

All fieldtrips will start from outside the Manchester Museum, unless otherwise indicated, at 9 am, where there will be minibus transport for the fieldtrips. The duration of the fieldtrips varies, but all will return to Manchester. If you would like to travel by car, then directions will be provided. Please check fieldtrip summaries for details of the length of walk and access issues.

Field excursion to Hanson Cement, Ribblesdale Cement Works, Clitheroe BB7 4QF

Leader: Peter del Strother

The cement making process is based on achieving a precisely controlled raw material recipe, which comprises about 80% limestone, the remainder being siliciclastics. Limestone in the adjacent limestone quarry is not pure and the chemistry varies in three dimensions. The quarry is, in effect, a 3D chemistry set, which presents special challenges to quarry operations.

The quarry is in Carboniferous ramp facies limestone of Chadian age. It contains fold structures relating to tectonic compression/shear during the late Tournaisian and early Namurian prior to long term basin subsidence, which created accommodation for the Namurian Pendle Grit and the Westphalian coal measures of the Lancashire coalfield.

We will see key parts of the cement making process to gain an understanding of the relationship between quarried raw materials and the cement manufacturing process. We will also see the wide range of measures taken to minimise the environmental impact of cement manufacture, from replacement of coal with waste-derived fuels to exhaust gas treatment.

If time permits and any members of the group are willing, there are a couple of local sites which could be tacked on to the excursion, such as the Waulsortian mud mound of Salthill and sandstone 'turbidites' in the Pendle Grit. During the cement works visit, numbers permitting, it is planned to examine the nearby Bellman Waulsortian mud mound, also being quarried by the cement works.

Itinerary

9am Departure from Manchester Museum, Oxford Road

11am Arrival and safety briefing

Tour of quarry and cement works

1.30 Departure to return to Manchester for 3pm

PLEASE BRING ALL FOOD AND DRINK, INCLUDING LUNCH, AS THERE IS NOWHERE LOCALLY TO PURCHASE FOOD

This trip is restricted to a maximum of 15 people

Health and Safety

Everyone needs to provide their own safety helmets, walking boots (or safety boots), high viz vests, gloves and safety goggles or similar eye protection. Ordinary spectacles are insufficient. Shorts and T-shirts are not permitted. **Boots must be worn, or access to the site will be denied. Trainers are not acceptable.** As this is a working quarry, all participants must be reasonably active and will have to obey safety instructions. Normal quarry rules will apply. The cement works has large and very hot machinery with a hazard from dust, although dust problems are rare unless it is dry and windy.



Folding in the main cement works quarry, adjacent to the Horrocksford Hall Thrust.



Main quarry: Foreground - folding adjacent to Horrocksford Hall Thrust. Background - thick mudrock beds in the Chadian ramp facies succession.

Geology of the Apedale Valley, North Staffordshire - including a guided walk and an optional underground tour of a coal mine.

Leader: Dr Ian Stimpson (Keele University)

Instructions: Meet at the Apedale Heritage Centre, Loomer Road, Chesterton, Newcastle-under-Lyme, Staffordshire. ST5 7LB at 11 am. Car parking is available at the Heritage Centre where there is a cafe, shop and museum as well as toilet facilities.

This 5km walk through the Apedale Valley in Staffordshire will discuss the practical aspects of geological resources, past present and future as well as some of the other geological features of the country park. Mining in North Staffordshire started Roman times, with early extraction via small bell pits. Deep pits started in the Apedale Valley in 1790 mostly to feed the local iron works and continued to 1926. By the 1980s there were only 7 small 'footrills' left, the last closing in 1998. However, the Aurora Mine has reopened as a visitors' attraction and still extracts a small amount of coal. Apedale was the site of one of the first onshore hydrocarbon exploration wells in 1920 that, whilst failing to find any oil or gas, did discover the Apedale Volcano. The geological origins of the Apedale Valley lie in the Apedale Fault and there are plans to extract geothermal energy for Stoke-on-Trent from the fault-fractured rocks 2km below the surface. Our walk will largely follow route of the old mineral railway lines so is relatively flat. We'll look at the mining history and coal geology, but with some side-tracking into tales of earth, ice and fire - tectonics, glaciers and volcanoes.

Itinerary

11:00 - 13.30 Guided geological walk

13:30 - 14:00 Optional visit to heritage museum and/or lunch at visitors' centre

14:00 & 15.00 Optional mine tours - to be confirmed with Heritage Centre

Mine tour costs:

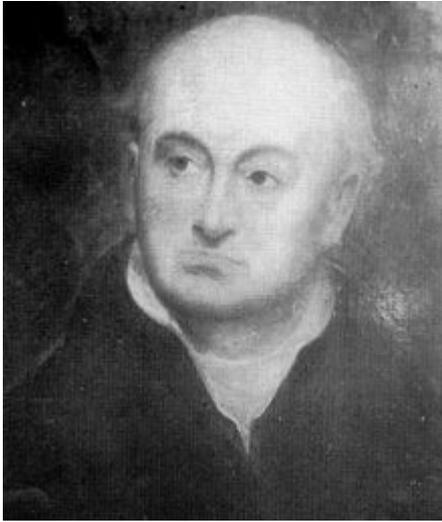
£5 for Children* and Senior Citizens

£7 for Adults.

£20 for a Family (2 Adults and 2 Children)

£15 Deep tour (Aged 14 or over)

Williamson Tunnels Tour. Liverpool: Georgian and Victorian Slot Quarries Excavated For Red Sandstone Then Restored By A Novel Technique To Provide Building Land.



Joseph Williamson (1769-1840)

Often considered to be a philanthropist as well as a notable businessman there has been a long held myth that he funded soldiers returning from the Napoleonic Wars to dig tunnels under Edge Hill in Liverpool for no apparent purpose except to provide work. The fact is that the excavations are not strictly tunnels. They are slot quarries excavated by piecemeal quarriers to provide red sandstone for lintels and other building stones in the city.

Edge Hill, then a suburb of a growing mercantile city, was riven with many slots, some 30 metres deep and trending in all directions as the rock hounds followed the sandstone with the best characteristics. Williamson saw an opportunity to reclaim this land by constructing brick

arches to bridge the slots, backfilling and then building valuable merchant houses on top.

This trip will take you underground to view the excavations, the brick arches and archaeological materials recovered from the infill. Evidence of the quarrying activity will be considered. There are steps and some tight spaces. There is good H&S on site and electric light illumination.

Hard hats are normally provided. Sturdy shoes/boots. Gloves and a torch are recommended

Cost

£5 per head. This will cover the costs of Friends of Williamson Tunnels.

Location

Williamson's Tunnels, 44 Mason Street, Paddington, Liverpool L7 3EW

Car parking is possible in Mason Street.

Time

Sunday October 20th 2019 at 11 AM

Approximate length of tour 2 hours.

Numbers

Maximum: 15-20

Well behaved children allowed