The Cannock Chase Geotrail

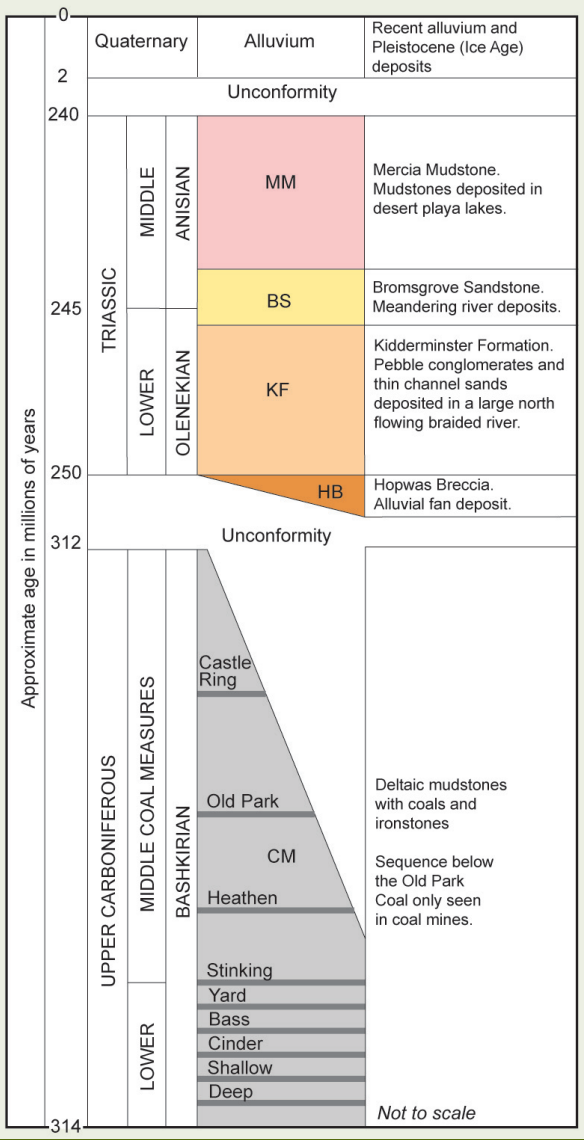
Introduction

Welcome to the Cannock Chase Geotrail. This geotrail is designed to give a glimpse of the rocks, landscape and the geological industrial heritage of the area. The trail is 36 km, too long to be tackled all in one. We recommend completing it in sections from the car parks at Satnall Hills, Glacial Boulder, Birches Valley Forest Centre, Castle Ring and Wolseley Centre. **Trail directions can be found on the reverse of this leaflet** together with background information. **Some sections of the trail can be muddy and uneven so the use of suitable footwear is advised. Parts of the trail are in areas managed by the Forestry Commission and areas of active forestry working should not be entered.** Temporary closures of parts of the trail may be necessary and alternative routes should be sought. All features should be viewed from the geotrail unless a permitted access route is indicated.

Satnall Hills - Glacial Boulder 1-6

Satnall Hills Quarry **1** shows the pebbly Kidderminster Formation that underlies most of Cannock Chase. This was deposited in a large braided river. Small pit marks on the pebbles formed due to quartz dissolving where the pebbles pressed against each other. The valley that passes Harts Hill **2** and the Mere Valley **3** are unusual as they go both up and down hill. This is characteristic of erosion by water flowing under pressure beneath a glacier. From Broc Hill **4**, the low ground of the softer Mercia Mudstones of the Stafford Basin can be seen beyond the Tixall Fault, the western boundary of Cannock Chase. The Berkswich Sundial is made from blocks of fossiliferous Carboniferous Limestone from Caldon Low in the Peak District. At Milford Quarry **5** and **6**, the pebbly Kidderminster Formation includes thin sandstone layers. The quarry is a major national resource of sand and gravel. **Please do not enter the quarry as it is a conservation area.**


4 View across Stafford Basin



Glacial Boulder - Birches Valley 7-10

The Glacial Boulder **7** is granite. Its faceted sides were caused by abrasion as it was transported under a glacier, probably from the Lake District. The Sherbrook Valley **8** is asymmetric, steeper on the eastern side and more strongly gullied. This is characteristic of valleys developed under permafrost conditions (see overleaf). The Sher Brook is a misfit river. Its large valley formed during the last Ice Age as meltwater from surface snow and ice was unable to soak into the frozen ground. The Kidderminster Formation can be viewed from the trail in the old Rugeley Quarry **9** and at the trail side **10**. It is sandier than at Satnall Hills Quarry, suggesting a lower energy part of the braided river system.


