

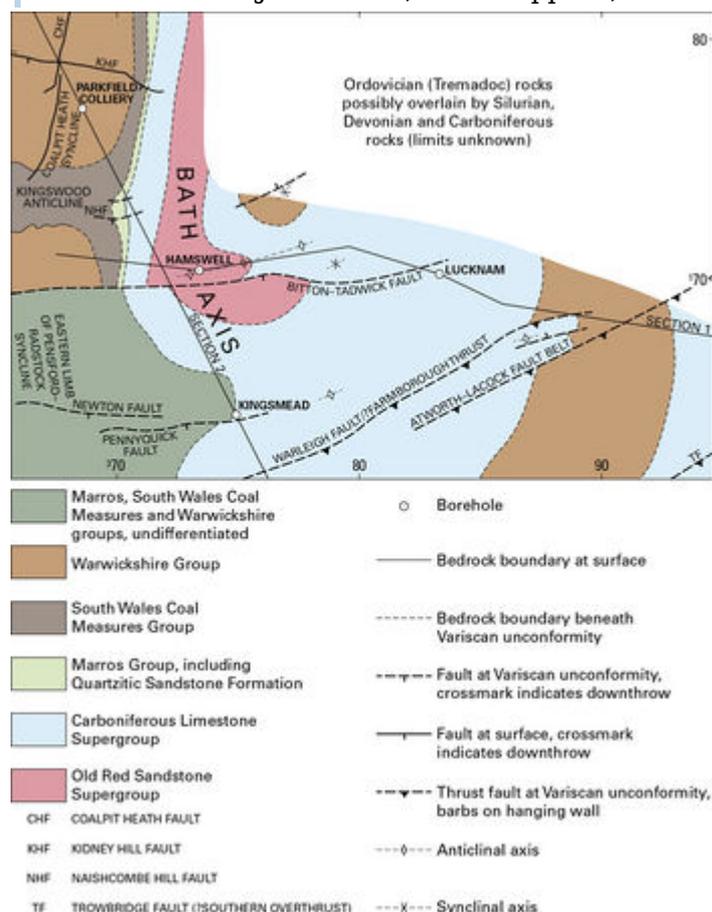
Geology of the Bath area: Pre-Carboniferous rocks

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This topic provides a summary of the geology of the Bath area - covered by the British Geological Survey 1:50k geological map sheet 265.

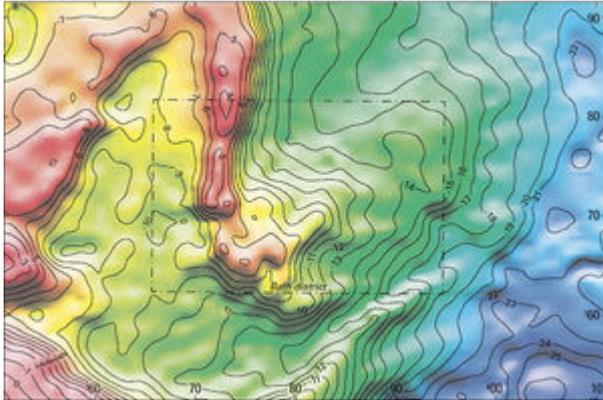
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Generalised pre-Permian subcrop map of the district Sections 1 and 2 are lines of section shown on the published 1:50 000 geological map (Sheet 265, Bath). P785914.

Little is known of the pre-Devonian succession. Tremadoc strata are known to the north and it is probable that Silurian volcanic rocks are present at depth, connecting the outcrops in the Mendips and at Tortworth. The Hamswell Borehole (ST77SW 1 [7348 7088]) penetrated around 300 m of red-brown mudstone, dipping 15 to 30° and belonging to the Raglan Mudstone Formation (Silurian, Pridoli age). The formation lies in the lower part of the Lower Old Red Sandstone Group, **Old Red Sandstone Supergroup**, and younger Devonian-age Old Red Sandstone strata are inferred to be present at depth more widely across the district (**P785914**). During the Devonian, the Bath district lay within a broad, low-lying coastal plain on the southern margin of a continent known as Laurussia, bordered to the north by uplands stretching from North Wales to the Pennines and East Midlands, and to the south by an ocean basin. Major (Acadian) uplift in the Mid Devonian created an unconformity between the Lower and Upper Old Red Sandstone groups. On the northern edge of the district, the Upper Old Red Sandstone is exposed at the eastern end of the Chipping Sodbury railway

cutting [733 816] (Green, 1992, [↑](#) fig. 21). Here, about 10 m of **Tintern Sandstone Formation** (TS), of latest Devonian (Famennian) age, comprises purplish brown sandstone with subordinate mudstone beds and scattered pebbles. The succession records the gradual change at the end of the Devonian from fluvial sedimentation to marine deposition that was fully established in the early Carboniferous. All these occurrences of Old Red Sandstone are inferred to form the culmination of the 'Bath Axis', a westerly-dipping monocline at depth, possibly overlying a Variscan displacement, and forming a basement high of dense rocks that is very apparent as a high gravity anomaly (**P785915**). To the west this axis is bounded by the north-south trending **Coalpit Heath** and **Pensford-Radstock synclines** and the intervening east-west **Kingswood Anticline** (**P785914**).



Bouguer gravity anomaly map of the Bath district and adjacent areas. P785915.

References

1. [↑](#) Green, G W. 1992. British regional geology: Bristol and Gloucester region. Third edition. (London: HMSO for British Geological Survey.)

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