
North Berwick

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O.S. 1:500110 Sheets 66 Edinburgh and 67 Duns & Dunbar B.G.S. 1:50000 Sheets 33W Liaddington and 33E Dunbar
Route: (Map 9), (Map 10), (Map 11) and (Map 12)

Three excursions are described to show typical examples of the volcanic and sedimentary rocks and some of the associated intrusions and volcanic vents so excellently exposed along 25 km of the North Berwick coast. The rocks are Dinantian (Calcareous Sandstone Measures) in age, and belong mainly to the volcanic facies known locally as the Garleton Hills Volcanic Rocks. The general succession is (McAdam and Tulloch, 1985):

Sediments. dolomitic. tuffaceous and cementstone facies

Trachytic tuffs and lavas—Bangley member

Basaltic lavas—Hailes member

Basaltic lavas—East Linton member

Basaltic tuffs, red

Cementstone bands North Berwick member

Basaltic tuffs. green North Berwick member

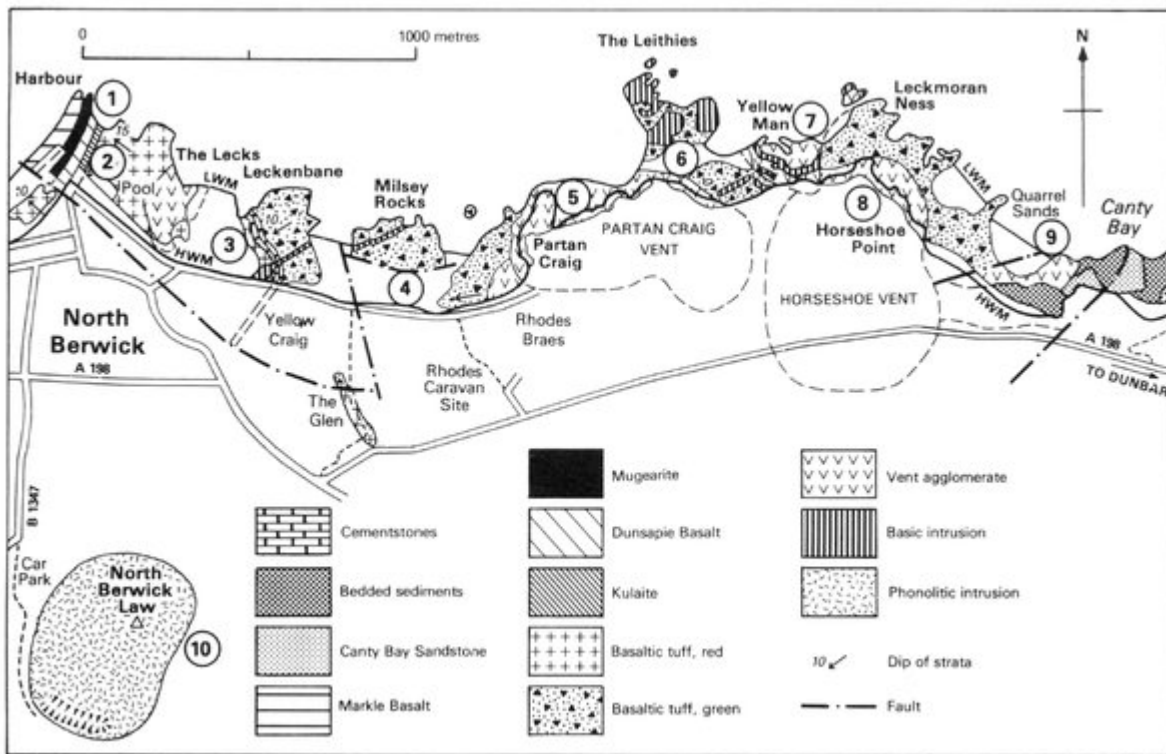
Sediments. Canty Hay Sandstone, red cementstone facies

Gentle post-Carboniferous folding and faulting has given the beds a regional dip to the west.

