

---

## Chapter 5 Ve Skerries

The Ve Skerries are a series of low rocky islets situated 3.5 miles (5.6 km) NW of Papa Stour. They are devoid of soil and vegetation and do not rise more than 20 ft (6 m) above Ordnance Datum. About half the exposed rock is below high water mark. The Ve Skerries extend for about 0.75 mile (1.2 km) from northeast to south-west and consist of three main islands named from north to south : North Skerry, Ormal and The Clubb, as well as a number of smaller skerries (Figure 6). The author has not visited these islets and the present account is based on the geological field maps of Messrs. D. Haldane and S. Buchan who visited the Ve Skerries in 1933 and collected rock specimens.

### Field relationships

The islands are composed predominantly of pale grey to pink granite-gneiss with varying proportions of mica and hornblende, together with lenticular masses of foliated granite and two thick bands of partially 'permeated' hornblende-schist. The gneisses are quite unlike any of the metamorphic rocks of the Walls Peninsula or Foula and it is possible that they may eventually be correlated with the acidic and hornblendic orthogneiss forming the north-western part of North Roe which has tentatively been considered to be of Lewisian type (Pringle 1970, fig. 1; Miller and Flinn 1966, p. 98). No radiometric age dates have so far been obtained from the Ve Skerries gneisses.

Two dykes of fine-grained basalt, which is not foliated or metamorphosed, cut the gneisses of North Skerry and Ormal.

### North Skerry

North Skerry and the adjacent rocky islets are formed of strongly banded gneiss and foliated granite, whose foliation is near vertical and has a trend which ranges from north-east to east-west. In the eastern part of the island group the more thinly foliated micaceous gneisses exhibit small-scale chevron-folding. Individual folds have straight limbs, narrow rounded hinge zones and inter-limb angle ranging from 90° to 120°. Their wavelength ranges from 1 in (2.5 cm) to 1.5 in (3.8 cm) and their amplitude averages 0.5 in (1.3 cm).

The following lithological units have been recognized in North Skerry and the adjacent islets:

1. Hornblende-gneiss, which forms the two islets about 100 yd (90 m) NNW of North Skerry, but whose relationships to the adjoining group have not been recorded.
2. Pale pink strongly banded, but poorly lineated granite-gneiss, which contains irregular plates rather than continuous laminae of the dark greenish phylloblastic minerals biotite and chlorite. This forms the northern half of North Skerry and in the east is interbanded with:
  1. A highly distinctive white foliated medium- to fine-grained granite with small black micas and small deep red patches.
  2. Bands of thinly foliated epidotic mica- and hornblende-gneiss, which are vaguely lineated and are, in places, affected by chevron folding.
3. Just within its southern half, the island is traversed by a band of pink granite-gneiss or foliated granite which consists of pink granitic folia up to 0.5 in (13 mm) thick, separated by continuous folia of muscovite.
4. The southern part of the island consists of a similar pink micaceous granite-gneiss, with bands of mica- and hornblende-schist, and veins of fine- to medium-grained pink granite, some of which are sheared and have a sugary texture.

North Skerry is traversed by a N30°E trending basalt dyke of unstated width, which locally splits into two in the southern part of the island.

### Ormal

The regional trend of the foliation on Ormal is north-westerly, but changes locally to east-north-east and north-north-east. The following three more or less distinct north-west trending lithological zones are recognized :

1. A north-eastern belt of pale pink to greenish granite-gneiss or foliated granite with thin bands of pink granite. This belt is similar to, though less well foliated than, the granite-gneiss forming the southern half of North Skerry.
2. A central zone of pale greenish chlorite-rich granite-gneiss, and
3. A south-western zone composed partly of fine-grained hornblende-schist and partly of hornblende-gneiss with irregular, slightly aligned feldspar blebs and streaks.

Ormal contains a narrow north-west trending basalt dyke.

## **The Clubb**

The Clubb is the most south-westerly island of the group and consists of foliated gneiss which trends from E10°N to E45°N and whose inclination ranges from vertical to 60 degrees to the south-east. The predominant rock type is pale pinkish grey thinly foliated biotite-gneiss with some bands of coarse granite-gneiss and veins and lits of pinkish granite. There are also belts of siliceous gneiss interbanded with chlorite-biotite-gneiss. Thin bands of hornblende-schist have been recorded in the north-eastern and south-western parts of the island.

