



Where was the Devensian Ice Margin in the West Midlands?

Adrian Collings

(Senior Engineering Geologist – ARUP [retired])

8th October | Mott MacDonald, 10 Livery St, Birmingham B3 3NU / Zoom Video Conference | 6:00pm refreshments and networking | 6:30pm start

Abstract:

During the early part of the last (Devensian) glacial maximum, ice extended rapidly from the Irish Sea zone of accumulation, across the northern part of the West Midlands, depositing the Brewood Till Formation. Subsequently the ice retreated to the Cheshire Plain, and during a period of standstill, a prominent zone of terminal moraines were deposited (Wrexham – Bar Hill). In contrast to this later Stockport Formation phase, landforms associated with the earlier Brewood Till Formation Phase are apparently absent.

This talk is going to examine this, and reviews what is known historically about the Devensian Ice Limit in the West Midlands (known as the Wolverhampton Line). Key information from the M6 Toll ground investigation is presented which demonstrates that Devensian Ice extended eastwards towards the Trent Valley, south east of Cannock Chase. This together with details from the Geological Survey, give some clues as to the south east extent of the Devensian Ice Margin around Cannock Chase and into in the Trent Valley, as shown on older BGS publications. However, some uncertainty does remain. There is the enigma of the incised channel, up to 12m deep, below the Late Devensian River Trent, River Terrace Deposits, possibly a relic of the Brewood Phase.

Details of the Brewood Till Formation, north of the ‘Wolverhampton Line’ are considered. It is noted that the deposits left by the Brewood Glacier are thin and discontinuous, and have been significantly periglacially disturbed, reworked and eroded; as observed at the classic Four Ashes location.

The Brewood Phase is indicated to have been short lived, and there followed a prolonged period of intense periglacial conditions, while Stockport Glacial ice persisted just to the north west. The landscape left by the Brewood Phase was heavily degraded, and any feature that might have been a terminal moraine was ‘scrubbed’, so there were no clues left in the landscape for the Geological Survey to observe, only the extent of Irish Sea Erratics. And of course there was the Wharf Lane Quarry.



Figure 1: Wharf Lane Quarry Outcrop



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About the Speaker:

Adrian Collings has worked at the Arup Birmingham (Midlands) Office as an Engineering Geologist until retirement a few years ago. His early career considered hazards from abandoned mine workings, where the understanding the geological context was important. Projects included the West Midlands Limestone Study, the Shropshire Limestone Mines (and other minerals), and the Review of Mining Instability in Great Britain. Later career developed into producing ground models for Infrastructure Projects and Airports in the UK, Ireland and Europe. Notably the M6 Toll, M1 widening, HS2 and airports in Turkey. He is a Fellow of the Geological Society and a Chartered Geologist.



Forthcoming Talks:

Date	Title	Speaker	Venue
Tuesday 12 th November 06:30pm start	Revealing the Geology of the Lickey Hills - The Continuing Importance of the Amateur Geologist	Alan Richardson	Mott MacDonald's Birmingham office / Zoom Video Conference
Tuesday 10 th December 06:30pm start	AGM / Provisional: Compressible Soils (title TBC)	Chris Brook, Mott MacDonald	Mott MacDonald's Birmingham office / Zoom Video Conference
Tuesday 14 th January 06:30pm start	Ironbridge Gorge (title TBC)	Declan Kearney, Telford & Wrekin Council	Mott MacDonald's Birmingham office / Zoom Video Conference
Tuesday 11 th February 06:30pm start	Radium Contamination (title TBC)	Jen Barnes, Jacobs	Mott MacDonald's Birmingham office / Zoom Video Conference

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