

## **Cow and Calf Rocks, Ilkley**

STATUS: Local Geological Site

OTHER DESIGNATIONS: Local Wildlife Site

COUNTY: West Yorkshire

DISTRICT: Bradford

OS GRID REF: SE 131 467

OS SHEET 1:50,000 Landranger 104 Leeds and Bradford

OS SHEET: 1:25 000 Explorer 297 Lower Wharfedale & Washburn Valley

BGS 1:50 000 Sheet 69, Bradford (Solid & Drift Edition)

FIRST DESIGNATED by West Yorkshire RIGS Group in 1996

DATE OF MOST RECENT SURVEY January 2010 by West Yorkshire Geology Trust

SCIENTIFIC INFORMATION produced by Neil Aitkenhead

DESIGNATION SHEET UPDATED August 2009



### **SITE DESCRIPTION:**

Prominent natural cliff and quarry face exposures in two quarries illustrate a variety of sedimentary structures of the Addingham Edge Grit, including large scale cross bedding and well preserved ripple marks. The latter are seen at one point on the left of the entrance to Cow and Calf quarry where they lie below the main face and are associated with trace fossils indicating an upwards change from peri-marine to fluvial environments of deposition. Hangingstones Quarry, to the west of the Cow and Calf, has glacial striations on a bedding plane above the western end of the quarry at SE 1270 4673. The Calf is the large block which has moved down the slope from the main slope, probably under an ice cover. Its rocks can be matched with the section of the face above (the Cow), from which it has become detached, by looking at cross-bedding and weathering features.

### **HISTORICAL ASSOCIATIONS:**

Many of the Victorian buildings of Ilkley were constructed with stone quarried from this site. The site contains the remains of a tramway constructed to transport stone down to the road for its removal.

### **EDUCATIONAL VALUE:**

This is an excellent site for educational use at all levels. The site demonstrates sedimentation, weathering and faulting. In addition, the evidence of glaciation will be of interest. The Geology Trail leaflet produced by the Wharfedale Naturalists' Society in 1994 introduces additional sites which can be visited in a 2-hour walk. The glacial moraine at Lanshaw Delves lies 2km to the south of the Cow and Calf Rocks and is easily reached by footpath.

### **AESTHETIC CHARACTERISTICS:**

There are excellent views overlooking the glaciated Wharfe Valley and Guiseley Gap where a branch of the Wharfedale ice stream flowed south eastwards, as indicated by a small drumlin field, to join the Airedale ice stream.

### **ACCESS AND SAFETY:**

Bus or train to Ben Rhydding (1km) or Ilkley (2km), or park in the car park adjacent to the Cow and Calf Rocks. There are no public toilets. All localities are easily reached by footpath. There are potential hazards at this site, especially at the top of unfenced quarry faces and from falling stones at the foot of such faces.