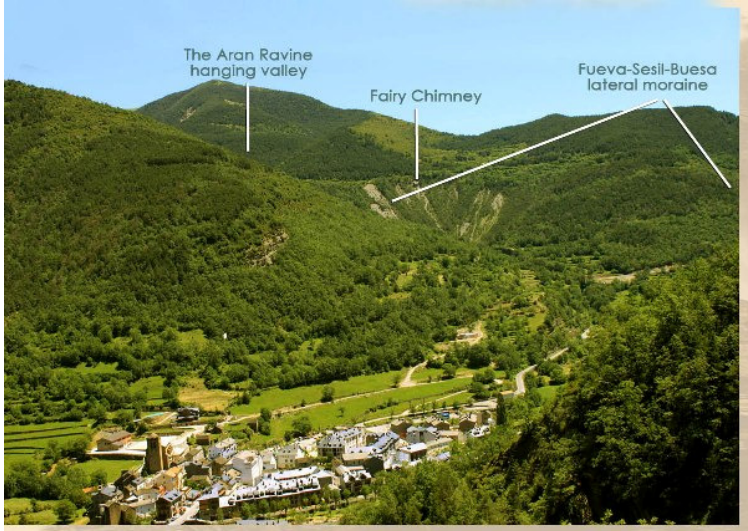
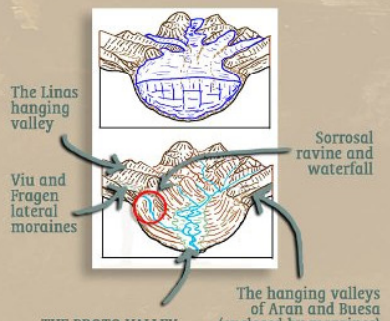
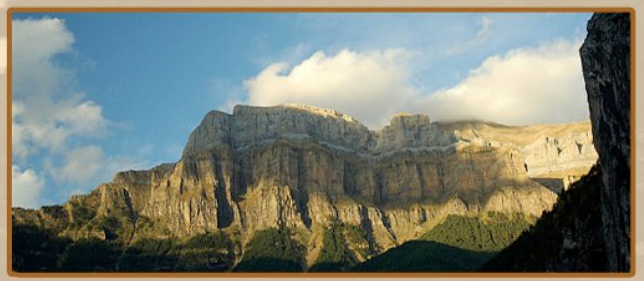


9.- THE PUEYO VIEWPOINT

Enjoy a stunning finish at 1100 meters above sea level, overlooking the valley south of Broto, modelled by glaciers.

From here we can now make out the north entrance of the Valley of Ordesa.





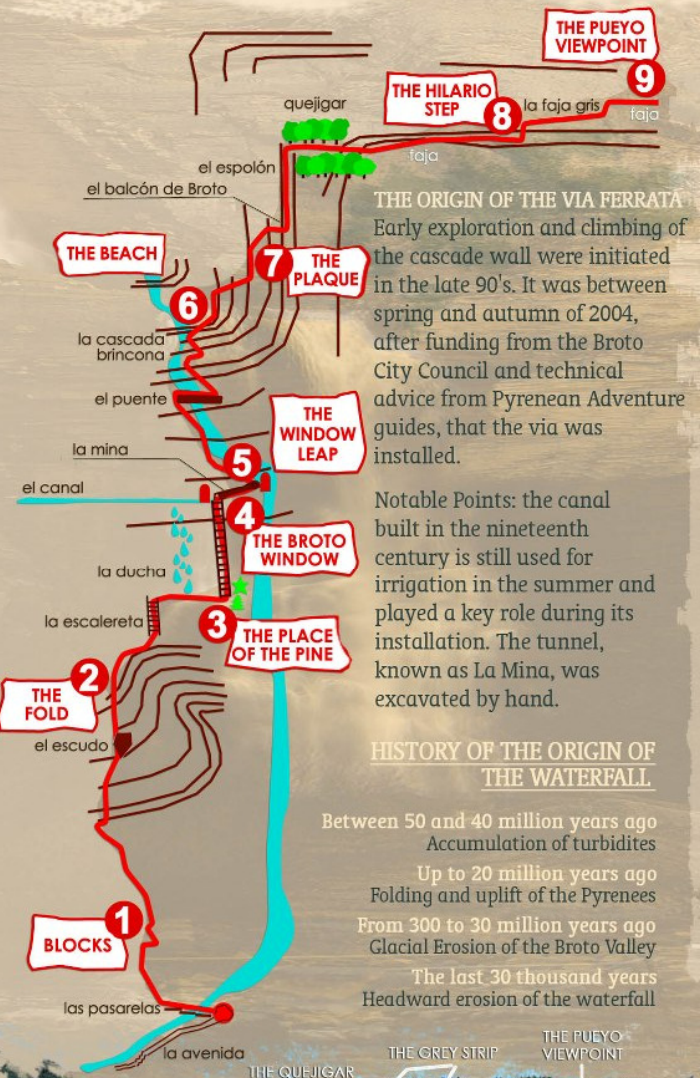
Valley of Ordesa

SAFETY WARNINGS

The Sorrosal via ferrata is a climbing route, facilitated by ironwork. Because of this it is mandatory to have previous experience and use appropriate safety equipment to climb it: helmet, harness and energy absorbing brakes approved for via ferrata use and to personally accept the risks inherent in this activity: the possibility of falls, rock falls, lightning, etc.

