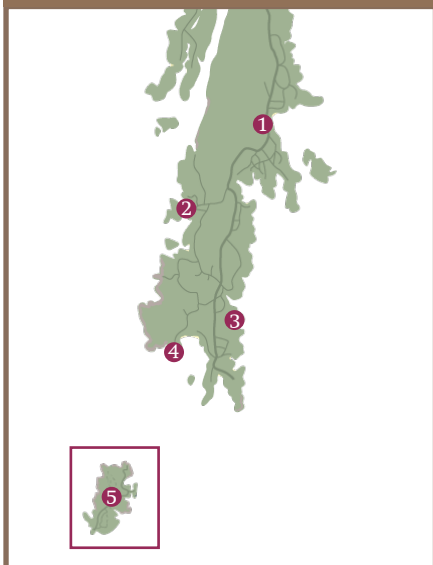


# South Shetland Geology

SHETLAND HERITAGE TRAILS



## Discover South Shetland...



In the south of Shetland there is a wonderful range of fascinating geosites on your doorstep. Search siltstone layers at Exnaboe for fossil fish, explore an ancient quarry where Vikings carved their bowls or take a two hour ferry journey to one of the most remote inhabited islands in Britain.

## South Shetland

Many of the rocks that make up the south of Shetland are “Dalradian” rocks. They were sediments deposited by erosion roughly 800 million years ago off the coast of an ancient American continent. They were later metamorphosed when America and Europe collided to form a large, arid “supercontinent” called Euramerica with a huge mountain chain. You will also find 390 million year old sandstones that were laid down as the mountains eroded within the desert continent.

### 1 Catpund

The rock here was originally hot magma from the interior of the Earth. This magma contained large quantities of a mineral known as olivine. Over time the olivine was altered (metamorphosed) to serpentine and then finally talc, resulting in a soft rock called soapstone or ‘klebber’. This soapstone can be carved and worked very easily. The Vikings used it to create many things such as bowls, fishing weights and lamps.



Look out for chisel marks left by the Vikings



See the replica St Ninian’s Isle treasure at the Shetland Museum and Archives

### 2 St Ninian’s Isle tombolo

St. Ninian’s Isle is connected to the Shetland Mainland by 500m of pristine white sand. This breath-taking coastal feature is the largest active sand tombolo in the British Isles.

The sand is subjected to waves from two opposing directions. It is constantly being eroded by destructive waves and built up by constructive waves loaded with sediment in an ongoing geomorphological process.

This area is not only geologically important, it can boast historical interest too. The remains of a 12th century chapel can be found on the eastern side of the island.

An archeological dig at this ancient chapel site uncovered 8th century treasure hidden beneath the chapel floor.



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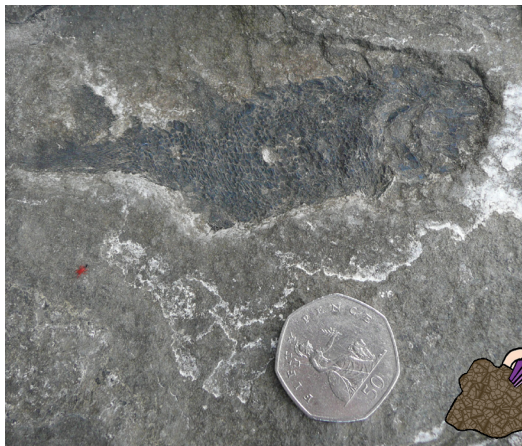
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## 3 The Cletts, Exnaboe

The sandstones and mudstones at the Cletts were formed 390 million years ago when Shetland's landmass was in the middle of a vast supercontinent. This supercontinent formed when the ancient landmasses of North America and Europe collided with one another. Vast river systems carried sand and silt from eroding mountains and deposited their load into temporary lakes.

Fish populated these lakes. When they died their bodies sank to the bottom and were quickly covered by fine sediment, preserving their skeletons as fossils within the rocks. This area is a 'Site of Special Scientific Interest' and is protected by law. Please leave it as you found it and take only photos away!



How many fish can you find in the siltstone beds?



## 5 Fair Isle

Half way between Shetland and Orkney lies the remote island of Fair Isle. This picturesque island is made from the same 390 million year old sandstone that is seen at "the Cletts" on the Mainland. Millions of years of storm driven erosion has created the spectacular geomorphological features - caves, stacks, arches and geos - seen around the coast of the island.

Situated at the cross-roads of the North Atlantic, Fair Isle provides shelter for many migratory birds and is a haven for bird watchers world wide.

## 4 Garths Ness

This 32m long ore deposit was formed by an underwater volcanic vent called a "black smoker" when this landmass was beneath an ancient, deep ocean called Iapetus. Mineral rich superheated water from the vent cooled allowing copper, and other metal bearing minerals to precipitate out.

This deposit, which contains iron sulphide (pyrrhotite) with some copper-iron sulphide (chalcopyrite) was briefly mined in the early 19th century.



EXPLORE GEOPARK SHETLAND >>>

About Trails Themes Map

Welcome

IPHONE / ANDROID

### 1) Catpund: HU 42352 27026 / 60.025843 -1.241916

Take the A970. Just south of Cunningsburgh is a public parking point. Take the turning on the opposite side of the road just south of the parking point (this is unsigned). Park on this road and walk along the short road that branches from it. Go through the gate and follow the track into the hill. At the end of the track continue south cross-country until you reach the site within enclosed area beside the burn. About 1 hour is needed to walk to the site and back. Please note this route contains two-step stiles.

### 2) St Ninian's Isle tombolo: HU 37470 20874 / 59.971082 -1.330618

St. Ninian's Isle tombolo is in the South Mainland and is signposted from the A970.

### 3) The Cletts, Exnaboe: HU 40526 12500 / 59.895608 -1.277519

Exnaboe is in the South Mainland near Sumburgh. Take the A970 and turn off to North Town. Park in the lay-by just before the farm buildings, walk to the buildings and take the track to the left. Walk a few metres along the track then take the right hand track (before the 'beehive' structure) towards the wooden gate. Once through the gate turn left and follow the wall line until you have passed through two metal gates. Then turn right and cross the next fence. Turn left and walk along the coastal path for a few metres. The site is within the large inlet to your right and can be viewed from above. One to two hours is needed to walk to the site and back. Please note this walk contains a two-step stile. It is a fairly steep scramble down to the fishbeds. This is not recommended in wet conditions as the rocks can be very slippery.

*This area is a 'Site of Special Scientific Interest' and is protected by law. Please leave it as you found it and take only photos away!*

### 4) Garths Ness: HU 36421 11298 / 59.885197 -1.351087

Garths Ness is one of the southern tips of the Shetland Mainland. Take the A970 and turn off to Quendale. Continue until the turning to Quendale Water Mill and turn left. Continue until you reach the disused military buildings at the very end of the road and park (open gates as necessary but please leave them as you found them). Walk down the hill along the line of the fence and then head around the coast to the right. The site is situated in a small inlet and can be viewed from above. About forty minutes is needed to walk to the site and back.

### 5) Fair Isle: HZ 22205 72356 / 59.536537,-1.609154

Fair Isle is accessible via plane from Tingwall Airport or ferry from Grutness in the South Mainland.

**Coordinates are given as a guide only. You may wish to consult OS Explorer Map 466 and the British Geological Survey 1:63630 Series sheet 123.**