Field Trips and Reports

RGS visit to Kirtlington Quarry on 18th February 2018
Led by Owen Green (OGT)

Introduction

This trip was led by Dr. Owen Green of the Oxford Geology Trust. He introduced the area as a geological SSSI (for the main face on the east side of the quarry) and (for the whole site) as an OGT LGS (Local Geological Site) (SP 495199). The area is bounded on the south by Mill Lane, on the west by the Oxford Canal and on the north and east by field fences and hedges.

The rocks exposed on the site are the Middle Jurassic, mainly White Limestone (about 165 Ma) with the some Forest Marble above. (Owen said that Cornbrash could be seen in the nearby fields but we did not visit them.) Because of the many mammal and other land vertebrate fossils found, it is thought that the limestone was deposited near the shore inside a barrier island. It is an important site because of the fossil fishes, amphibians, reptiles, and mammals found in the Kirtlington Mammal Bed near the base of the Forest Marble (near site 3, below).

We visited the canal side where the processing area for the quarry material had been. Initially this was for Fuller's Earth by the side of the canal, but later, between 1907 and 1928, for processing the limestone into cement. The canal was important for shipping the cement to Birmingham where it was needed for building.

The party then walked south of the processing area into Washford Pits which was an area of older quarrying leaving a very uneven floor of humps and holes and occasional outcrops. Many brachiopod fossils (including *Epithyris oxonic*) could be found here with a few bivalves, including oysters, and burrows.

White Limestone in Washford Pits.

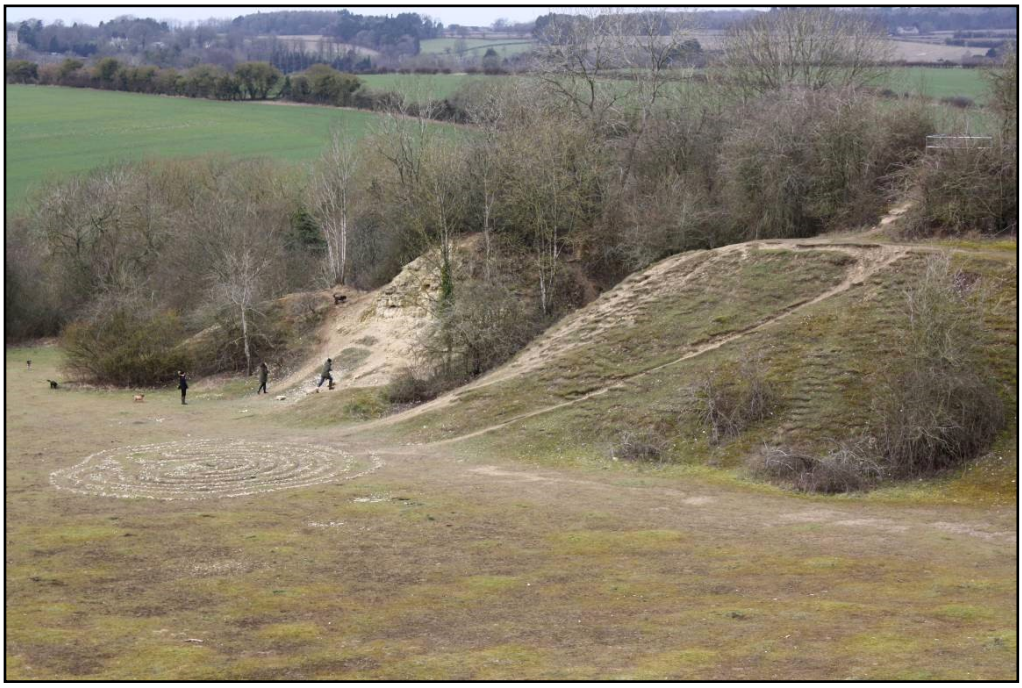
We continued on the path through Washford Pits to the canal, then back alongside the canal to the processing area then into the main quarry.

