EDC 3: Board Craigs Quarry, Twechar

Grid reference: [NS 70009 74903]

Site type: Artficial quarry works

Site ownership: Not known

Current use: Disused

Field surveyor: Sarah Arkley & Luis Albornoz-Parra

Current geological designations: None

Date visited: 5th March 2009

Site map

(Figure 3) Board Craigs Quarry Location Map

Summary description

Disused quartz-microgabbro quarry, formerly used for roadstone. Recorded as an 'old quarry' in

Robertson, 1937 and on the1922/23 Ordnance Survey map.

This intrusion is part of the Midland Valley Sill Complex intruding into the upper part of the Limestone

Coal Formation (above the Meiklehill Main Coal).

Approximately 10m high cliff faces are exposed along an escarpment through the quartz-microgabbro sill. The medium/coarse-grained nature of the rock would suggest the quarry was positioned in the middle part of the sill, the height of the faces give some indication to the thickness of the intrusion. No evidence of top or base of the sill seen. The exposures vary in their quality along the escarpment, but some areas display good sub-vertical columnar jointing and rusty coloured weathering, typical of a basic igneous intrusion with its high Fe/Mg mineral content. There are also good examples of spheroidal and biological weathering here.

Great views from the site northwards across the Kelvin valley to the Kilsyth Hills and Campsie Fells.

EDC 3: Stratigraphy and rock types

Age: Upper Carboniferous Formation: Midland Valley Sill-Complex

Rock type: Quartz-microgabbro

Assessment of site value

Access and safety

Aspect/Description

Road access and parking Street parking is available in the housing estate at the southern edge of Twechar village, opposite the school. Footpath from here heads uphill across grassy farmland to wooded area where the exposures are. Need to cross old barbed wire fence to access woodland. Few minutes walk.

Safety of access Gently sloping ground in fairly open mature woodland, access is fine with a little care.

Safety of exposure Quarry faces should be checked for any loose material which may fall. Permission to visit No permission sought

Current condition Good; moss and ivy growing in places on the quarry faces but generally they are well exposed. Some good biological weathering where tree roots are growing in the joints of the microgabbro. Minor amounts of household/garden rubbish in places, generally clean.

Current conflicting activities None

Restricting conditions None known

Nature of exposure Vertical quarry faces

Culture, heritage & economic

Historic, archaeological & literary associations None known. Rating: 0.

Aesthetic landscape Farmland at the edge of the village of Twechar. Good views over 2 the village to the Kilsyth Hills

History of earth sciences None known. Rating: 0.

Economic geology Former road metal quarry. Rating: 2.

EDC 3: Geoscientific merit

EDC 3: Board Craigs Quarry, Twechar. Geoscientific merit.

Total geoscientific merit score 22

Current site value

Community Dog walkers and local residents are likely to visit the fields adjacent to the site, located immediately behind a residential estate. Rating: 8.

Education The quarry exposes typical features associated with the middle part of a thick sill, and some examples of spheroidal and biological weathering. Rating: 4.

Fragility and potential use of the site

Fragility Geohazard

Potential use: School

Geodiversity value

Geologically this site displays a good section through the middle part of a thick quartz- microgabbro intrusion, combined with being used as a local resource and the great view to the Campsie Fells. Rating: 3.

Photographs

(Photo 12) Part of the quarry face exposing the quartz-microgabbro sill at Board Craigs. Looking SW.

(Photo 13) Well-developed sub-vertical columnar jointing in the quartz-microgabbro. Looking SSE.

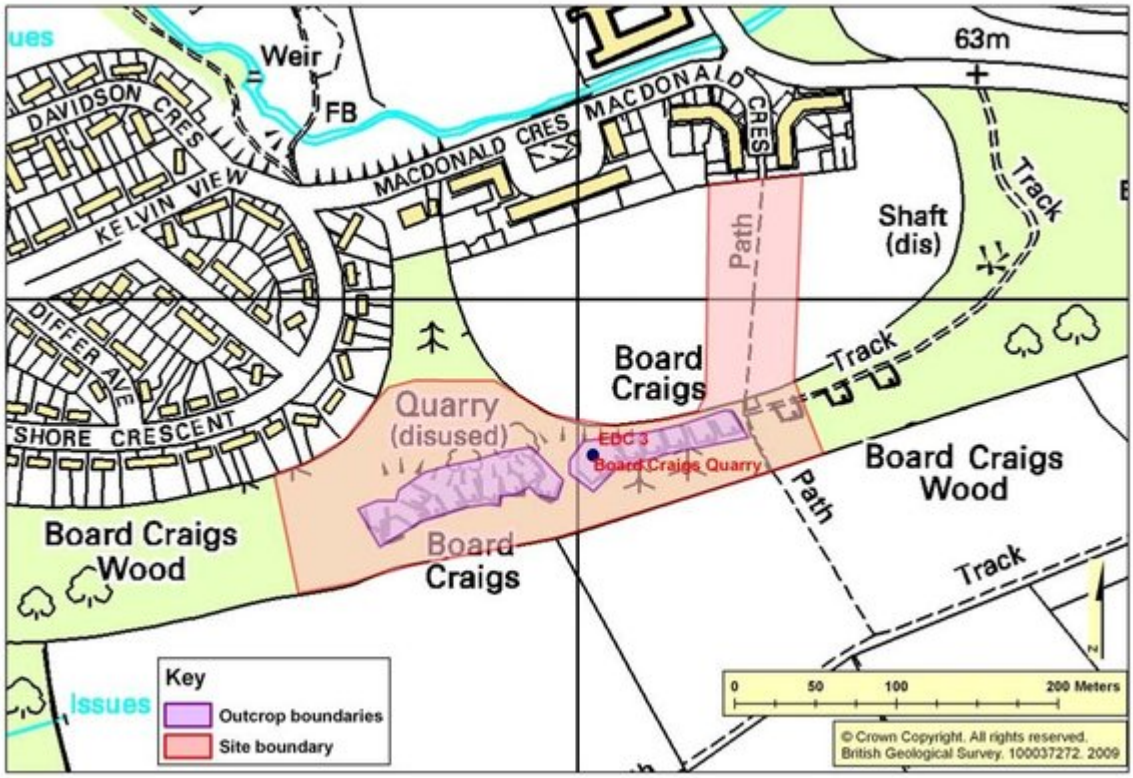
(Photo 14) Rusty-coloured weathering of the quartz-microgabbro, resulting from the oxidation of the iron-rich minerals. Looking SSE.