No data or specimens are available from the Skerries of Reaverack and Helligoblo which are situated between The Clubb and Ormal.

## **Petrography**

### **Granite-gneiss**

The granite-gneiss of the Ve Skerries is not easily distinguished from foliated granite as both have a very similar composition. The feldspathic lits of the granite-gneiss in all islands are composed of a poorly foliated aggregate of feldspar and slightly strained quartz crystals, which are present in the ratio of 7:3. In some sections only potash-feldspar, principally microcline, is present ([S29983](#)) [HU 103 658], but in most sections albite is also developed in considerable quantity. In many sections a large proportion of the feldspars are sieved with small flakes of sericite (orientated in two directions) and abundant small grains of epidote ((Plate 8), fig. 2). Epidote also forms thin discontinuous veins and isolated smaller crystals.

The micaceous laminae are composed either of large plates of muscovite ([S29983](#)) [HU 103 658] or of smaller plates of khaki-brown biotite which is partially altered to chlorite.

### **Foliated granite**

Foliated granites cannot always be distinguished from granitegneisses. The latter have a lithological banding and the former have a schistosity but no banding, but the two types tend to grade into each other. The foliated granites are generally coarse-grained to very coarse-grained with feldspar crystals, in one instance ([S29982](#)) [HU 103 658], up to several centimetres in size. The granites contain 80 to 90 per cent of feldspar and interstitial quartz, which in many instances is strained or even mylonitized. In the white granite of North Skerry (p. 61) both regular (symplectic) and irregular intergrowths of quartz and feldspar are found. Both potash-feldspar and sodic plagioclase are present, and the relative proportions vary considerably. The white granites of North Skerry, for instance, are formed predominantly of albite-oligoclase which in one thin section ([S29982](#)) [HU 103 658], (Plate 8), fig. 1) is full of small muscovite flakes, aligned in two directions and cut by a network of epidote veins as well as a series of thin bands of quartz-mylonite. In other white granites ([S29986](#)) [HU 104 658], ([S30869](#)) [HU 097 650], however, the feldspars are free from inclusions.

Platy minerals either between grains or forming folia are uncommon. Rare muscovite has been recorded in some specimens, and all samples contain irregular patches of chlorite. A granite from The Clubb contains small interstitial crystals of hornblende and biotite. Accessory minerals are sphene, allanite and apatite.

