

STAR Group visit to the National Stone Centre, Cromford, Derbyshire

A party of 13 STAR members visited the National Stone Centre (NSC) at Cromford on the 7th May 2019. The NSC is an educational charity, operated by a group of volunteer trustees, and has a small exhibition, cafe and shop on site and also offers guided tours. Set within six former limestone quarries in the heart of the Derbyshire Dales and close to the Derwent Mills World Heritage Site, it is a designated Site of Special Scientific Interest on account of the geologically important features it exhibits.

Prior to the visit the group had coffee at the Willersley Castle Hotel, close to the famous Cromford Mills historical site and overlooking the lovely River Derwent and its valley. The Hotel is an 18th century Grade II listed building and was commissioned by the great industrialist Sir Richard Arkwright, who is regarded as the father of the modern industrial factory system. However, Arkwright died in 1792 before its completion in 1796. His son, Richard Arkwright Junior, moved in with his family and it remained in the Arkwright family until 1922. It is now a Christian Guild Hotel.

The weather was kind to us and we were also very fortunate in having Peter Jones – a geologist and Emeritus Fellow at the University of Derby – as our guide. The former quarries provide excellent sections across the uppermost Carboniferous limestones of the Derbyshire Dome which are about 330 million years old. A range of geological features are displayed, including bedding, dip, faulting and jointing, together with mineralisation, and galena (PbS), barite (BaSO₄) and fluorite (CaF₂) were all identified.



The reef limestone in the background

The limestones were deposited in shallow water in a tropical marine environment when, in Carboniferous times, Britain occupied a position close to the equator. A particular feature of the site is an excellent exposure of a reef limestone where we identified an abundance of fossils, including brachiopods, corals and, notably, well preserved crinoids stems, often referred to as sea lilies.

We also briefly examined the Millennium Wall where 19 different sections of dry stone wall have been built in traditional style and using local stone from different parts of the country.

After a well-deserved lunch in the Blue Lagoon cafe with its panoramic views, we then walked eastwards along the High Peak Trail off the limestone exposures and onto the shale and sandstones of the overlying Millstone Grit. These rocks were deposited under very different conditions to the limestones, culminating in the imposing sandstone exposure of Black Rock with its magnificent views over the Derwent Valley. These sandstones were laid by rivers in a deltaic environment.



On top of Black Rock

Finally examination of the waste dumps from a former lead/zinc mine revealed specimens of galena, sphalerite (ZnS), barite, fluorite and calcite (CaCO₃).

The visit proved to be most enjoyable with a good mix of intellectual content and exercise; our particular thanks go to Peter Jones for being an excellent guide.

ACKNOWLEDGEMENT:

My sincere thanks to David Highley for researching and organising this very successful STAR Group visit to the National Stone Centre on 7th May and for producing this report. Chris Mason