(Photo 15) Example of biological weathering where tree roots have exploited the joints in the quartz- microgabbro. As the roots grow and thicken, the blocks of rock are pushed apart and finally fall away from the face leaving the roots exposed. Looking S.

(Photo 16) Looking NNW from the escarpment formed by quarrying of the igneous intrusion over Twechar village to the snow-capped Kilsyth Hills in the distance.

(Photo 17) Panorama over Twechar village allowing interpretation of the landscape features on both a local and regional scale. The snow-capped Kilsyth Hills and Campsie Fells in the distance are made up of volcanic rocks belonging to the Clyde Plateau Volcanic Formation. These igneous rocks are as a rule hard wearing and resistant to erosion, so that when our present-day landscape was being sculpted during the last ice-age they resisted erosion resulting in high ground. Conversely, the Kelvin Valley is largely underlain by relatively soft sedimentary rocks from the Clackmannan Group, which were preferentially eroded by the ice and now form low ground which is used by the River Kelvin.

Bibliography



(Figure 3) Board Craigs Quarry location map.

GeoScientific Merit	Rarity	Quality	Literature/ Collections	1st
Litho Stratigraphy	0	0	0	☐
Sedimentology	0	0	0	☐
Igneous/Mineral/ Metamorphic Geology	5	4	2	☐
Structural Geology	2	2	0	☐
Palaeontology	0	0	0	☐
Geomorphology	4	3	0	☐

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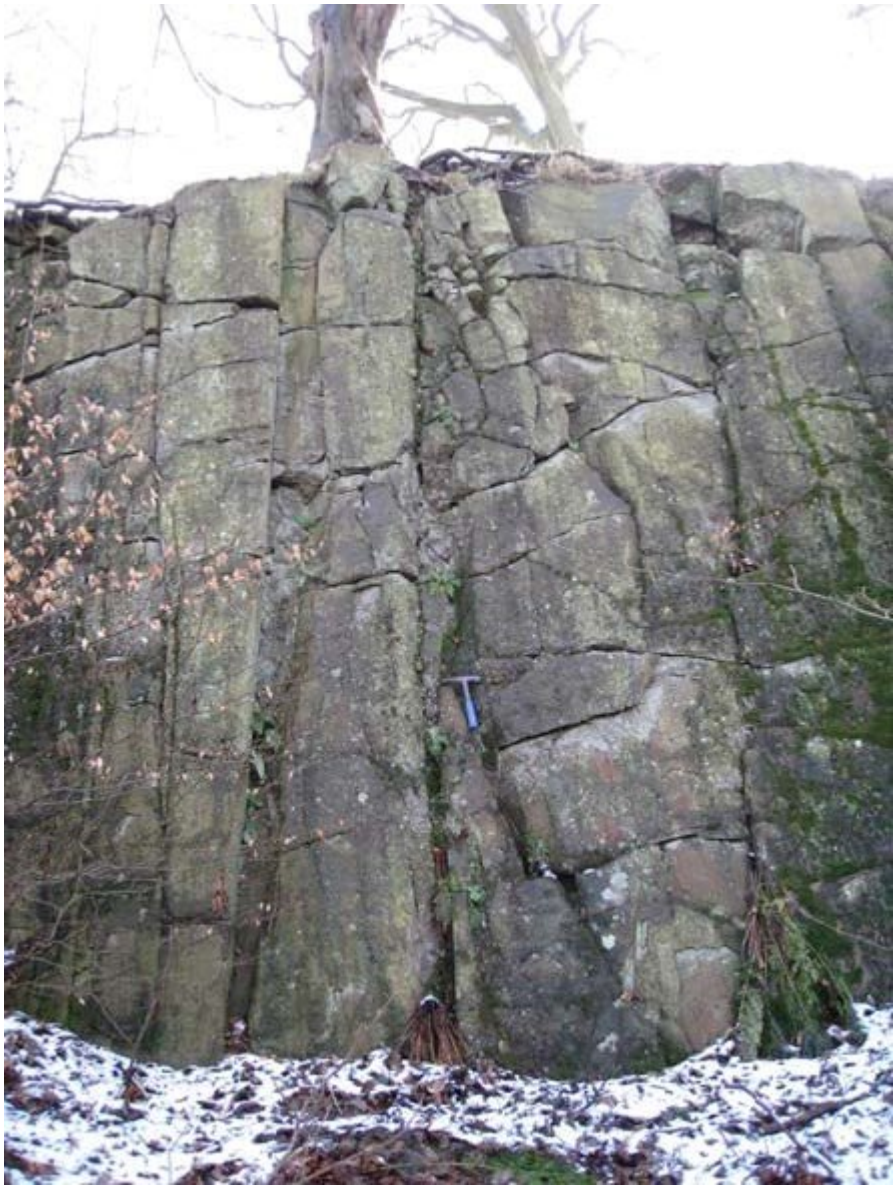

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