## Schistose rocks

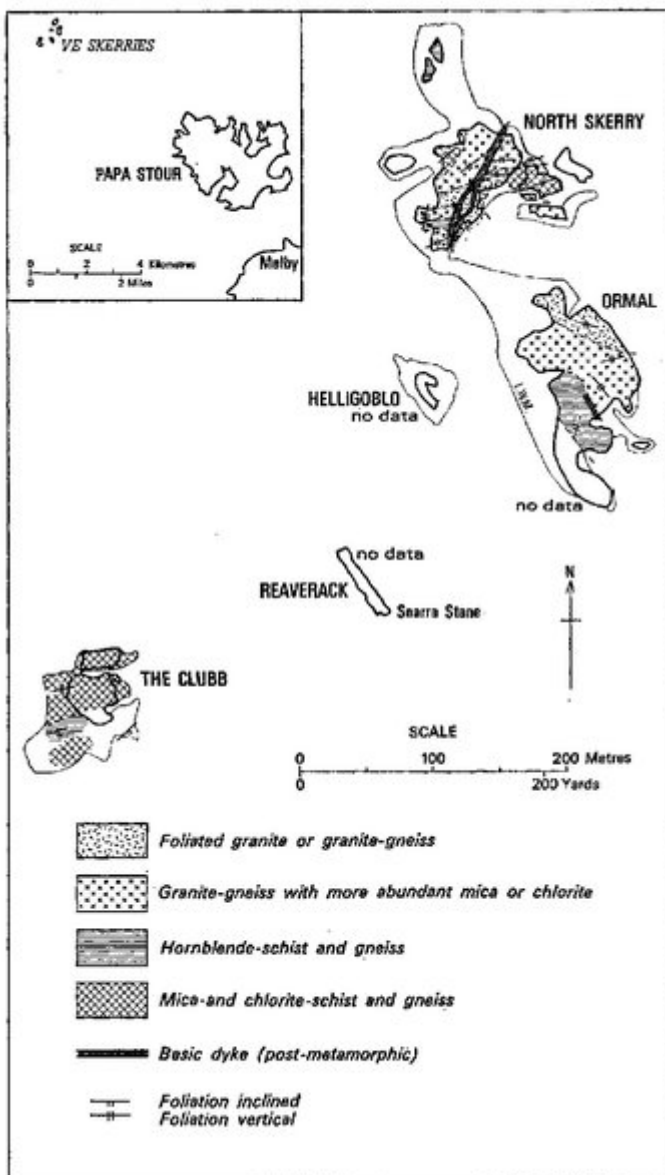
Mica-, hornblende-, and chlorite-schists with either discrete quartzo-feldspathic lits or irregular blebs are present in both North Skerry and The Clubb. The mica-schists (S29987) [HU 104 658], (S30865) [HU 097 650] in most cases have discrete folia of muscovite, khaki-brown biotite and varying proportions of chlorite. The hornblendic rock (S30866) [HU 097 650] contains large crystals of hornblende, which is strongly pleochroic from straw-coloured to deep bluish green, and patchily or completely altered to or enclosed in chlorite, together with subordinate small plates of muscovite. The dark portion of one specimen (S30870) [HU 097 650] from The Clubb contains only large plates of green chlorite associated with sphene. Epidote is abundant in nearly all specimens, and in one section (S30868) [HU 097 650] it forms elongate euhedral crystals up to 1.8 mm long set in a base of green biotite. The pale folia or blebs within the schists consist of elongated, commonly interlocking grains of quartz, microcline, and, in some instances, larger near-euhedral porphyroblasts of sodic plagioclase. Accessory minerals include sphene, apatite, zircon, rutile and, in one specimen (S30868) [HU 097 650], small scattered grains of pyrite.

## References

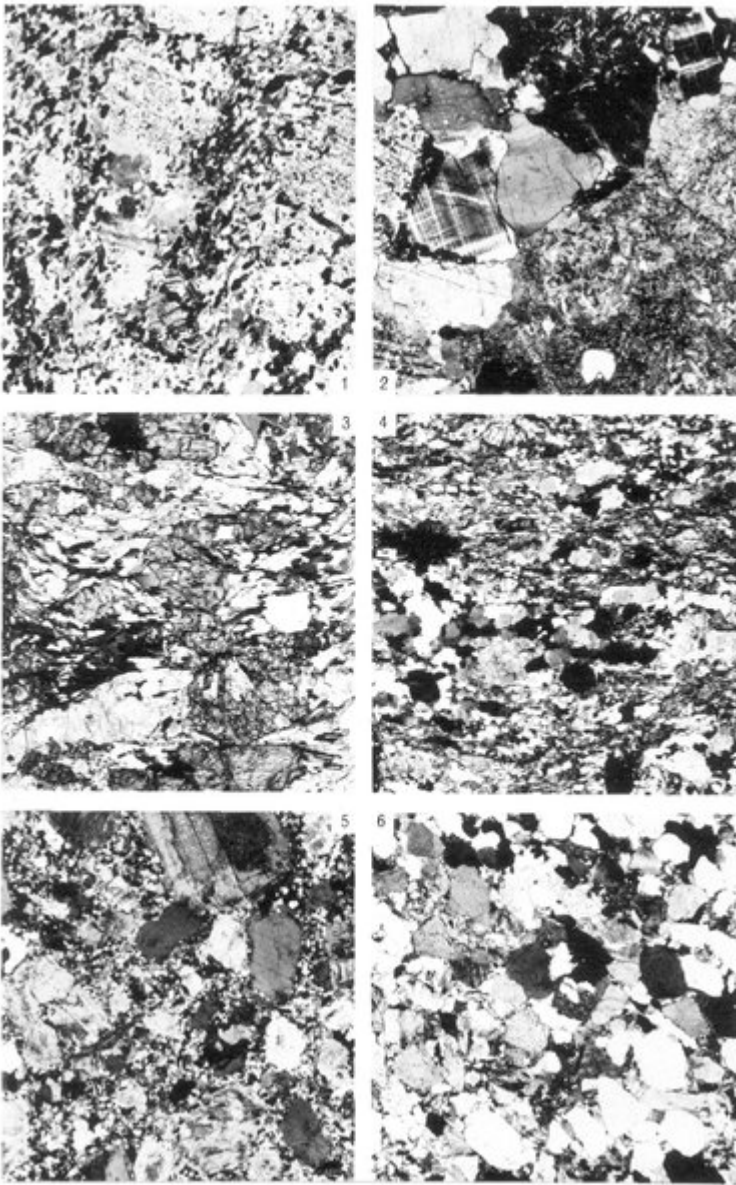
MILLER, J. A. and FLINN, D. 1966. A Survey of Age Relations of Shetland Rocks. *Geol.Jnl*, 5, 95–116.

