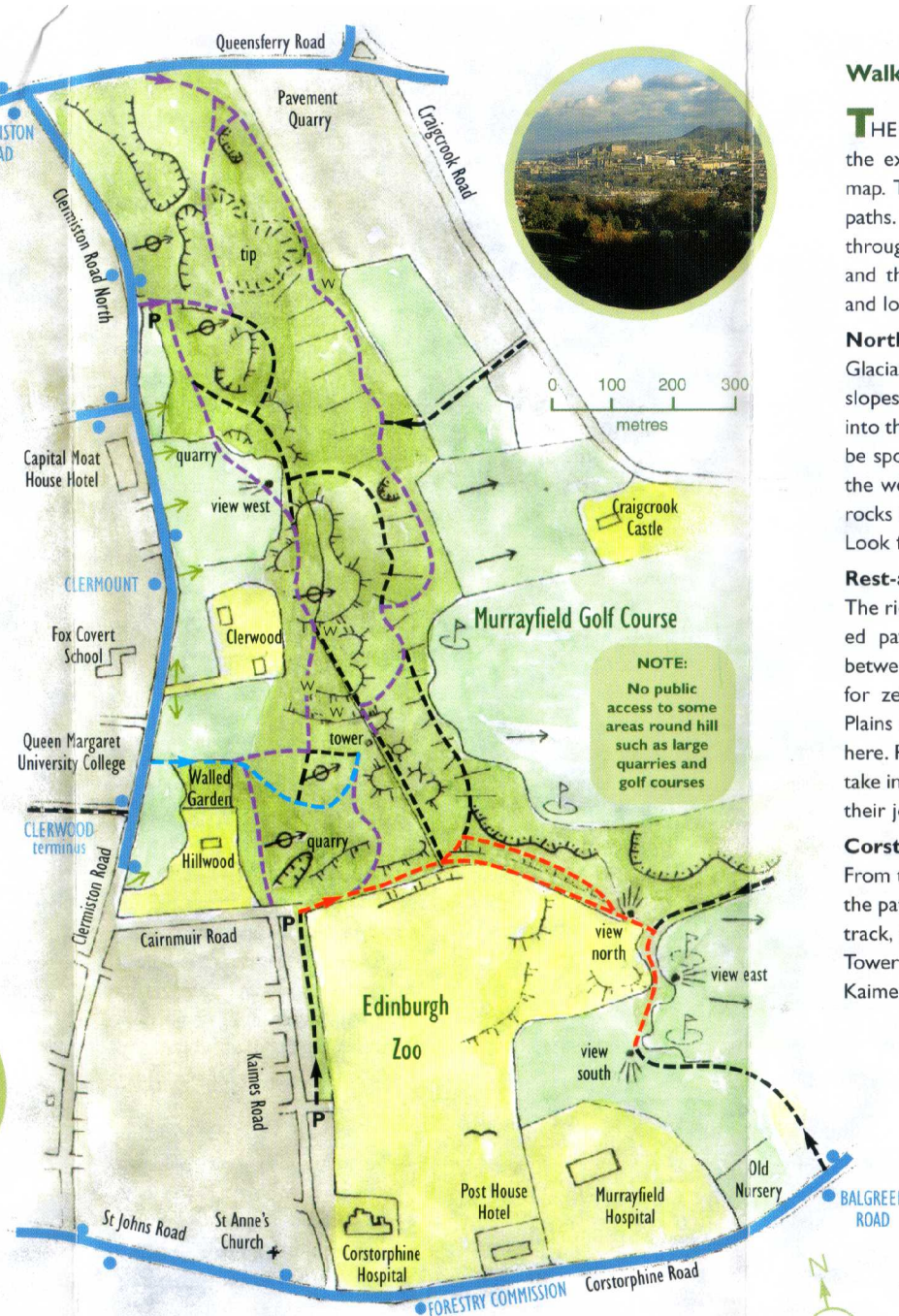
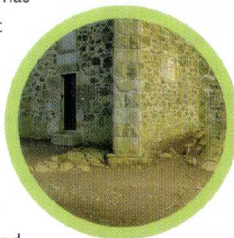
Corstorphine Hill is only 531 feet (161 metres) high. Its long low L-shaped wood-covered ridge rises above Edinburgh's western suburbs of Corstorphine, Blackhall, Murrayfield and Balgreen. Corstorphine Hill used to be identified by its Tower but now more by the two dominant aircraft communication pylons.

Corstorphine Hill owes its prominent shape and its useful minerals to the geological processes which formed it over 340 million years, told in the **Making of Corstorphine Hill**.

In 2000, Corstorphine Hill was designated as a **Regionally Important Geological Site (RIGS)**. This complements earlier designations of **Edinburgh's Green Belt**, **Area of Great Landscape Value**, **Nature Conservation site**, **Local Nature Reserve**, and **Listed Wildlife Site**. The Park is managed by the **Rangers Service** assisted by the **Friends of Corstorphine Hill**.

Corstorphine Hill Tower (also known as Clermiston Tower or the Scott Tower) is founded on glaciated dolerite on top of the hill. It is square in plan, with buttressed corners and has a corbelled, battlemented parapet surmounted 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.



Walks around Corstorphine Hill

THEWOODS is the local name for the Corstorphine Hill, the extensive tree-cover shown by darker green on the map. The woods are criss-crossed by many tracks and paths. Careful map-reading is needed to find one's way through the woods. Walks are arranged by the RIGS Group and the Friends of Corstorphine Hill (see notice-boards and local press).

North end of Corstorphine Hill -----
Glaciated pavements on the top of the dolerite sill form the slopes along the west side of the hill. Several quarries cut into the sill and expose the dolerite. Old wells in valleys can be spotted by the safety fencing. 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 -----
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 occur here. Rest-and-be-thankful was where travellers paused to take in their first glimpse of Edinburgh before the last leg of their journey.

Corstorphine Hill Tower -----
From the Clermiston bus terminus, go for 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 the Cairnmuir Road/ Kaimes Road carpark.



- service bus route
- service bus stop
- access
- path
- rock outcrop
- dolerite quarry
- sandstone quarry
- steeper slope
- tail feature
- ice-moulded surface
- old well