If you lack some of these requirements or want more information, consult and/or hire a mountain guide.

* Texts: J. M. Samsó
* Photographs: J.M. Samso, A. Cambronero y Archivo Comarcal de Sobrarbe: J. Izeta.



THE ORIGIN OF THE VIA FERRATA

Early exploration and climbing of the cascade wall were initiated in the late 90's. It was between spring and autumn of 2004, after funding from the Broto City Council and technical advice from Pyrenean Adventure guides, that the via was installed.

Notable Points: the canal built in the nineteenth century is still used for irrigation in the summer and played a key role during its installation. The tunnel, known as La Mina, was excavated by hand.

HISTORY OF THE ORIGIN OF THE WATERFALL

Between 50 and 40 million years ago
Accumulation of turbidites

Up to 20 million years ago
Folding and uplift of the Pyrenees

From 300 to 30 million years ago
Glacial Erosion of the Broto Valley

The last 30 thousand years
Headward erosion of the waterfall

The Sorrosal Cascade

A trip to the deep seafloor of the Pyrenees along the via ferrata

Broto (Huesca)

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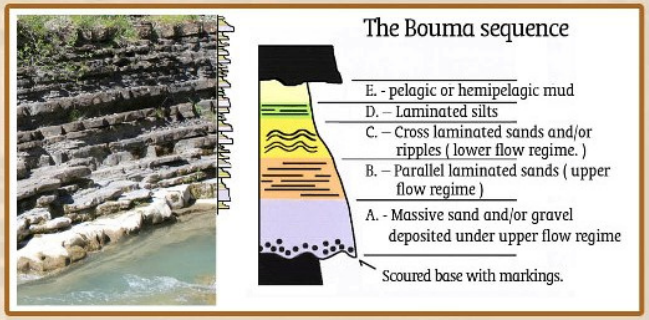
The completion of the 'via ferrata' in the Sorrosal Cascade allows us to see different and important geological features.

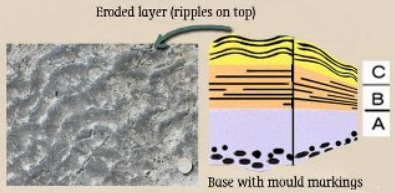
The rocks that we can see in the Sorrosal cascade formation are of turbiditic origin, formed under the sea. They were then lifted and folded spectacularly well above sea level between 50 and 20 million years ago during the Alpine Orogeny.

The Surpirenaica Turbidite Basin. Its origin was in the collision of the African, Eurasian and Iberian plates that enclosed the Tethys Sea. Between 50 and 30 million years ago it created a sedimentary groove that was filled from E. to W (from the Tremp and Graus Basin to the Basque Country).

The turbidites: These sedimentary rocks are caused by turbidity currents. Each layer has all or part of the characteristics of the Bouma sequence. This is caused by settling, coarse sand getting to the bottom first and then gradually finer materials until clay.



Later erosion tends to wear down the clay and fine silt leaving flat layers of sand with trace patterns on the base and waves or "ripples" on the top.



A deep sea in which the imprints of animals that lived on the muddy bottom remain

Most trace fossils that we find correspond to the food, movement or rest of animals shaped like worms. Tubes filled with sand or shale left behind by mud eaters stand out.

Along the course of the via ferrata we can find many outstanding points of geological interest:

1.- BLOCKS: ERODED BASE MARKS AND FOSSIL TRACES

The layers near the waterfall have bases filled with flutes, these are base marks formed by current, which here indicate E - W transport. In the loose blocks we can see good examples of flutes, trace fossils and thick layers where we can observe the Bouma Sequence.

2.- THE FOLD

This is a spectacular anticlinal fold that runs along the track. The hinge is acute or rounded thanks to the groups of layers containing more clay that cushion the deformation facilitating the slip layer upon layer.

3.- THE PLACE OF THE PINE

Here we can see a thrust which is normally difficult to see in these types of rocks. Also in this landscape we can see rippled surface layers and abundant joints (fractures).

4.- THE BROTO STAIRS AND WINDOW

These strips are sets of small layers, with sections D and E of the Bouma Sequence (shale and clay). The stages with many sandy layers, channels and lobes are essentially sections A, B and C of the sequence.

5.- THE WINDOW LEAP AND THE BRIDGE

This section crosses a concentration of feeble channels and turbidite lobes. The presence of large sandy layers provides greater resistance to erosion by the river and its channel is embedded.

6.- THE BRINCON WATERFALL AND THE BEACH.

On the beach the synclinal fold that forms authentic solariums stands out. On the surface the ripples are very diffuse with a spectacular gravel canal and some scattered shells of foraminifera.

7.- THE PLAQUE AND THE BROTO BALCONY

Here we can see spectacular surface layers with ripples.

8.- STRIPS, THE HILARIO STEP AND THE GREY STRIP

The gray strip has conglomeratic channels and ridges and the matrix contains foraminifera including Nummulites and Assilinas. These fossils come from remote areas, they live less than 100 meters deep. We also see sand-filled tubes, the remains of mud-eating animals, inhabitants of the deep seas.