EDC 28: Baldernock Mill, Baldernock

Grid reference: [NS 57491 74862]

Site type: Natural section

Site ownership: Not known but appears to be in a private garden

Current use: Private Country

Field surveyor: Sarah Arkley & Mike Browne

Current geological designations: None

Date visited: 2nd April 2009

Site map

(Figure 28) Baldernock Mill Location Map

Summary description

Stream section immediately south of Baldernock Mill exposing sedimentary rocks belonging to the Lawmuir Formation with a small intrusion.

Section in the easterly bank of the burn displays a limestone at the base overlain by dark mudstones which are intruded by a sill. The thin intrusion is seen to 'step' or change levels part way along the section, a feature known as transgression.

Baldernock Mill has a long history and the millstone outside may well be from Craigmaddie Muir (EDC_14), where they were reputedly made.

Craigenglen Beds (marine band) exposed here – Glasgow memoir p29.

EDC 28: Stratigraphy and rock types

Age: Carboniferous Formation: Lawmuir Formation

Rock type: Sedimentary Rock Cycles of the Strathclyde Group Type.

Age: Carboniferous to Early Permian

Formation: Milngavie Sills, Western Midland Valley Westphalian to Early Permian Sills

Rock type: Basalt and microgabbro

Assessment of site value

Access and safety

Aspect/Description

Road access and parking Parking is available off the road adjacent to the burial ground in Baldernock opposite the church. Walk down the quiet single-track Dowan Road to reach Baldernock Mill.

Safety of access Care should be taken in the stream with slippery rocks

Safety of exposure Section appears stable

Permission to visit No permission sought but appears to be within a private garden

Current condition Good, lower part of the section is kept clean by flowing water

Current conflicting activities None known

Restricting conditions Main section is in private grounds belonging to the Mill, part of the garden

Nature of exposure Cliff section in the valley side

Culture, heritage & economic

Historic, archaeological & literary associations 16th Century Mill with working overshot wheel and millstone outside on display. Rating: 5.

Aesthetic landscape. Rating: 2.

History of earth sciences None known. Rating: 0.

Economic geology None recorded. Rating: 0.

EDC 28: Geoscientific merit

EDC 28: Baldernock Mill, Baldernock. Geoscientific merit.

Total Geoscientific merit score 45

Current site value

Community. Rating: 6.

Education. Rating: 6.

Fragility and potential use of the site

Fragility None

Potential use Research, Higher/Further Education, School, Multidisciplinary

Geodiversity value

The main value of this site is the presence of a transgressing sill, a feature rarely so well exposed. The mill adjacent to the site is a good historical/cultural link. Rating: 7.

Photographs

(Photo 174) View looking SSW taken from just south of Baldernock Mill. The river cliff exposes a jointed alkali microgabbro sill of late Carboniferous to early Permian age which intrudes sedimentary strata of the Lawmuir Formation.

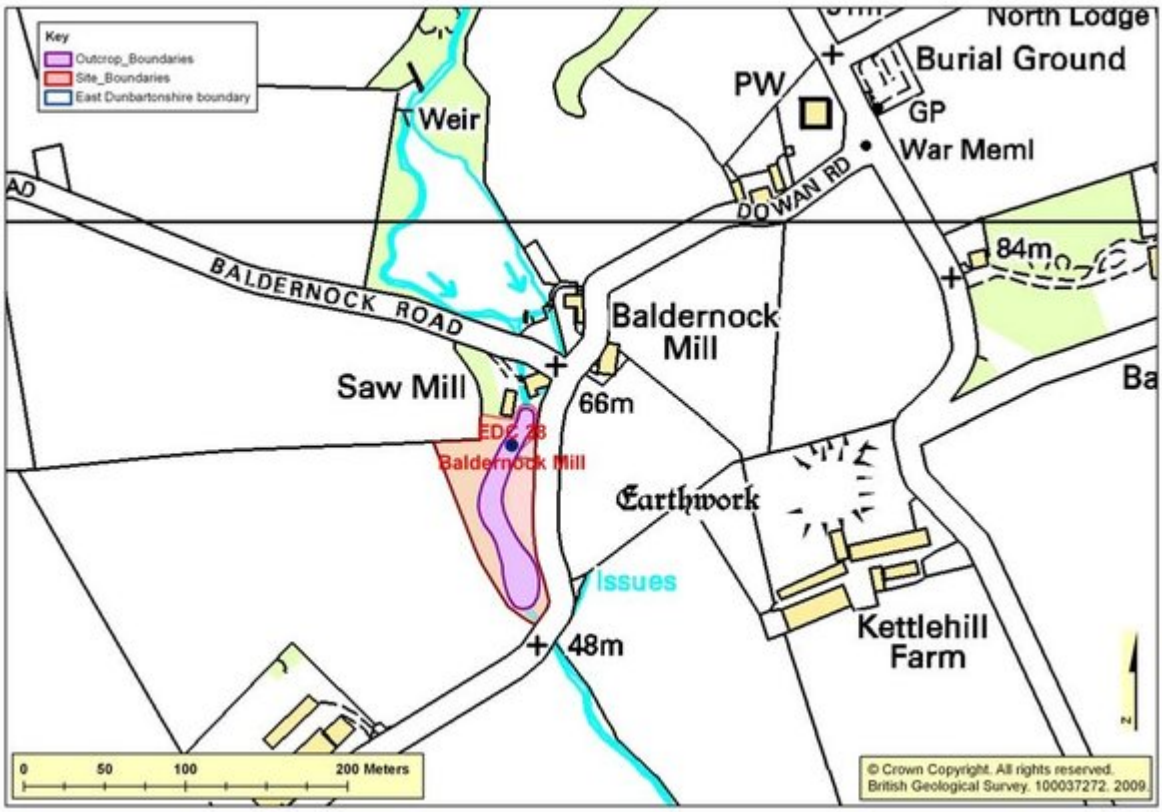
(Photo 175) Close-up of the contact between the microgabbro sill and the underlying sedimentary rocks. Microgabbro, as with most igneous rock, is relatively resistant to erosion and here displays few joints which could be exploited by weathering agents, resulting in an overhang. In contrast, the underlying sedimentary rocks are fine-grained and thinly bedded, and easily eroded by flowing water. The ledge forming near the water level contains a bed of crinoidal limestone. Note the step in the base of the intrusion (towards the left-hand edge of the picture) this may be referred to as 'transgression', where a flat intrusion moves up from one level to a different level in the country rock.

(Photo 176) A millstone lying against the side of Baldernock Mill, which was used when the building was a grain mill (pre 1875) before it was turned into a saw mill. The source of the stone is unknown, although there are records which suggest that the sandstones of Craigmaddie Muir were exploited for millstones.

(Photo 177) Baldernock Mill, built from local sandstone during the16th century, included a brick kiln in the basement for drying the grain before milling. The present wheel, seen above, is 18ft in diameter with 48 steel buckets.

(Photo 178) The water supply for Baldernock Mill came from a dam 250yds upstream; running through a tunnel beneath the road to reach the mill, seen above. The mill was largely restored in the 1970's after falling into disrepair.

Bibliography



(Figure 28) Baldernock Mill location map.

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

EDC 28: Baldernock Mill, Baldernock. Geoscientific merit.

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