

Locality 4—The Quarry

Opposite the Crow Road car park follow the path uphill towards a small hut. This was formerly used to store the quarry explosives. Before reaching the hut another path goes up and round to the left. Follow this until it levels off and takes you round to the small disused quarry at **Locality 4**.

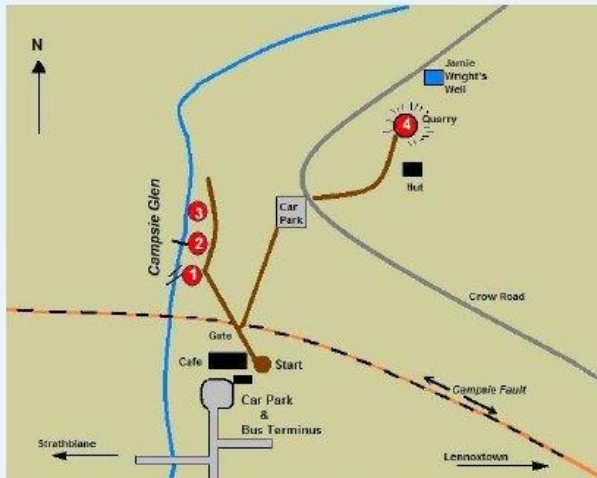
The quarry has been excavated into one of the basalt lava flows which you saw from Clachan of Campsie.



Take a look at the loose lava blocks on the floor of the quarry. You will see white crystals in it. This is a mineral called **Feldspar**. This type of basalt is called **Markle Basalt** and has a freckled appearance.

We hope you've enjoyed your trail around the fascinating geology of Campsie Glen.

Since time began geological processes have been at work forming the landscape which we live in today, and will continue to do so long into the future.....



The map above shows the locations of some of the interesting geological formations which can be seen in Campsie Glen.



What Are RIGS ?

RIGS are **Regionally Important Geological and Geomorphological Sites** which have been notified to the local planning authority.

A RIGS is a landscape, landform or rock feature identified by a local voluntary group as having a particular value for education and tourism.

RIGS are currently the most important sites for geology and geomorphology outside statutorily protected land such as Sites of Special Scientific Interest (SSSI).

The designation of RIGS is one way of recognising and protecting important Earth Science and landscape features for future generations to enjoy.

The **Strathclyde RIGS Group** is part of the Geological Society of Glasgow. If you would like to join a small group of dedicated amateurs and professionals to continue this work, then please contact:

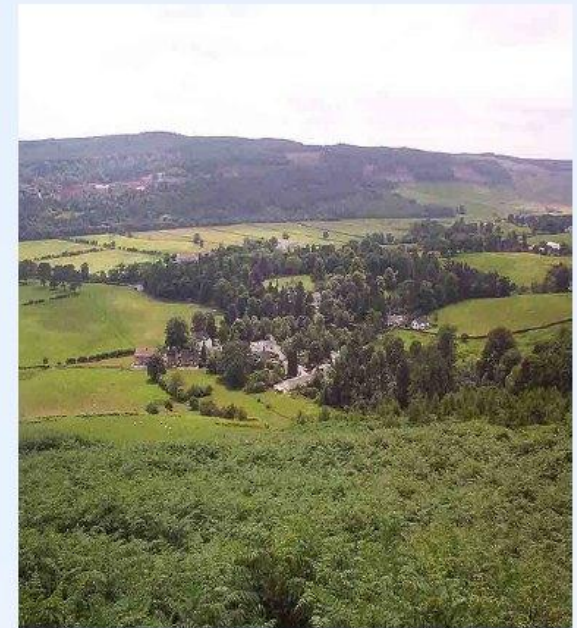
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THE GEOLOGY OF CAMPSIE GLEN AND SURROUNDING AREA



A Geological Trail in and above Campsie Glen.

**STRATHCLYDE
RIGS GROUP**

Prepare to take a step back in time...

Our trail begins at the car park and bus terminus.

From the café follow the footpath until you pass through a swing gate. A little further on go down to the stream and take a look at the rocks forming the streambed. These are called the Ballagan Beds.

