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## EDC 13: Blairskaith Quarry, Blairskaith

**Grid reference:** [NS 59491 75606]

**Site type:** Artificial quarry workings

**Site ownership:** Not known

**Current use:** Disused

**Field surveyor:** Sarah Arkley & Luis Albornoz-Parra

**Current geological designations:** None

**Date visited:** 9th March 2009

### Site map

(Figure 13) Blairskaith Quarry Location Map

### Summary description

Disused mudstone quarry, formerly used for manufacture of bricks.

The mudstone beds are part of the Lower Limestone Formation, located above and below the Blackhall Limestone.

The quarry contains a number of sections mainly exposing black fissile mudstones with some dolostone beds. Fallen blocks display a fantastic variety of fossils and sedimentary structures. This is a great site for groups to see a whole selection of geological features found in sedimentary rocks within a safe environment. Fossils include fish material (scales, coprolites), plant debris (Stigmaraia, Ulodendron) and a variety of other fossils including crinoids, nautiloids and brachiopods. Sedimentary structures include septarian nodules and desiccation cracks.

The mudstones in the lower part of the Lower Limestone Formation are generally barren or only yield ostracods, fish debris or *Curvirimula* (Hall et al, 1998). Clayband ironstones are on the other hand are abundant in this part of the sequence, north of the Clyde these were known as the Campsie Clayband Ironstones and were worked at Blairskaith (Hall et al., 1998).

Excellent site.

### EDC 13: Stratigraphy and rock types

**Age:** Lower Carboniferous Formation: Lower Limestone Formation

**Rock type:** Sedimentary Rock Cycles of the Clackmannan Group Type

**Age:** Lower Carboniferous Formation: Blackhall Limestone, Lower Limestone Formation

**Rock type:** Limestone

### Assessment of site value

### Access and safety

## **Aspect/Description**

**Road access and parking** Parking probably best south of the quarry near Easter Blairskaith Farm, alternatively there is a rough track to the north of the quarry which could be used.

**Safety of access** Good access. Large quarry with undulating terrain, partly wooded,

**Safety of exposure** Quarry faces appear fairly stable, plenty of interesting material available away from the faces too.

**Permission to visit** No permission sought

**Current condition** Some of the faces are fairly degraded.

**Current conflicting activities** Former quarries could be targeted for landfill.

**Restricting conditions** None

**Nature of exposure** Degraded quarry faces

## **Culture, heritage & economic**

### **Historic, archaeological & literary associations**

None known. Rating: 0.

**Aesthetic landscape** Open ground, with wooded areas. Rating: 3.

**History of earth sciences** None known. Rating: 0.

**Economic geology** Quarried for mudstone. Rating: 5.

## **EDC 13: Geoscientific merit**

**EDC 13: Blairskaith Quarry, Blairskaith. Geoscientific merit.**

**Total Geoscientific merit score 44**

## **Current site value**

**Community** As a suggested site in the 'Glasgow Geological Society. Excursion Guide', interested geologists will already be aware of and visit this site. Rating: 6.

**Education** Excellent variety of rock types, sedimentary structures and 8 fossils can be observed here, with the added bonus of the nearby mine at Linn of Baldernock and associated karst features. Rating: 8.

## **Fragility and potential use of the site**

**Fragility** Erosion, Natural Overgrowth, Over-collecting, Development (Potential for landfill)

**Potential use** Research, Higher/Further Education, School, On-site Interpretation, Geotrail, Multidisciplinary

## **Geodiversity value**

The main value of this site is the diverse range of sedimentary rock types, fossils and structures which can be observed here. Visitors of any age and geological expertise will find something of interest here, the exposures are safe, specimens are numerous and varied, and the site has good access. An excellent site. . Rating: 7.

## Photographs

(Photo 62) Panorama across Blairskaithe Quarry from the northern edge. This former brick clay pit exposes the Blackhall Limestone and adjacent black mudstones of the Lower Limestone Formation.

(Photo 63) Small-scale faulting is highlighted by an offset ironstone band with a thick sequence of laminated black mudstones. Looking NE.

(Photo 64) Ironstone nodules of various sizes can be found lying around the quarry, weathered out of the rock face. Most of these are of iron-carbonate composition and some show 'septarian' structures (internal shrinkage cracks infilled with mineral precipitate, usually calcite).

(Photo 65) A fallen block displaying desiccation cracks. The network of ridges on the surface represent infilled cracks which formed as a layer of mud dried out when the sediments were originally deposited.

(Photo 66) A fallen block displaying a variety of fossils.

