



# Quaternary Geology of the Birmingham Area and Examples of Its Impact on Design

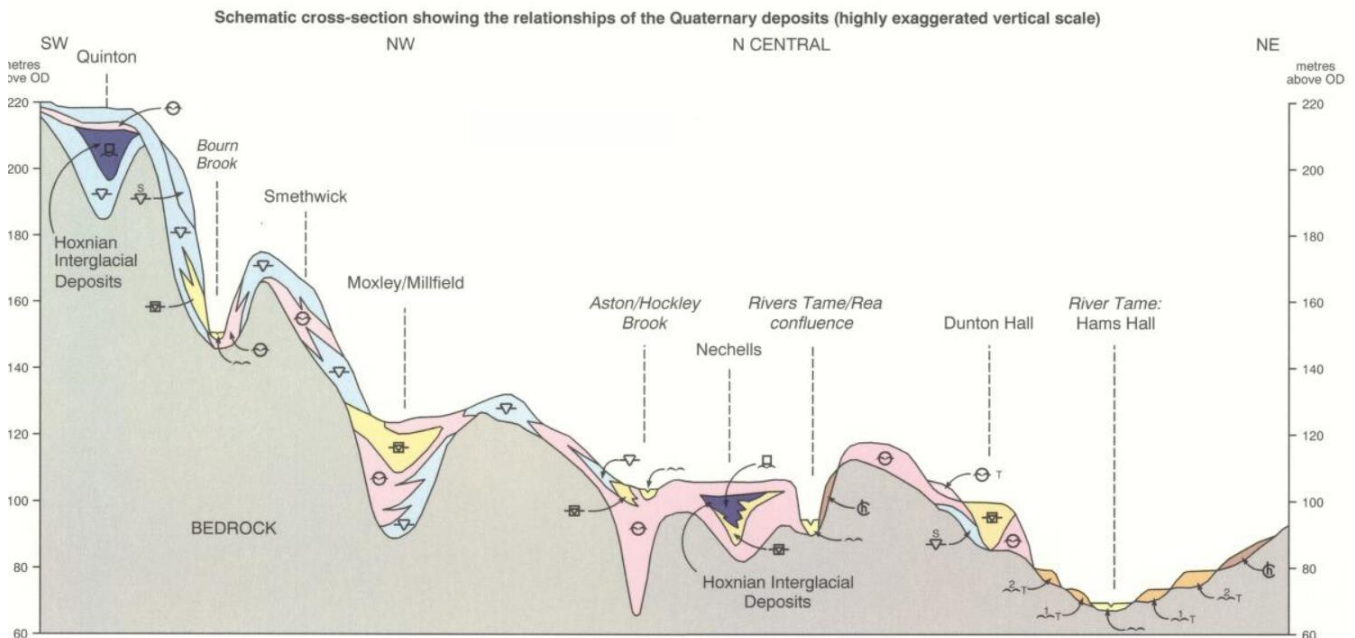
Joe Mazgajczyk

(Chartered Geologist, Mott MacDonald)

13<sup>th</sup> February 2023 | Mott MacDonald, 10 Livery St, Birmingham B3 3NU / Zoom Video Conference | 6:00pm refreshments and networking | 6:30pm start.

## Abstract:

Quaternary deposits cover approximately 75% of the Birmingham area. This extensive cover derives from multiple glaciations and warmer periods in the last 425,000. Ice sheets estimated to be up to 3-4km thick carved through Birmingham and the wider Midlands area on their way south on at least three occasions, each time releasing vast amounts of meltwater. These changing environments and different depositional processes resulted in a variety of glacial features that shaped the present-day topography and are buried beneath the city. Many of these features are dramatic (as seen by known buried channels below) and were subsequently buried with little or no evidence at the surface and the presence of many features still remain unknown until development is undertaken.



Contains British Geological Survey materials © UKRI [1996]

This talk will provide an overview of the Quaternary geology of the Birmingham area with particular focus on the discovery of previously unrecorded glacial features that have been encountered on the northern section of the HS2 route. There will be examples to showcase how the engineering design overcame the challenges presented by glacial features.



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**About the Speaker:**

Joe graduated from University of Portsmouth with Geology BSc (2011) and Engineering Geology MSc (2012) and joined Mott MacDonald as a graduate geotechnical engineer soon after in 2012.

Joe is a senior geotechnical engineer at Mott MacDonald, where he gained extensive experience of geotechnical engineering, engineering geology and contaminated land disciplines whilst working on projects such as Midland Metro, A417 ‘missing link’ and most recently, High Speed 2 (HS2). Joe has worked on the design stages of the northern section of HS2 since 2018, writing geotechnical design and interpretation reports, contaminated land risk assessments, foundation design and ground investigation specification. He then undertook the role of designer’s representative for the stage 2 ground investigation and for the past two years has been part of the designer’s construction phase support team, providing geotechnical and geological guidance, verifying the design intent and seeing a lot of geology!

Joe is Fellow of the Geological Society and a Chartered Geologist.



**Forthcoming Talks:**

Date	Title	Speaker	Venue
Tuesday 12 <sup>th</sup> March 6:00pm refreshments and networking 6:30pm presentation start	Radium Contamination  (Title TBC)	Jen Barnes,  Jacobs	Mott MacDonald’s Birmingham office / Zoom Video Conference

The WMRG is constantly on the lookout for fascinating talks. If you would like to present, know someone who is willing, or would like to request a subject please contact the WMRG committee (details below) and we will try our very best to accommodate your requests.

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