

Appendix B: Exposures of the Cleveland Dyke in the Southern Uplands.

The list includes *all* the exposures so far recognised of the CD in the Southern Uplands, and includes 32 *new* exposures which have been located during the present work and the BGS Southern Upland Regional Geological Survey. To date 36 outcrops, of varying quality, plus 9 boulder localities have been identified as the CD in the Southern Uplands. The exposures are listed in order from SE to NW.

Outcrops

Shearington

NY 0293 6664: In a field (frequently cultivated) 175 m N of Shearington Farm. Width exposed 6 m.

NY 0263 6678: Adjacent to a fence, 200 m WSW of Woodlands. Width 4.40 m, trend NW.

Lochanhead

On a ridge, 350 m N of Lochanhead there are three dyke outcrops:-

NX 9154 7210: At the bottom of a NW facing hill slope. Width about 2 m, trend 301°.

NX 9167 7202: Width 1.30 m, trend 310°.

NX 9161 7204: Immediately on the S side of a track. Width at least 1.60 m, trend 325°.

Braco, Shawhead

NX 8733 7576: Two juxtaposed dykes outcrop immediately south of a fence 175 m NW of Braco Farm; unfortunately, the contact between them is not exposed. The NE dyke is a non-porphyrific quartz-dolerite and is at least 4.40 m wide. Petrographically, the SW dyke is typical CD, having phenocrysts of plagioclase and pyroxene in a fine-grained groundmass. This dyke is at least 10.5 m wide. Both dykes trend N.

NX 8736 7588: This outcrop is 130 m N of the previous one and is composed of the porphyritic CD facies. Width at least 11 m, trend varying from 22° in the S to 350° in the N.

The Doons, Nth of Shawhead

NX 87195 76890: An outcrop (?) measuring 0.7 m x 0.4 m occurs adjacent to a magnetic minimum.

Skeoch Hill

NX 86035 78075: On the lower southern slopes a small outcrop measuring 1 m x 0.5 m occurs adjacent to a magnetic anomaly.

On the southern slopes there are exposed two dykes en-echelon.

NX 8610 7830: Width at least 14 m, trend 310° - the lower dyke.

NX 8605 7848: Width 23 m, trend 320° - the upper dyke.

Bishop Forest Hill

NX 8528 7964: The dyke is best exposed 40 m to N of NE-SW trending wall. Width, maximum c. 16 m appearing to thin to both S and N, being 7 m in the N, trend 326°.

Muil Hill

NX 8174 8086: To the NW of the summit two segments of dyke are exposed separated by 17 m of no exposure. Width of dyke at least 6 m; the easterly segment trends at 76°, the westerly at 105°.

Darngarroch Hill

NX 80805 81435 to 81035 81240: Between these points, a distance of 310 m, there are discontinuous exposures of the CD. The trend is 310° and the width 12-14 m.

NX 8035 8159: The dyke is about 15 m wide and can be traced in a NW direction for 150 m. The SE termination, just to the west of the triangulation obelisk, takes the form of an easterly trending apophysis which is about 35 m long and c. 5 m wide.

Nether Craigenputtock

NX 78650 83525: On the N side of fence, 350 m N of farm. Large block showing cross-section of 1.10 m dyke, trend 340°. This occurrence may not be in situ, but it occurs near a minimum in the CD magnetic anomaly.

Castramon Hill

2 separate dykes;

a) NX 78173 83431: This 1 m thick dyke, which has a well-defined chilled margin, is exposed at the top of NE-SW trending crags. It trends at 320° and dips at 42° to the SW.

b) NX 78226 83513: This dyke occurs 8 m to the SW of a prominent NW-SE trending wall. The dyke is very poorly exposed and its position is marked by a linear, shallow depression trending 345°; it is about 1 m wide.

Lochurr Hill

NX 7595 8565: On the lower SW slopes there are small, isolated outcrops which suggest the presence of two thin dykes c. 2 m wide, trending 350°.

Craigmuie Moor

NX 74430 85925: A dog-legged shaped dyke. Width c. 2 m, trend of eastern segment 295°, trend of western segment 350°.

NX 7395 8610: 107 m SE of next outcrop. Width 7 m, trend c. 310°.

NX 73875 86175: 500 m SE of Craigmui Farm, exposed in an unnamed stream. Width 4 m, trend 336°.

Shield Burn

Extending over a distance of 950 m this region has the most continuous exposures of the CD in the Southern Uplands. The best exposures are:-

NX 7340 8782: 205 m SE of Shield Burn. Width at least 21 m, trend NW.

NX 73345 87840: 150 m SE Shield Burn. Width 12 m, curving trend from 340° in the north to N-S 30 m to the south.

NX 7325 8797: On the NE bank where Shield Burn bifurcates. Width at least 11 m, but too much bracken for definitive width to be determined.

NX 7309 8816 to 7320 8803: Continuous exposure for 180 m. Width c. 14 m, trend 320°.