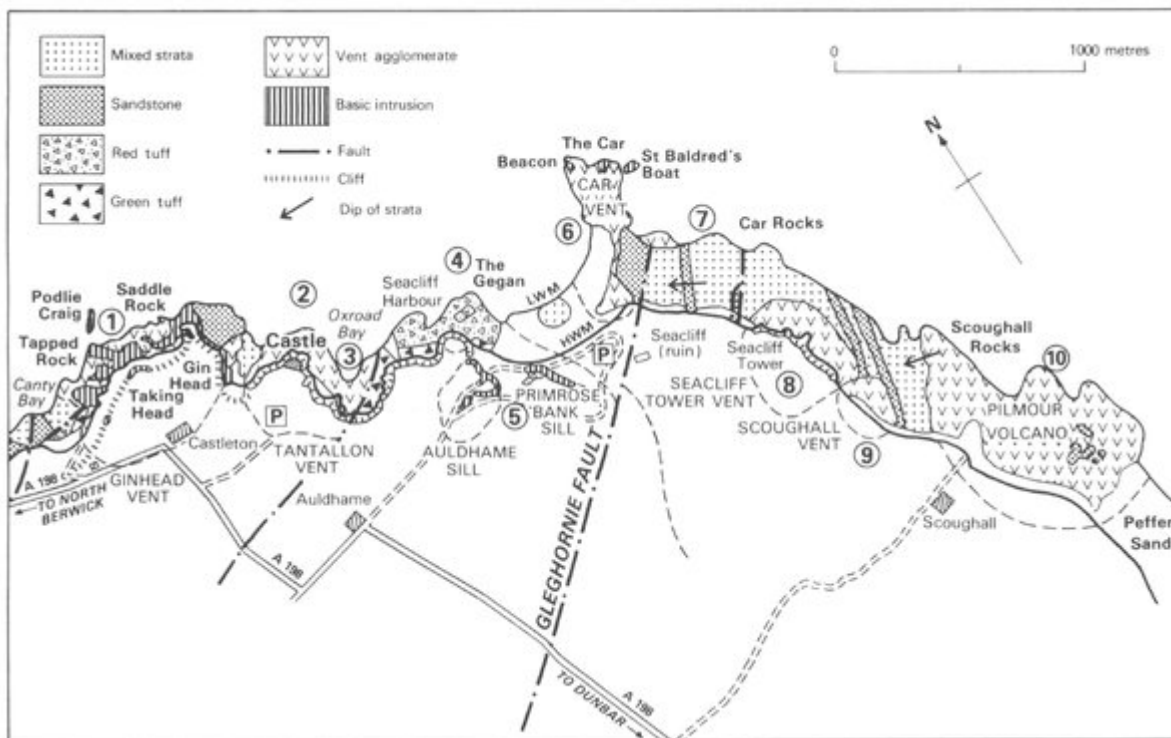
The volcanic succession is thinner than in the Garleton Hills to the south, though most of the lava types are represented at North Berwick. At a late stage in the volcanicity basaltic and andesitic sills and dykes and phonolitic volcanic plugs were intruded into these rocks. Another feature of the volcanicity is the number of tuff and agglomerate-filled volcanic vents. These were first identified as vents by Cuthbert Day, a local geologist and geochemist, who in a series of papers described the geology of the whole North Berwick coast section. The vents and their relationship were further discussed by Martin (1955) and more recently by Leys (1982). Descriptions of deep-originating granulite blocks have been given by Graham and Upton (1978).

