British Application of Geology Normandy Invasion, June 1944
Outline

- Pre-Invasion (Planning)
- Airfields
- Quarries
- Water Supply
- Questions
- Conclusion
Pre-Invasion (Planning)

- Superceded USGS works for US troops
- LTC W.B.R. King, Engineer in Chief
  - Advisor to 21st Army Group
- CPT F.W. Shotton
  - Team study of Normandy
- Inter-Services Topographical Unit
Frederick ("Fred") W. Shotton

- Professor was Head of the Geology Department at Birmingham University through most of the 1950's, 1960's and early 1970's.
- He was an outstanding Quaternary geologist.
- He was actively involved in much of the early work on the Pleistocene stratigraphy of the Midlands.

(http://www.science.uwaterloo.ca/earth/ksi/beetle/shotton.html)
Pre-Invasion (Planning)

- **Geology**
  - Full distro of French 1:80K
  - Undulating surface (differential erosion)
  - Surface loess 2-5m thick

- **Beaches**
  - Mapped at 1:5K
  - Critical for trafficability reports
Airfields

Position and orientation of British airfields in Normandy, 1944

After Anonymous, 1945a; Rioult et al., 1994
Fields B3, 5, 6, 7 & 10 had a second, parallel untracked strip to preserve the primary.

From Rose and Pareyn, 1966a; Panet, 1945; Anonymous 1944, 1945a-d
Figure 6. A British landing strip in Normandy being constructed with Square Mesh Track, on August 10, 1944. (Copyright, The Imperial War Museum, London: photograph CL710.)
Figure 7. Landing strip in Normandy being constructed from Prefabricated Bitumenized Surfacing. Note the flat surface of the Calvados plateau, ideal for temporary airfield construction, and the dust being generated from dry loessic soil by a Typhoon taxiing across an “unpaved” area. (Copyright, The Imperial War Museum, London: photograph CL468.)
Quarry Operations

Map showing positions of main roads and military quarries in Normandy, 1944.

(After Williams, 1950.)
Quarry Operations

Monthly 1000-ton production/distribution by the Quarry Group, Royal Engineers.

(After Anonymous, 1945a.)
Map showing positions of military borehole sites in Normandy, 1944.
(Data from Shotton, 1945; Bigot, 1947)
Water Supply

Royal Engineer water point on the River Seulles at Creully. Supplied 80K gpd during the battle

(Copyright, The Imperial War Museum, London)
Conclusion

Geologists demonstrated valuable skills in both the planning and operational aspects of Operation Overlord.