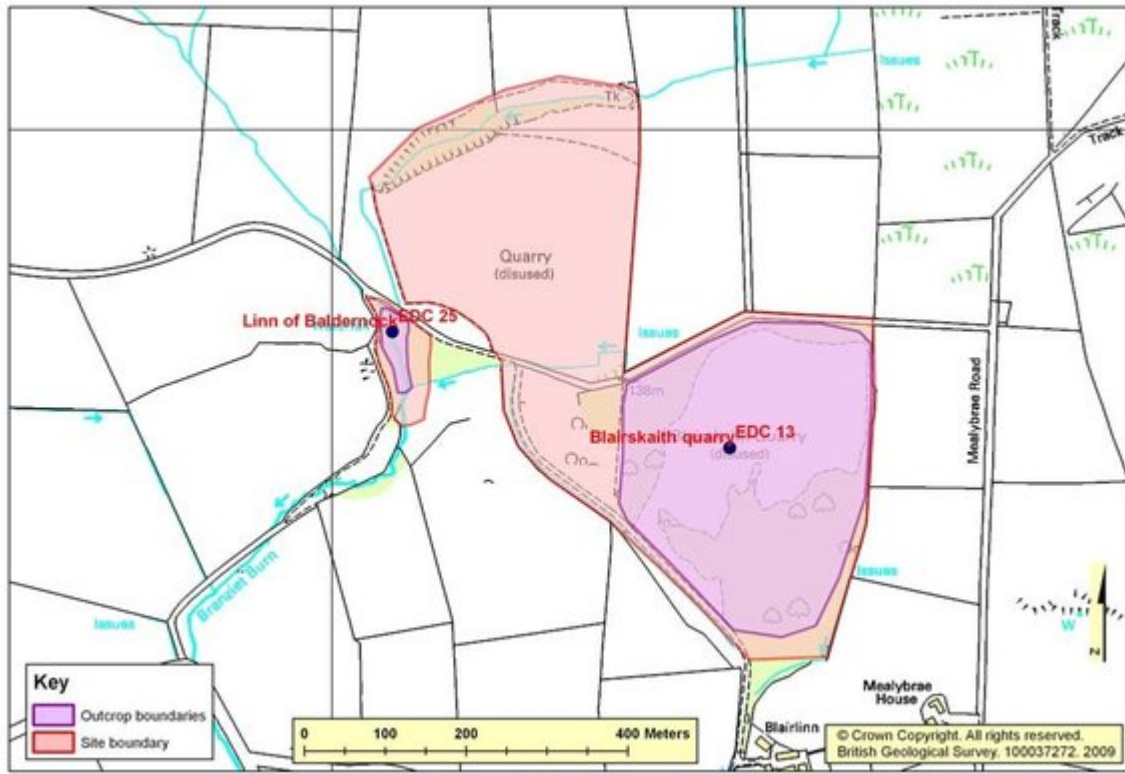
(Photo 67) Pale coloured 'coprolites' (fossilised faecal pellets) within dark mudstones, each containing shiny black fish scales. The size and composition of the coprolites suggests that they are likely to have come from a large predator such as a shark.

(Photo 68) Fallen block of fossiliferous 'crinoidal' limestone. Most of the fragments visible to the eye are small crinoidal columns which weather proud of the fine-grained lime matrix. The presence of crinoidal fragments suggests that this limestone was formed in fully marine conditions.

(Photo 69) Fallen block displaying a good example of 'stigmara', the fossilised root of a tree. The tiny round holes scattered across the surface of the root are thought to be where smaller rootlets were attached.

(Photo 70) Fallen block displaying relatively rare examples of 'Ulodendron majus', fossilised fragments of tree bark. The central circular to oval depressions are thought to represent the scars where branches or cones were attached.

## [Bibliography](#)



(Figure 13) Blairkaith Quarry location map.

GeoScientific Merit	Rarity	Quality	Literature/ Collections	1st
Litho Stratigraphy	6	6	4	<input checked="" type="checkbox"/>
Sedimentology	5	5	2	<input type="checkbox"/>
Igneous/Mineral/ Metamorphic Geology	0	0	0	<input type="checkbox"/>
Structural Geology	2	2	0	<input type="checkbox"/>
Palaeontology	6	6	2	<input type="checkbox"/>
Geomorphology	0	0	0	<input type="checkbox"/>

EDC 13: Blairkaith Quarry, Blairkaith. Geoscientific merit.



(Photo 62) Panorama across Blairkaith Quarry from the northern edge. This former brick clay pit exposes the Blackhall Limestone and adjacent black mudstones of the Lower Limestone Formation.





*(Photo 63) Small-scale faulting is highlighted by an offset ironstone band with a thick sequence of laminated black mudstones. Looking NE.*



*(Photo 64) Ironstone nodules of various sizes can be found lying around the quarry, weathered out of the rock face. Most of these are of iron-carbonate composition and some show 'septarian' structures (internal shrinkage cracks infilled with*



*mineral precipitate, usually calcite).*



*(Photo 65) A fallen block displaying desiccation cracks. The network of ridges on the surface represent infilled cracks which formed as a layer of mud dried out when the sediments were originally deposited.*



*(Photo 66) A fallen block displaying a variety of fossils.*





*(Photo 67) Pale coloured 'coprolites' (fossilised faecal pellets) within dark mudstones, each containing shiny black fish scales. The size and composition of the coprolites suggests that they are likely to have come from a large predator such as a shark.*



*(Photo 68) Fallen block of fossiliferous 'crinoidal' limestone. Most of the fragments visible to the eye are small crinoidal columns which weather proud of the fine-grained lime matrix. The presence of crinoidal fragments suggests that this limestone was formed in fully marine conditions.*





*(Photo 69) Fallen block displaying a good example of 'stigma', the fossilised root of a tree. The tiny round holes scattered across the surface of the root are thought to be where smaller rootlets were attached.*



*(Photo 70) Fallen block displaying relatively rare examples of 'Ulodendron majus', fossilised fragments of tree bark. The central circular to oval depressions are thought to represent the scars where branches or cones were attached.*