Excursion A, which goes east from North Berwick, covers the lower part of the sequence in descending order from the basaltic lavas to the Canty Bay Sandstone and the red cementstone facies. Excursion B continues east to study the many agglomerate- and basalt-filled vents around Tantallon, Seacliff and St. Baldred's, intruded into the tuffs and underlying sediments. Excursion C, going west from Yellowcraig, near Dirleton, looks at the upper part of the sequence in ascending order, from the basaltic lavas up to the dolomitic sediments. Each excursion is around 8 km long, and takes about 5 hours. As many of the exposures are on the foreshore, it is best to start each excursion *about 3 hours before low tide*. Dirleton, North Berwick and Tantallon all lie on the A198 road and can easily be reached by car or Lowland Scottish service bus from Edinburgh. At North Berwick parking is available at the Harbour and at Rhodes Braes, though this area is very busy during holiday months. Cars and coaches may be parked at Tantallon Castle, but the gates are locked outwith opening hours. A public car park at Tynninghame takes only a few cars. Ample parking is available at the car park beside the Yellowcraig Caravan Site, reached by taking the sign-posted road off the A198 at the east end of the Dirleton by-pass. Booklets available at Yellowcraig describe the rich natural history of this area.

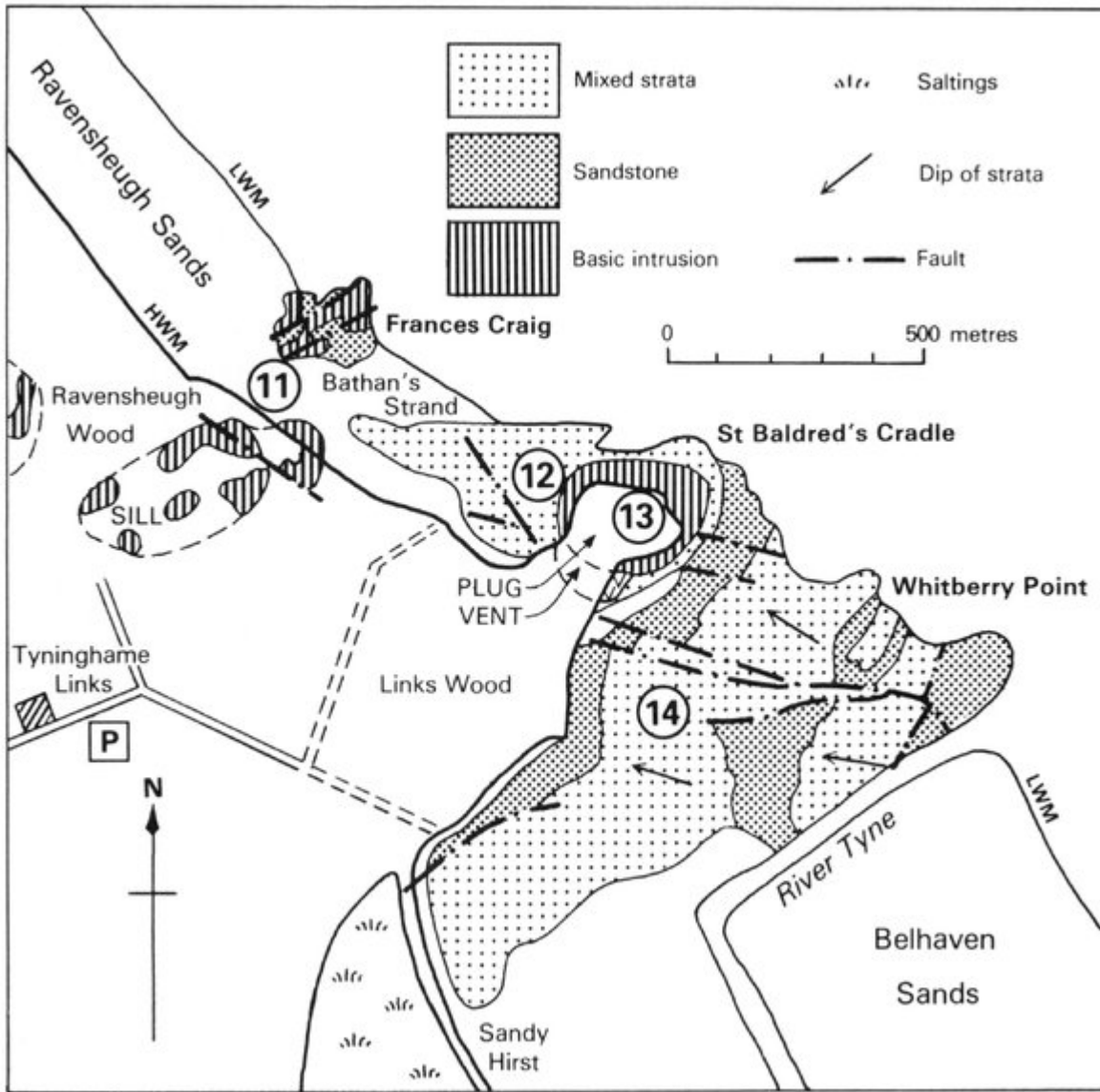
[References](#)