Main Quarry

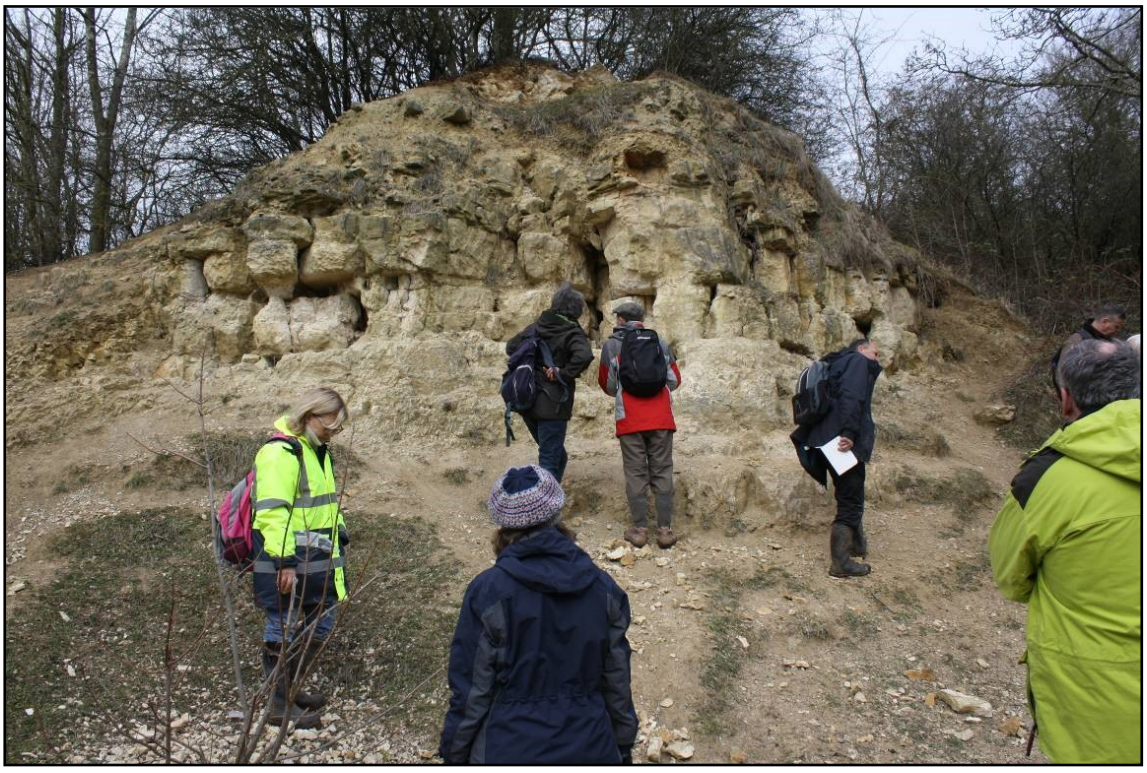
The quarry had been dug back (eastwards) from the canal side. Now, the main face was on the eastern side of the pit with remains of other workings on the north side (site 1, SP 495 200) and on the south (site 2, SP 494 198).

Site 1

Site 1 from top of main face



Site 1 showed (at the top of the scree) a massive bed with a vertical foliation, while above that there were other massive beds with brachiopods and then more flaggy beds. The foliation was the result of pressure from the sides forcing clay minerals to orientate themselves perpendicular to the pressure.



Site 2

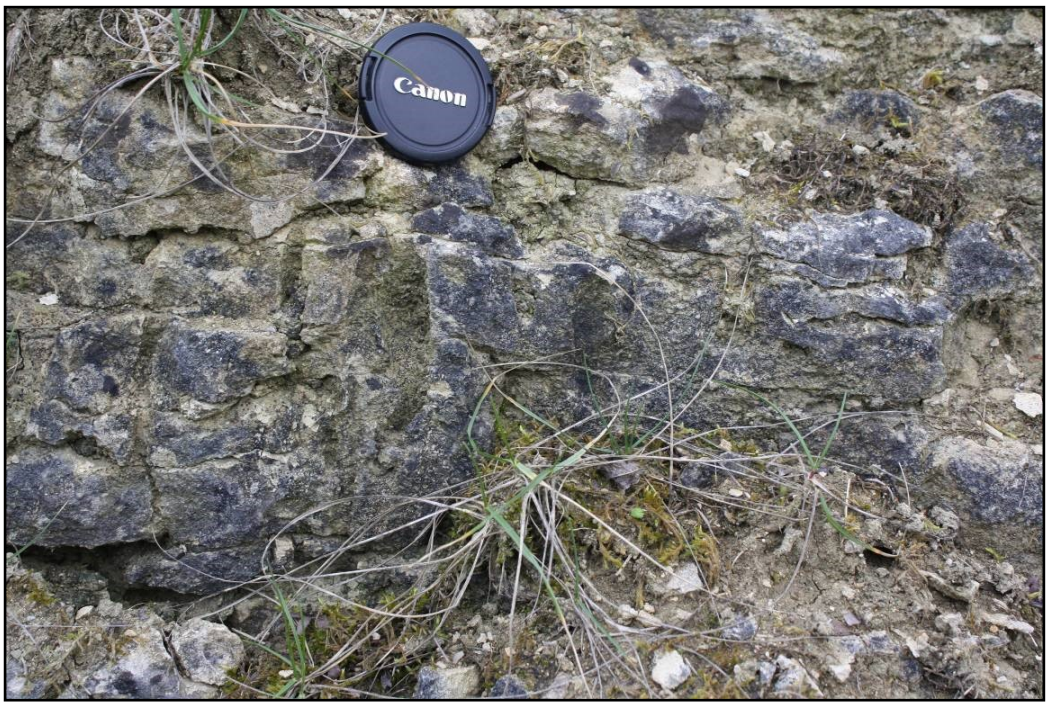
This site displayed the Forest Marble above the White Limestone.

Site 3

On the way out of the pit we looked at a coral that was found at site 3 (SP 49464 20010) and at vertical burrows (about 10 mm in diameter) that could be seen in the topmost outcrop just south of site 3.

Coral at site 3, possibly *Cryptocoenia luciensis*

Vertical burrows near site 3



After a very interesting and informative visit, Owen was thanked by David Ward on behalf of the group before we all made our way home.

Report and photographs by Roger York