

Sat 17 August 2019 CGS visit to Shapfell quarry, Hardendale : PAST,PRESENT AND FUTURE

Meeting arrangements

Meet at 10.00am at the road corner 'Castlehouse Scar' NY 590146. Take the Crosby Ravensworth Road from Shap village, turn right by the wood & park at the road corner. Please park tidily & consider car sharing if possible. Hi-vis recommended, hard hats not needed.

We will be met by the Tata Steel Operations Manager & Quarry manager. The quarry visit will be in the morning. We will walk slightly uphill to access the quarry via a gate. Inside the quarry, the ground is rough & steep in places. The area is over 300m & can be exposed. In the afternoon we will walk round the proposed quarry perimeter geology trail. Total walking distance about 3 miles

If you have any problems finding the quarry contact Sylvia on 07876 787 208

Shapfell Limestone Quarry : The Past

The land on Hardendale Nab was formerly agricultural grazing land. Colvilles of Glasgow opened the quarry, in 1962, for crushed limestone for the Scottish steel industry. The limestone has a high CaCO₃ content, with low sulphur and phosphorous, making it suitable for high quality lime. It was taken by a private haul road over the M6 to the Shapfell works site where the quarried stone was crushed, and the fines or 'slime' from the crushing plant were returned to the quarry. Water was pumped into settling tanks. The site includes lagoons and a restored area.

In 1967 Colvilles were taken over by Tata steel, who merged to form Corus in 1999. In 2007 the quarry was purchased by Tata Steel of India. Planning permission was till 2009. In 1996 when the original restoration plan was approved it was assumed that the quarry would be infilled to return the land back for agriculture, and that the rock faces would be obscured by landscaping.

In 2008 Corus made an application to extend the quarry, working down dip to the east, to a level where the underlying mudstone layer was encountered.

Shapfell Limestone Quarry : The Present

In 2009 active drilling and shot blasting at the quarry ceased, and it filled with water. The works uses limestone from Hanson's Shap Beck Quarry, north of Shap NY 554182 and Derbyshire, the latter brought by rail. The quarry site continued to be used to store 'slimes' i.e. the washings from the crushing plant.

In 2018 a new application was submitted to vary the restoration, and to extend the time scale to 18 years, in 3 phases. There was extensive public consultation. Cumbria GeoConservation submitted a response requesting that the rock faces are not obscured by planting, that the geological heritage of the quarry is recognised, & to ensure that accompanied visits for geological groups are made available by appointment.

In 2019 the application was approved, with a planning condition for a scheme for geological interpretation. The new restoration plan will return the land to the landowner in a 'suitably restored

condition'. Around 37 hectares has been restored for agriculture, but the 30 ha of water will remain as a wetland area.

Shapfell Limestone Quarry : The Future

Cumbria GeoConservation is now in discussion with Tata Steel & planning officers of Cumbria County Council over the details of the geological interpretation scheme.

The geology

The limestone unit quarried was Knipe Scar limestone (KNL), described by the BGS as rhythmically bedded wackestones with thin interbeds of mudstone and siltstone, with a regional thickness of around 100m. In the quarry the KNL appears pale grey, blocky and well fractured. The strata dip to the east at approximately 5-10°. The clay beds are believed to be weathered from a volcanic origin, lava or ash. The KNL is overlain by the Wintertarn Sandstone Formation (WTRS) of the Yoredale/Alston Group. There is little superficial geology in the area. Some limestone pavement occurs.

The Carboniferous limestone in this area is classed by the Environment Agency as a minor aquifer, due to the low permeability interbedded mudstones and siltstones. Groundwater monitoring began in 2005. The pattern of groundwater movement broadly follows the typical seasonal cycle. Groundwater levels roughly follow surface contours. The quarry sits at the head of three catchments, River Lowther to the west, River Leith to the north & River Lyvennet to the east. There were local concerns about hydrological impacts of the quarry workings.

Attached

Decision notice,
September 2018 consultation document,
Extract from Environmental Statement
Restoration Plan