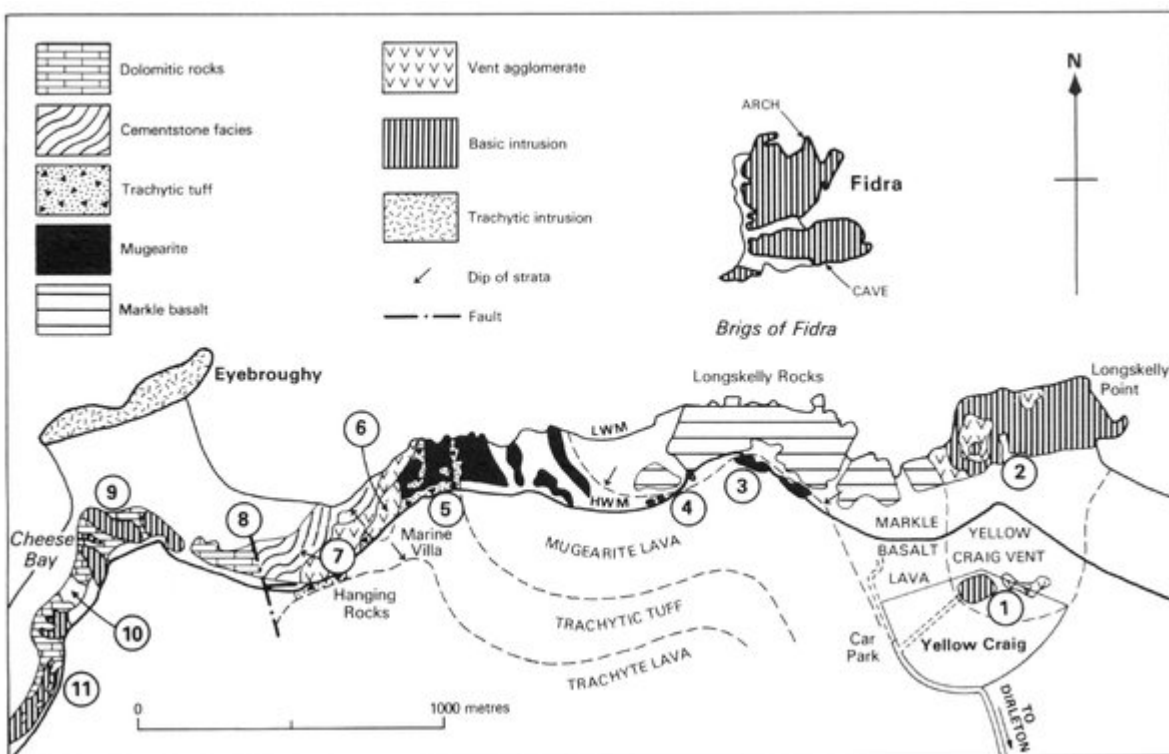
(Map 9) North Berwick to Canty Bay.



(Map 10) Tantallon.



(Map 11) St Baldred's.



(Map 12) Yellow Craig to Cheese Bay.