Geology and Micropiling in the UK – An Introduction

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Intention:

 General overview of geology and ground conditions across the UK

How this affects a micropile specialist

How it affects a micropile contractor

(and a wider geotechnical contractor)

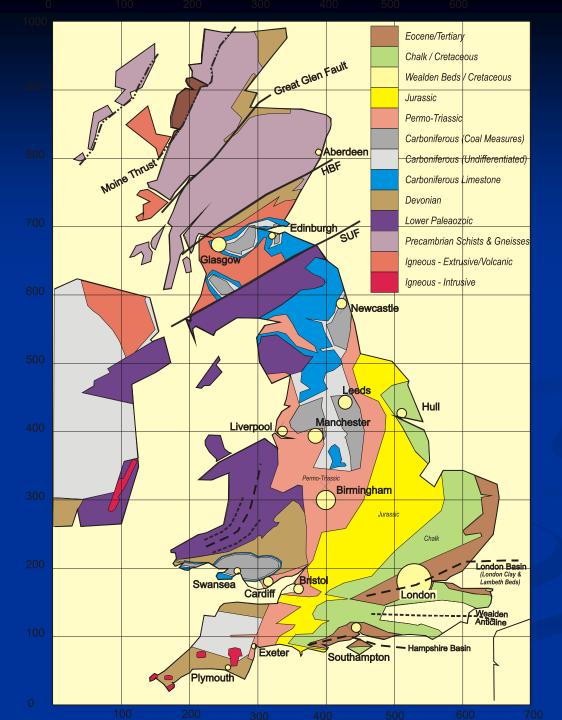
Summary:

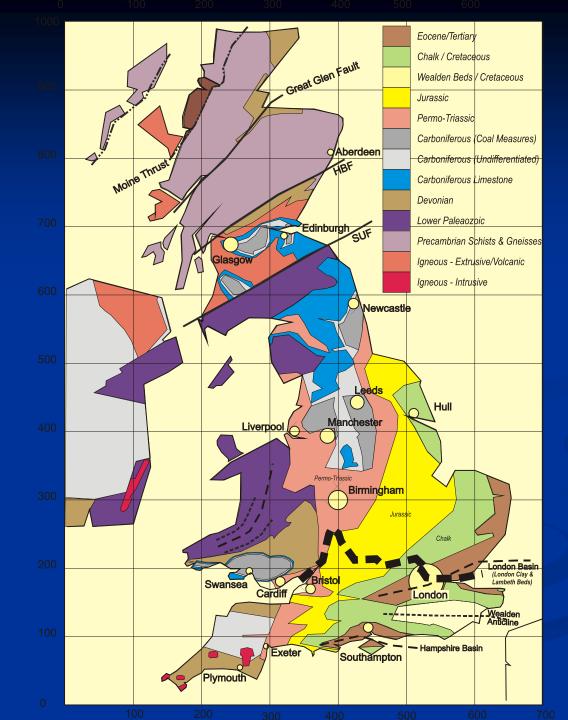
The UK is geologically highly diverse Strata range across the whole geological timescale Recent alluvial, glacial and peri-glacial deposits To Cambrian and pre-Cambrian rocks several billion years old



Let's go on a quick trip around the UK.....

Geological Map 'Solid'

