

Otley Chevin and Caley Crag

STATUS: Local Geological Site

OTHER DESIGNATIONS: Local Nature Reserve

COUNTY: West Yorkshire

DISTRICT: Leeds

OS GRID REF. SE 1944, SE 2044, SE 2144, SE 2244

OS 1:50,000 Landranger 104 Leeds and Bradford

OS 1:25,000 Explorer 287 Lower Wharfedale and Washburn Valley

BGS 1:50,000 Sheet 69 Bradford

FIRST DESIGNATED West Yorkshire RIGS Group in 1997

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

DESIGNATION SHEET UPDATED August 2009



SITE DESCRIPTION:

Otley Chevin is an escarpment which faces north over the Wharfe Valley and is composed of alternating sandstones and shales of Upper Carboniferous Kinderscoutian age. The steep north face is composed of shales and thin sandstones which are exposed in crags and eroded footpaths.

Extensive exposures of Addingham Edge Grit cap the top of the escarpment which includes Otley Chevin and Caley Crag and have been quarried in several places.

These exposures display a wealth of information about their environment of deposition. Large scale cross bedding, ripple marks, graded bedding, shale bands, soft sediment deformation and bark impressions can all be found in sandstones. Near Danefield Quarry (East Chevin Quarry) fossil grazing trails can be seen in fine sandstone.

Yorkgate Quarry shows High Moor Sandstone at the top of the quarry, overlying shale, which includes 30cm of fireclay and a very thin coal seam (the Morton Banks Coal), which lies directly above dipping bedding planes of the Doubler Stones Sandstone/Lower Kinderscout Grit.

Below the escarpment the hillside displays a close relationship to the underlying geology with marked step and bench features as the sandstones and shales alternate.

The north facing slope has been subject to landslipping and has hummocky topography, largely wooded. At Caley Crag large blocks of the Addingham Edge Grit have moved down the hillside due to mass wasting processes. Further to the east, one block is balanced on the top of a crag and is called the Rocking Stone.

From the top of the escarpment extensive views of Wharfedale and Airedale can be seen to the north.

These reveal a variety of geomorphological features which can be linked to the underlying geology as well as the work of ice and glacial meltwater.

HISTORICAL ASSOCIATIONS:

The Chevin has a rich history of human settlement stretching back into Palaeolithic times. Flint tools, Bronze Age rock carvings and Iron Age earthworks have been found. In medieval times the forest park was used as common pasture land, as a source of wood and sandstones for buildings and walls.

The high ground near Surprise View had a beacon which was part of a national chain of beacons used for celebrations or to give warnings.

EDUCATIONAL VALUE:

The extensive rock exposures can be used for education at all levels. This is a good area in which to demonstrate bedding, rock types, textures and structures, as well as the relationships between geology and scenery.

AESTHETIC CHARACTERISTICS:

There are excellent views to the north over the Wharfe valley and the Pennines. J.M.W. Turner often painted in the Otley area.

The diverse soils which derive from sandstones and shale support many different plants and trees.

There is a variety of types of woodlands with rocky exposures which are very attractive.

ACCESS AND SAFETY:

There is good access from top or bottom of the hillsides, with plenty of parking places in five car parks on the adjacent roads. Traffic is very fast moving on the roads, so care should be taken when crossing from one part of the Forest to the other. Footpaths are steep in places but generally clear and safe. The area is suitable for large groups, though care is needed on high rock faces.