



## **Green's Clough, Cliviger**

STATUS: Local Geological Site

OTHER DESIGNATIONS:

COUNTY: West Yorkshire

DISTRICT: Calderdale

OS GRID REF. SD 892 260 (Green Clough) to 903 266 (Whitaker Naze)

OS 1:50,000 Landranger 103 Blackburn and Burnley

OS 1:25,000 Explorer OL 21 South Pennines

BGS 1:50,000 Sheet 76 Rochdale

FIRST DESIGNATED by West Yorkshire RIGS Group in 1996

MOST RECENT SURVEY West Yorkshire Geology Trust in February 2009

DESIGNATION SHEET UPDATED March 2011

### **SITE DESCRIPTION:**

The rocks are Upper Carboniferous Namurian (Millstone Grit) and Westphalian (Coal Measures) sandstones, siltstones and shales, with some coal seams. This sequence coarsens upwards because of delta advance into a deep water basin, so alternating beds form several cyclothems. Green's Clough cuts through the sequence and exposes at least 4 sandstone layers in the stream bed and on the sides of the valley, with intervening mudstones and coals.

Cliviger Gorge runs along the Todmorden Smash Belt which has major faults which form weaknesses for subsequent weathering and erosion to take place. It is an important geomorphological feature, a remarkable example of an over-deepened valley formed by escaping melt water at the end of the last glacial period. The deepening of the main valley caused tributary streams to form hanging valleys, where the underlying strata are exposed in steep sided cloughs, such as Green's Clough. Cliviger Gorge, with its precipitous slopes, is prone to landslips and rotational slides.

### **HISTORICAL ASSOCIATIONS:**

There is a mine entrance at the SW end of the LGS, which produces some acid mine water.

There are many other features of interest in Cliviger Gorge. Evidence of coal and lead mining can be seen near Thieveley Scout. Riddle Scout is the site of an 18th century iron stone mine. There are many packhorse routes in the district which enabled lead and iron ore to be transported to Yorkshire for smelting.

### **EDUCATIONAL VALUE:**

The Cliviger Valley contains many features of educational interest including landforms, major faulting, mineralisation, marine bands and exposures of Coal Measure cyclothems.

### **AESTHETIC CHARACTERISTICS:**

The dramatic landscape of the Cliviger Gorge can be viewed from its extensive network of footpaths.

### **ACCESS AND SAFETY:**

Cars can be parked at Portsmouth off the main road, adjacent to the post office. Green's Clough may be reached by the footpath leading through Chatham Hill Plantation and can be followed up the clough to the waterfall at the top which marks the end of the LGS. It has excellent views down into the clough and across Cliviger Gorge. Permission would need to be gained for access to the stream bed to examine the rocks in detail.