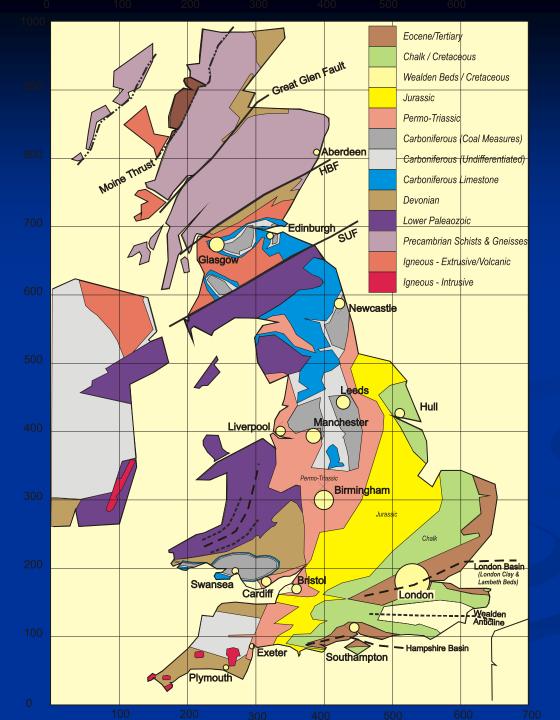




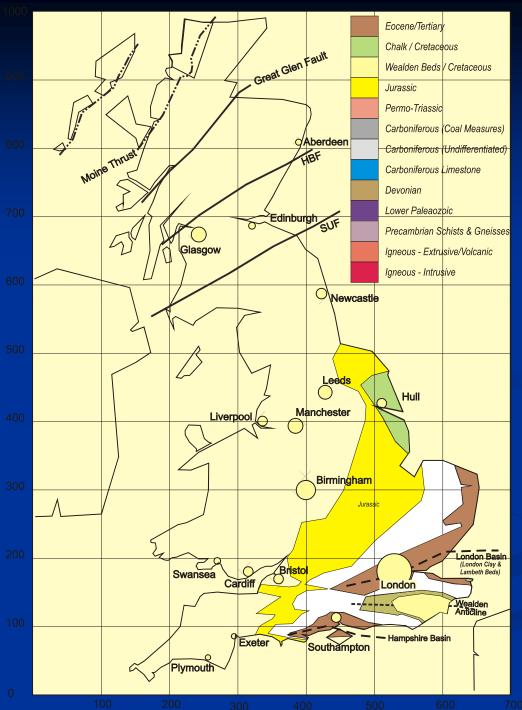


Let's consider the 'solid' geology first

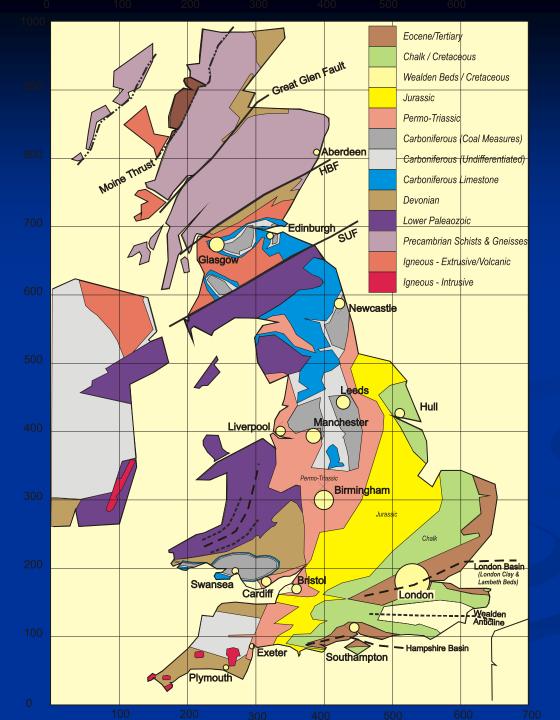
'Solid' geology



Shrinkable clays

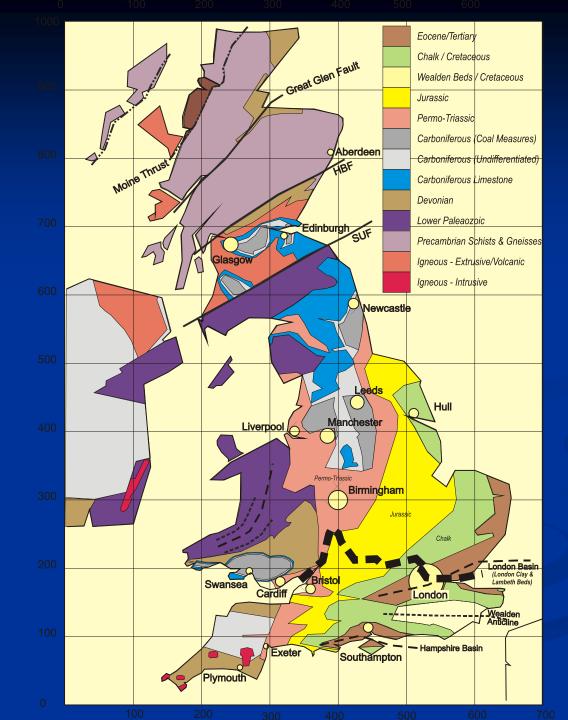


'Solid' geology

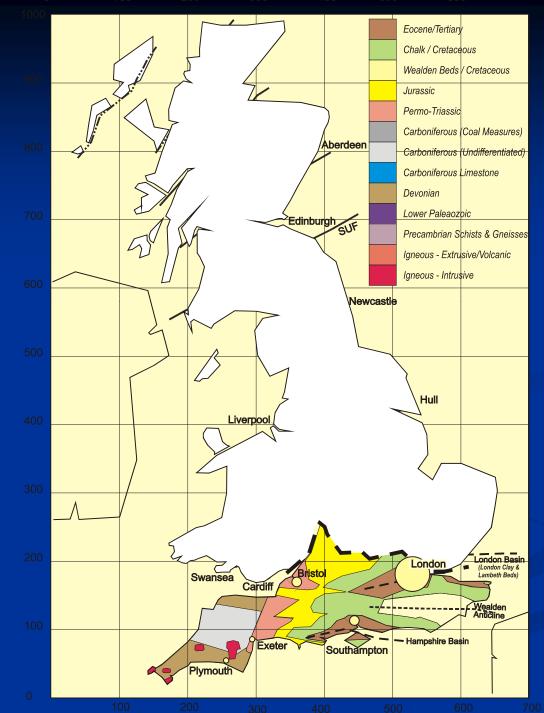


Now:

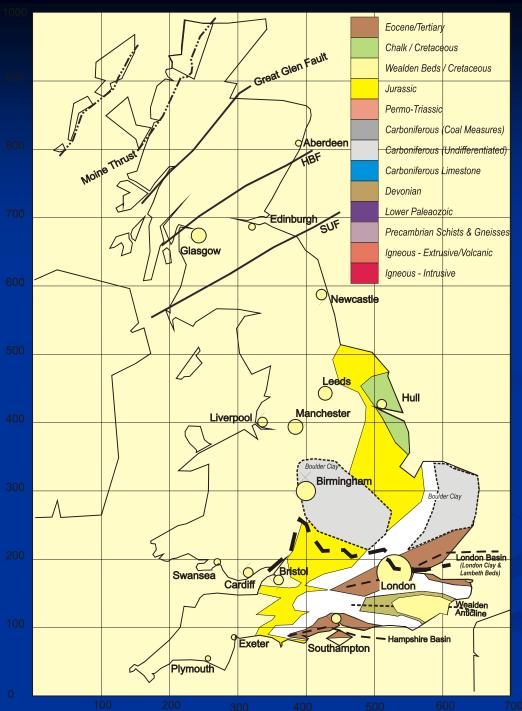
Let's consider the Superficial Deposits – Pleistocene ice sheets.....



100 200 300 400 500 600

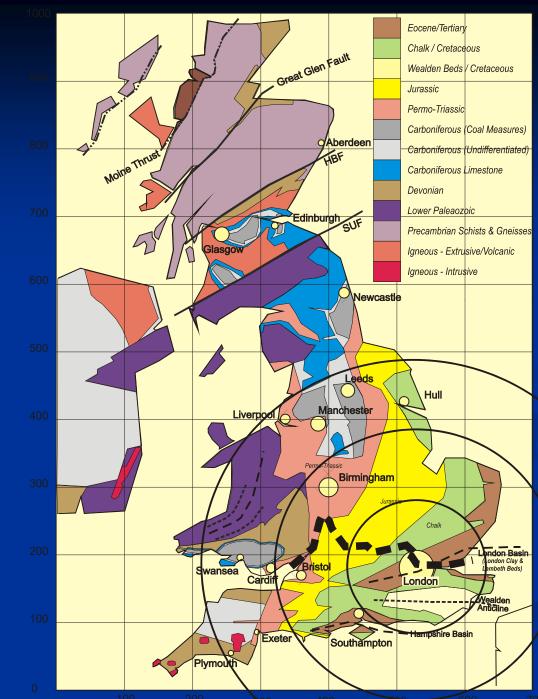


Shrinkable clays





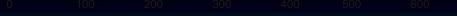
What is the effect upon how we install and construct micropiles?

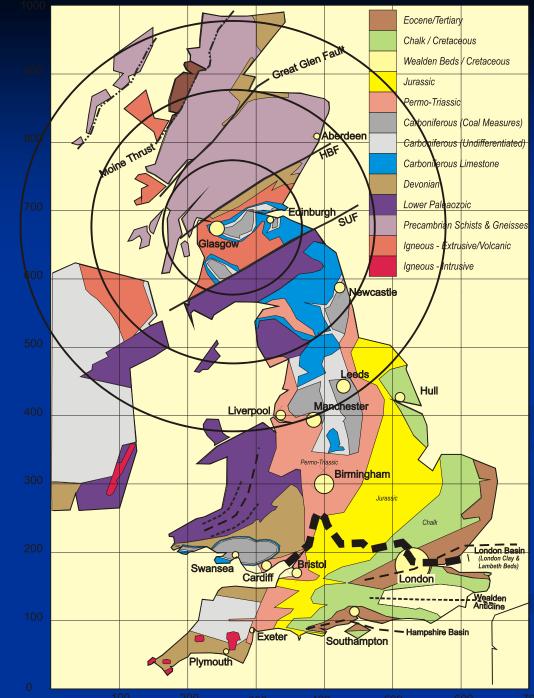


Southeast England

Eocene/Tertiary Chalk / Cretaceous Great Glen Fault Wealden Beds / Cretaceous Jurassic Permo-Triassic Carboniferous (Coal Measures) Aberdeen Moine Thrust Carboniferous (Undifferentiated) HBF Carboniferous Limestone Devonian Edinburgh Lower Paleaozoic 90 Precambrian Schists & Gneisses Glasgov Igneous - Extrusive Volcanic Igneous - Intrusive Newcastle eeds Hull Manchester Liverpool Permo-T Birmingham Chalk London Basin (London Clay & Lambeth Beds) Bristo Swansea 0 Cardiff - -London - Wealden Anticline - Hampshire Basin Exeter Southampton Plymouth

NW & NE England





Scotland

Summary:

As a generality:

- Rocks get older and tougher to the north & west
- Glacial deposits are likely to feature, north of Severn to Thames
- Ground conditions can vary widely over relatively short distances
- If they stray from home base, specialist contractors will have to cope with a wide variety of ground conditions
- Larger specialists have to be prepared for conditions anywhere in the UK