PRINGLE, I. R. 1970. The structural geology of the North Roe area of Shetland. *Geol. Jnl*, 7, 147–70.

WALKER, F. 1932. An albitite from Ve Skerries, Shetland Isles. *Mineralog. Mag.*, 23, 239–42.



(Figure 6) Geological sketch-map of the Ve Skerries.



(Plate 8) Photomicrographs of metamorphic rocks, microgranite and sandstone of Ve Skerries and Foula Fig. 1. Slice No. [\(S29982\)](#) [HU 103 658]. Magnification  $\times 16.8$ . Crossed polarisers. Granulitized granite with large crystals of albite-oligoclase, sieved with muscovite. Adjacent feldspar crystals are in optical continuity and separated by streaked out mozaic-quartz. Small near-euhedral crystals of epidote are abundant in the quartz network. Ve Skerries, North Skerry, west coast [HU 103 658]. Fig. 2. Slice No. [\(S29989\)](#) [HU 104 656]. Magnification  $\times 31$ . Crossed polarisers. Coarse poorly-foliated granite-gneiss composed of quartz, large clear plates of potash-feldspar and albite-oligoclase full of inclusions of white mica, and small grains of epidote. Ve Skerries, Ormal, north coast [HU 105 656]. Fig. 3. Slice No. [\(S29898\)](#) [HT 975 401]. Magnification  $\times 8$ . Plane polarized light. Garnet-kyanite-staurolite-gneiss, with muscovite and quartz. Large stumpy plates of kyanite with close parallel cleavage (bottom and top centre), smaller plates of golden-yellow staurolite, and subrounded garnets are set in a base of biotite, muscovite, quartz and andesine. Foula, Swaa Head, 860 yd (790 m) NNE of Sloag. [HU 976 401]. Fig. 4. Slice No. [\(S50823\)](#) [HT 973 388]. Magnification  $\times 20$ . Plane polarized light. Strongly foliated and sheared quartz-biotite-schist composed of lenses of quartz with mortar texture alternating with streaks composed of feldspar, muscovite and reddish brown biotite. Scattered porphyroblasts of oligoclase (left-centre). Foula, south shore of Ham Voe, 110 yd (100 m) E5°N of Brae [HU 974 387]. Fig. 5. Slice No. [\(S29900\)](#) [HT 975 401]. Magnification  $\times 16$ . Crossed polarisers. Dyke of porphyritic microgranite, with granulitized matrix between phenocrysts of albite-oligoclase. Foula, Swaa Head, 880 yd (800 m) NNE of Sloag [HU 976 401]. Fig. 6. Slice No. [\(S50829\)](#) [HT 963 407]. Magnification  $\times 16$ . Crossed polarisers. Coarse-grained arkose with subrounded to subangular grains. Ratio of quartz to feldspar grains is 50:50. Some interstitial flakes of muscovite. Matrix forms 15 per cent of total volume, composed mainly of carbonate. Foula, shore of Whiora Wick, 520 yd (470 m) E20°S of Freyars [HU