NX 72780 88415: At the top of a small hillock, 75 m SE of next outcrop. Width c. 14 m, trend 320°.

NX 7271 8847: 750 m NW of Shield Burn, adjacent to the south side of an E-W trending wall. Width 8 m, trend 320°.

Troston Loch

Between NX 70814 90097 and NX 71414 89605: The frequently mentioned Troston Loch exposures no longer exist because of afforestation but anomaly located.

Dodd Hill

NX 65175 98787: On the SE side of a NE trending wall which goes to the summit of Dodd Hill. Width 2.20 m, trend 328°.

Midrig

NS 64940 00270: A very small outcrop measuring 1 m x 0.3 m occurs adjacent to a magnetic minimum.

Windy Standard

NS 61550 02990: In a drainage ditch within a forest on the SE side of a NW trending forest ride. Width 2.30 m, trend 317°.

Glenhastel Burn

NS 59850 06100: The dyke outcrops in the bed of the stream and forms a small crag on the south west slopes above the stream. The trend of the 1.3 m wide dyke is 240°.

This dyke is recorded on the BGS New Cumnock Sheet (15W, solid, 1986; 1:50k) as a basaltic andesite (K^A; Tertiary).

Polga Burn

NS 57500 07595: The most northerly outcrop south of the Southern Upland Fault yet identified, occurring 1500 m SE of the fault. The dyke, which occurs on the south side of the burn, is 1 m wide and trends at 290°.

Polmath Burn

NS 54879 09246: E-W trending dyke, 0.8 m wide, exposed on east side of Polmath Burn, 1500 m north of the SUF. This is the first authenticated occurrence of the CD north of the SUF.

Boulders

In 9 localities excavation works have yielded boulders of the CD close to the positions of magnetic anomalies associated with the CD.

Highmains

NY 01383 67736: Large boulder adjacent to a magnetic anomaly, 200 m SSW of Highmains.

Boreland Farm

NX 99569 71034: 500m Nth of Boreland Farm a large boulder of fresh CD was found very near a magnetic anomaly.

Mabie Forest

Between NX 9325 7245 and NX 93525 72600 numerous boulders, some measuring 1 m in length, occur on the north side of the wall and/or fence which forms the northern boundary of Mabie Forest. One large block at the base of the wall could be in situ.

Woodfoot Wood

NX 93077 73069: Sth side of A711. It is suggested that in the construction of the old A711 road the CD was exposed because a degraded wall on the south side of the old road is made of blocks of CD. Some of the blocks exhibit at one end the closely spaced jointed chilled margin of the dyke. If there was an exposure of the CD it is now covered by the new A711 road. This site is adjacent to a magnetic anomaly.

Braco

NX 87465 75625: Very fresh boulders of the CD obtained from excavations for the foundations of a large barn.

Speddoch Hill

NX 8365 8060: Within a new forestry plantation a large number of CD boulders, some measuring 1 m across, were found. Some of the boulders had been pushed to the side of a forestry track.

Carroch Hill

NX 66763 92318 and NX 66798 92349: Numerous boulders of CD from forest road excavations were found at two localities on west slopes of Carroch Hill, 500 m S of Cornharrow. Both localities are adjacent to magnetic anomalies.

Windy Standard

NS 6126 0323: Boulders of very fresh CD were found on the N side of a forest ride where a trench for electric cables had been dug.

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Other Tertiary dykes sampled

Kello Water:

- a) NS 6913 0898; 50 cm wide dyke (KW2), trending at 310°;
- b) NS 6883 0908; 4 m wide dyke (KW1), trending at 305°.

Afton Water Dyke:

- a) NS 61360 11360; Afton Water, 100 m S of Burns memorial. Width of dyke 6 m, trend 070°, parallel to the SUF.
- b) NS 57275 09300; Dalleagles Burn, 6 m wide dyke, trending at 070°.

Mossdale Dyke, Muck Water: NS 49398 03962, NE-SW trending quartz-dolerite dyke exposed in river, 2 km S of Dalmellington.

Dalgig Burn: NS 55767 13040. E-W trending plagioclase-phyric andesite dyke poorly exposed on western bank of burn.

Kirkland Dyke: NS 72800 15050. NW-SE trending plagioclase-phyric basaltic andesite dyke exposed at small waterfall in Glenaylmer Burn, Vennel, by Kirkland, 3 km N of Kirconnel. Width of dyke 5-6 m.

Stoneyburn Dyke, nr Elvanfoot: NS 95900 19225. Excellent exposures of basaltic dyke in small quarry. Width of dyke 15.3 m, trend 295°.

Eskdalemuir Andesite Dyke:

- a) NT 0780 0435. Coatshill Quarry, 1 km SSW of Moffat. Dyke is 35 m wide and trends NW-SE.
- b) NT 1105 0210. Crags above Breconside, 3 km SSE of Moffat