7

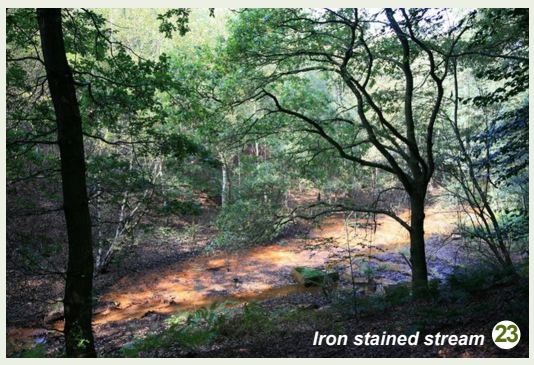
Birches Valley - Castle Ring 11-17

Fair Oak Colliery had shafts through the Triassic rocks to the Coal Measures 90m below. Spoil heaps of dark grey shale **11** contrast the surface pebble beds. The trail continues along the line of the colliery railway. Rising Brook **12** is another misfit river, dwarfed by its deeply-incised valley **13**, possibly cut by the draining of a glacially-dammed lake. Triassic rocks were deposited unconformably on top of deformed Carboniferous mudstones and coals (see cross-sections). Colliery Road **14** runs above the unconformity which can be recognised on the trail **15** by the change from drier, pebbly conditions to wetter and muddier ones. The Old Park Coal outcrops just beyond Red Brook **16** and numerous small bell pits were dug here. Circular depressions near the trail mark some of these. Ironstone was also extracted and smelted locally using charcoal. Orange sandstone breccia, the Hopwas Formation, occurs in a metre high section to the left of the trail at the base of the Triassic **17**. Below this, the Castle Ring Coal was extracted to the north of Castle Ring.


13 Meltwater channel

Castle Ring - Slitting Mill 18-32

The view from Castle Ring **18** shows the low ground beyond Rugeley formed by the soft Mercia Mudstone rocks of the Needwood Basin with the Peak District beyond. The trail between **19** and **29** follows the Eastern Boundary Fault, responsible for bringing the coal close enough to the surface to be mined. At **19** the higher ground marks the Bromsgrove Sandstone across the fault. The Kidderminster Formation forms the ridge between **20** and **21**. At **22** coal fragments are visible in the muddy track and bell-pit depressions occur near by. Pebbles return as the fault is crossed and the track becomes sandier as it passes into the Bromsgrove Sandstone **23**. The stream here is red-orange from the leaching of ironstones within the coal spoil tip which can be examined at **24**, the site of the Old Engine Pit. The Eastern Boundary Fault can be seen at **25** with downthrown Bromsgrove Sandstone nearest the road and Kidderminster Formation behind. The latter unit can be seen in the quarry **26**. The track from **24** to **27**, **28** & **29** is the old colliery railway. The Levels and Belfast Pits were near **27** and the Coppice Pit at **28**. From **29**, the view is from the high ground of the Kidderminster Formation across to the lower ground of the Mercia Mudstone beyond the boundary fault. The trail from **30** to **32** re-crosses the misfit Rising Brook **31** valley. Compare the valley profile to that at **13**. The far valley edge is a fault with Bromsgrove Sandstone **32**. The escarpment at **34** also marks the fault.


Iron stained stream 23

Slitting Mill - Wolseley Centre 33-37

The Slitting Mill **33** forged nails from iron extracted from local ironstones. This is now a pumping station extracting water from the Kidderminster Formation, a major aquifer for the region.


Bromsgrove Sandstone, Cliff Caves 39

The Bromsgrove Sandstone, deposited in low energy meandering rivers, is exposed at the top of Etching Hill **35**. A 15th Century glass furnace which used the white quartz pebbles from the conglomerates as raw material has been discovered at **36**. The trail crosses two faults marked by valleys near **37** which downthrow the Bromsgrove Sandstone in between Kidderminster Formation rocks. The material in the track and fields changes from pebbles to sand and back again.

Wolseley Centre - Satnall Hills 38-42

Contrast the broad Trent Valley **38** which carried huge quantities of meltwater during the last Ice Age with the valleys seen elsewhere on the trail. At Cliff Caves **39** the Bromsgrove Sandstone is spectacularly exposed in a building stone quarry with pickaxe marks visible on the faces. Excavation followed the main sandstone horizon into the hillside forming caves. **Do not enter the caves**. Essex Bridge **40** took pack horses carrying coal from the mines on to the south to the salt brine works in the Trent Valley. A river terrace can be seen on the wide flood plain near Shugborough Hall **41**. Compare the flatter profile of the Sherbrook Valley **42** as it enters the Trent Valley with that seen further upstream at **8**.

KEY

- GEOTRAIL
- GEOTRAIL/ Road shared
- Alternative route
- River
- Canal
- Colliery
- Fault with direction of downthrow
- Coal seam
- Railway
- Railway tunnel
- View Point
- Major road
- Minor road
- Footpath
- 1 Interest point
- P Car Park
- WC Toilets
- i Information
- PH Public House
- Café
- S Shop
- Bus stop

0 1 km