

CITATION

SCOURIE COAST SITE OF SPECIAL SCIENTIFIC INTEREST

Highland (Sutherland)

Site code: 1413

NATIONAL GRID REFERENCE: NC 150457
NC 143446
NC 150414

OS 1:50,000 SHEET NO: Landranger Series 9
1:25,000 SHEET NO: Explorer Series 445

AREA: 218.95 hectares

NOTIFIED NATURAL FEATURES

Geological

Structural and metamorphic geology: Lewisian
Mineralogy: Mineralogy of Scotland

DESCRIPTION

Scourie Coast Site of Special Scientific Interest (SSSI) is on the west coast of Sutherland and comprises three separate areas. This site has been designated for two geological interests: 'Lewisian' and 'Mineralogy of Scotland'. Scourie Coast SSSI shows excellent exposures of Lewisian gneiss, which are among the oldest rocks in Britain. The rocks record events which took place from 2,900 million to 1,700 million years ago at great depth within the Earth's crust, where high temperature and pressure softened or melted the rocks (a process known as metamorphism). The site is considered to be of international importance in demonstrating the earliest recognisable events in the formation of the Earth's crust in what is now Northwest Europe.

The Lewisian interest

The Scourian gneisses are coarse-grained rocks with pale 'acidic' and dark 'basic' and 'ultrabasic' bands. These rocks were metamorphosed in the Scourian event (the earliest recorded metamorphic event in Scotland) around 2,700 million years ago. They are cut by dark upright sheets of volcanic rock, the Scourie dykes, originally injected in a molten state (a process known as intrusion) around 2,400 million years ago. More recent events (Laxfordian age, 1,700 million years ago) record further alteration and deformation when both the gneisses and dykes were cut by shear zones (narrow zones where the rocks are highly deformed). Within these shear zones, the older 'Scourian' minerals are often altered and replaced by a 'Laxfordian' mineral assemblage.

There are four locations of particular interest for the Lewisian feature, each showing a different, but equally important, aspect of the feature:

Badcall (southern part of SSSI): This is a key site that records partial melting of Scourian gneisses, early acidic veining, intrusion of four types of Scourie dykes, development of Laxfordian shear zones (including a major shear zone through Farhead Point), and a final, very coarse-grained 'pegmatite' veining event.

Scourie Mor (central part of SSSI): This site is one of the best exposed and preserved areas of Scourian gneiss. The gneisses (ranging from acid to ultrabasic) have been affected by only minor amounts of deformation and alteration.

Scourie Bay (central and northern parts of SSSI): These are the type localities for the Scourie dyke suite. The much-studied dyke on the south of the bay contains a garnet-rich assemblage formed when the dyke was intruded and then cooled at depth within the Earth's crust. The dyke to the north of the bay is an iron-rich quartz dolerite. Some parts of this dyke are affected by Laxfordian shear zones.

Sithean Mor (small area of northern part of SSSI): Rare outcrops of Scourian rock containing garnet, orthopyroxene, plagioclase and quartz are exposed here. These rocks have been deformed and altered within several narrow Laxfordian shear zones, where Laxfordian mineral assemblages (biotite, plagioclase, quartz, kyanite) may be found.

The Mineralogy of Scotland interest

The Mineralogy of Scotland feature is located at:

Camas nam Buth (small area of central part of SSSI): Garnets are found in intrusions within the Lewisian gneiss in this part of the site. Two intrusions are separated by a coarse-grained ('pegmatite') gneiss. The lower intrusion, about 4m thick, has clots of almandine (iron and aluminium-rich) garnet up to 20cm in diameter, above a basal layer of pure pyroxene rock. The upper intrusion has more sporadic almandine-rich areas.

NOTIFICATION HISTORY

First notified under the 1949 Act: 1963 as Scourie SSSI. In 1975 this site was included in, and superseded by, the larger Handa – Duartmore SSSI.

Re-notified under the 1981 Act: 22 June 1989 when Handa – Duartmore SSSI was split into Handa Island SSSI, Loch a' Mhuilinn SSSI and Scourie Coast SSSI with a 1400 ha decrease in area.

Notification reviewed under the 2004 Act: 17 March 2008

REMARKS

Measured area of site corrected (from 214.9 ha).