

## Geological trail around St Albans Cathedral

**START:** The west front of the Cathedral was constructed of **Ancaster Stone**, an oolitic limestone of Jurassic age from Kesteven, Lincolnshire, during the restoration by Lord Grimthorpe in the 19<sup>th</sup> century. It includes three porch ways, each of which has two polished pillars of Carboniferous limestone, containing stems of fossil crinoids or sea lilies, quarried from Dene Quarry in Wirksworth, Derbyshire.



A close look will also reveal patches of dark sticky staining on the pillars. This is bitumen a tarry substance which was trapped within the formation some time after the reef was formed 300 million years ago. From the west front there is a fine view southwards across the valley of the River Ver, which cuts deeply onto the **Chalk**. Roman Verulamium was situated on the valley floor. If there is no service being held, enter the Cathedral by the west door and walk eastwards along the central aisle of the nave, which is paved with large hexagonal slabs of Carboniferous **Yorkstone**, a fine-grained micaceous sandstone and smaller squares of Carboniferous limestone containing crinoids.

**1<sup>st</sup> stop:** The 14<sup>th</sup> Century screen in the eastern end of the nave and many of the later nave pillars are built of **Totternhoe Stone**, a much used local building stone originating near Dunstable, and noted for its potential for carving when it's fresh and soft, then hardening as it's exposed to air. The floor in front of the Nave Screen shows an interesting variety of lozenge shaped 'marble' tiles. The red tiles are **Griotte Marble** – a limestone from the Ardennes region in Belgium. The seven statues recently installed in the niches of the rood screen are **Caen limestone** (France), which have been painted in medieval tradition. The grey tiles are of a true marble from Badiglio in Italy. The white are **Carrara Marble** (Italy). Pass to the left (north) of the screen.

**2<sup>nd</sup> & 3<sup>rd</sup> stops:** The font is a Carboniferous limestone which originated in a shallow water lagoon and a careful examination will reveal fossil algae. The tomb of Bishop Thomas Claughton in the North Transept is composed of a red and white **alabaster** base, quarried in Derbyshire, with **Connemara marble** insets on either end. The effigy of the bishop on top is carved in Carrara Marble (Italy).

**4<sup>th</sup> stop:** The Shrine of St. Alban is immediately east of the channel screen and is reached from either the north or south aisles. Originally built about 1320, the present Victorian reconstruction was pieced together from over 2000 fragments left after destruction at the dissolution of the monastery of St. Albans in 1539. It is composed of **Purbeck Marble**, an earliest Cretaceous freshwater limestone from Dorset, which was often used in mediaeval churches. The limestone is full of the fossilized shells of freshwater gastropods. Large slabs of **Hornton Stone** from Edge Hill,

Surrey have been used in the altar next to the shrine of Saint Alban. They contain fossil shells, crinoids and worm holes.

**5<sup>th</sup> stop:** In the south aisle adjacent to the shrine there is a large polished altar slab of black Carboniferous limestone containing fossil corals; this rock, quarried in Co. Durham, is known as **Frosterley Marble**. Walk westwards along the south aisle to the south transept, where it is possible to enter the Chancel.

**6<sup>th</sup> stop:** The polished Victorian pulpit base and chancel steps are also of crinoidal Carboniferous limestone where you should be able to find several very long crinoids stem sections.

**7<sup>th</sup> stop:** Before you leave the South Transept, look up, on the east wall the plaster has been removed to show how Roman bricks were used with **Barnack Stone**, a white, pink or buff limestone from Stamford, Lincolnshire to create a decorative architectural feature. Exit the Cathedral by the South Transept and modern brick-built chapter house turn left and walk through Sumpter Yard to the east end of the Cathedral. The cobbles beneath your feet include **Dartmoor Granite** setts with large crystals of white orthoclase feldspar (Devon & Cornwall).

**8<sup>th</sup> stop:** At the east end of the Cathedral you can see that **flint** is the main building stone for the external walls, along with **Ancaster Stone** (Lincolnshire), occasional pieces of **Hertfordshire Puddingstone**, and Roman bricks reused from the ruins of the Roman city of Verulamium. Look up the parapets are another limestone from the Lincolnshire limestone belt, **Clipsham**.



Enter Vintry Gardens (walled garden) through the south arch to the right of Sumpter Yard

**9<sup>th</sup> stop** Turn left, buried under the flora of the rockery are several large pieces of **Hertfordshire Puddingstone**. Note the way this hard rock has fractured; the silica matrix between the flint pebbles is so hard that the fracture surface has cut straight through the pebbles. The rock is from beds of sand and clay (the Reading beds) overlying the local Chalk; patches of flint pebbles were deposited within the Reading Beds by rivers and later became cemented by precipitation of silica between the pebbles. Because it is so hard, puddingstone can take a high polish and then shows a range of attractive colours. Exit Vintry Gardens through the north arch and turn right and head towards Abigail's Tearoom

**10<sup>th</sup> stop:** Walk through the Arcade, which is partly faced with a pink to dark red variety of **serpentine** (Lizard, Cornwall) exiting onto High Street.

If you enjoyed this introduction to geology, visit <http://www.hertsgeolsoc.org.uk> to learn more and for other walks.