Locality 1—The Ballagan Beds

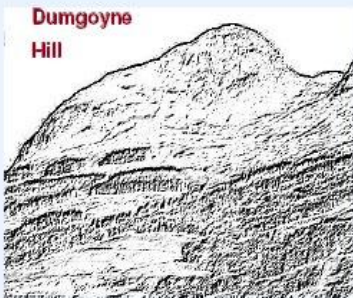
Imagine yourself here 350 million years ago. At that time this part of Scotland basked in the lower tropics, and had warm, shallow, tropical lagoons in which limestones and mudstones were deposited. These rocks appear now in the streambed at **Locality 1**. They form a series of small waterfalls. The soft, grey layers, or strata, are **Mudstones**, formed by the settling of clays. The hard buff-coloured strata are **Limestones**. Together they are called cement-stones because they can be processed into cement powder.



Mudstones

Limestones

These rocks were deposited at a time of peace and tranquillity. Then around 300 million years ago, the region was rocked by sudden and violent **earthquakes** similar to those happening today in Indonesia and Japan. Vast sheets of **Lava** flowed out from cracks and vents opening up as the Earth's crust stretched and strained. A string of volcanoes formed to the North of Campsie Glen.



Good examples of the eroded remains of two of these volcanic vents can be found at two nearby places. **Dumgoyne Hill** which lies some 5 km to the west of here, and **Dunglass Hill**, on the south side of the A891 near Strathblane.



Locality 2—A Basalt Dyke

Next, take the path upstream a little way. If you scramble down **carefully** from the path, over the sometimes slippery rocks, to **Locality 2**, you'll find a high wall of dark rock cutting across the stream, forming a waterfall. This is a **Dyke**, an injection of molten lava into a fracture in the earth's crust.

Locality 3—A Lava Flow Frozen in Time

Return to the path and carry on to where the Glen begins to close in. On the right hand side is **Locality 3** - a high rock face. This was the first lava flow to cover the **Ballagan Beds**. At the time it would have looked similar to the one in the picture below as it came towards you.....time to move on!



Basaltic lava is very fluid and can flow rapidly for miles.

In the tropical climate of the time, weathering was rapid. A fertile soil, or **Bole**, would have had time to form on the surface of each lava flow between eruptions. Look closely and see if you can find some.... it's reddish brown in colour.

It's **inadvisable** to venture further up the Glen beyond this point since the rocks forming the walls of the gorge are unstable.....the lava is on the move again! This time, however, due to the effects of erosion!

The Campsie Fells View

Return down the path to just beyond the gate and take a look up at the Campsie Fells. You'll see that these hills have a **terraced, layer cake** appearance. Each terrace is a separate lava flow. This gives you some idea of the massive amount of lava which poured out from the local vents and fissures. They were 400—500 m thick originally.



When they first formed the Campsie may well have looked similar to these **Columbia River Basalts**.

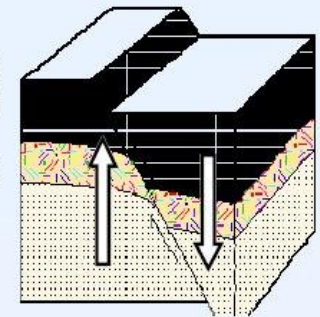
The Campsie Fault

As you pass through the gate you are crossing over a massive slip / fracture movement in the earth's crust called a **Fault**. Faulting occurred here towards the end of volcanic activity. It brought down the top layers of lava to form the present day valley floor. You can't actually see the fault line now, due to the much more recent covering of glacial moraine, and topsoil, but it is there.

A **Normal Fault** occurs when the ground is stretched apart by earth movements.

When the fault breaks, it allows the land to slip downwards

The **Campsie Fault** extends for many miles to the East and West of Clachan of Campsie



From the gate either take the path uphill to the Crow Road car park, enjoying the views on the way, or alternatively take your car there via Lennoxtown. We're going to take a closer look at some of the basalt lavas.