# British Application of Geology Normandy Invasion, June 1944

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# 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- Superceded USGS works for US troops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 Normady
- 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/qsi/beetle/shotton.html)

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# 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

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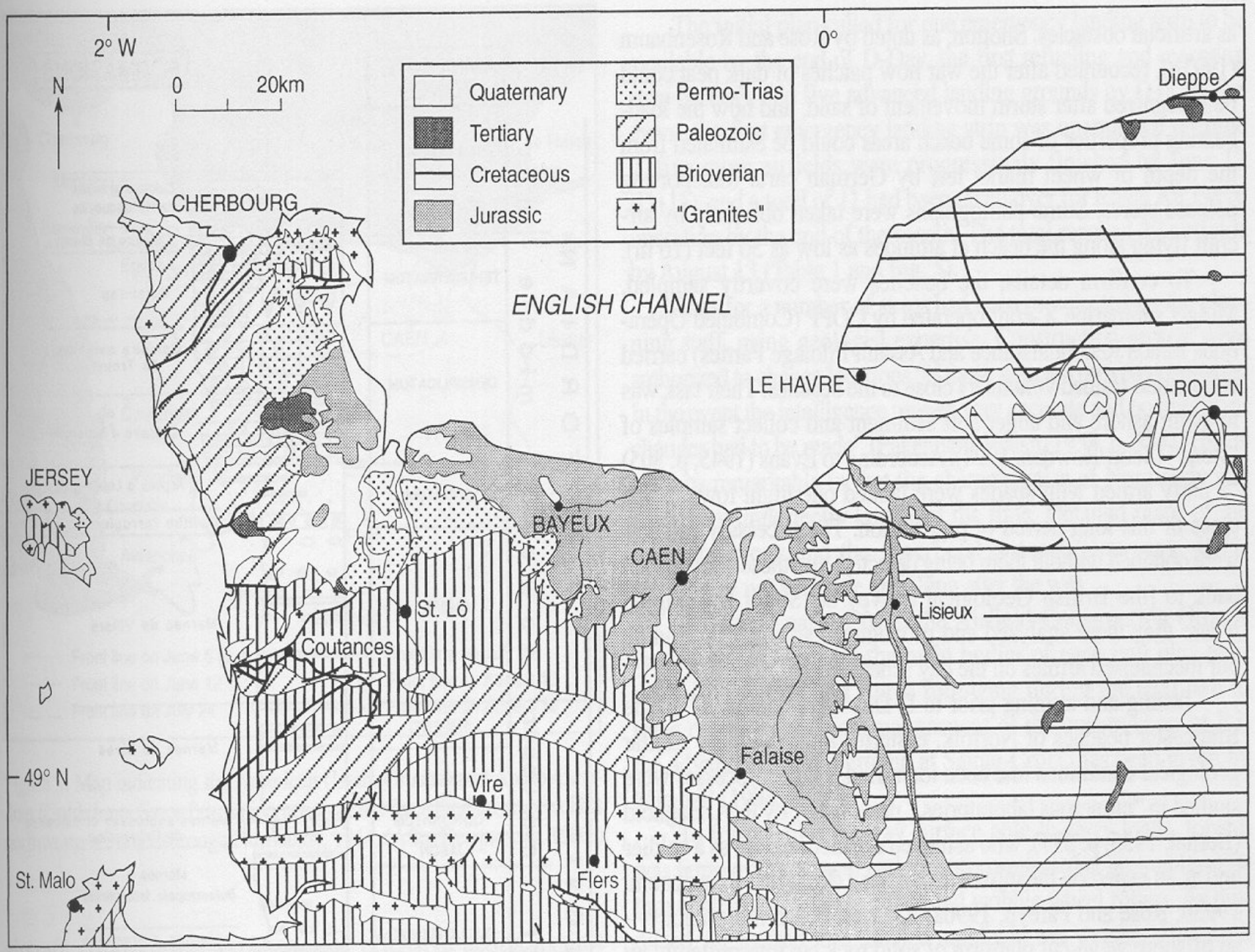
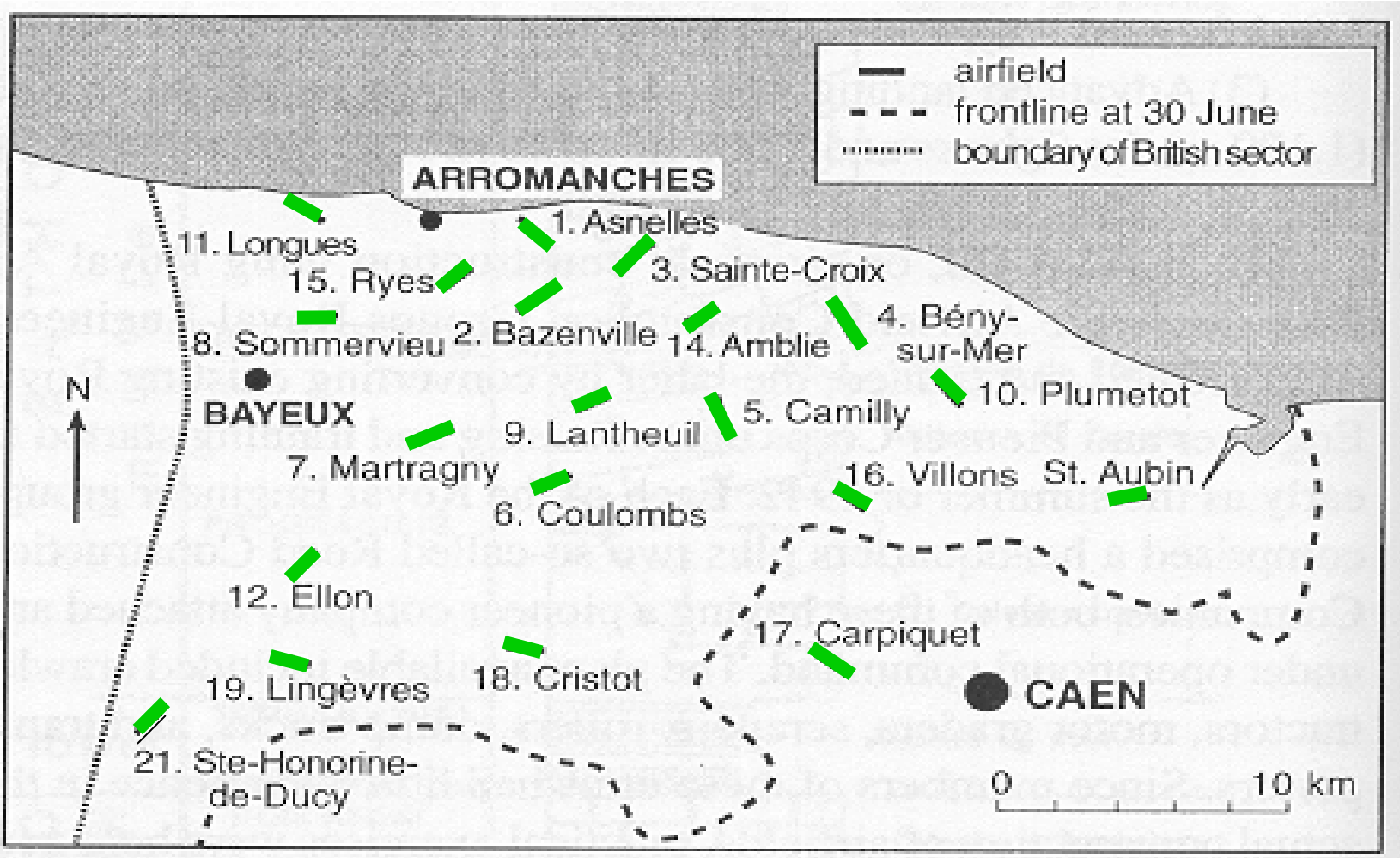

2° W
0°
N
0
20km
Quaternary
Tertiary
Cretaceous
Jurassic
Permo-Trias
Paleozoic
Brioverian
"Granites"
Dieppe
CHERBOURG
ENGLISH CHANNEL
LE HAVRE
ROUEN
JERSEY
BAYEUX
CAEN
St. Lô
Lisieux
Coutances
Falaise
49° N
Vire
St. Malo
Flers

# Airfields




**Position and orientation of British airfields in Normandy, 1944**

After Anonymous, 1945a; Rioult et al., 1994

# Airfields

TABLE 1. BRITISH AIRFIELDS IN NORMANDY 1944*

| Code Number | Locality Name | Length (m) | Completion Date |
|---|---|---|---|
| B1 | Asnelles | 550 | 7 June |
| B2 | Bazenville | 1,520 | 13 June |
| B3 | Sainte-Croix | 1,100 | 11 June |
| B4 | Bény-sur-Mer | 1,100 | 15 June |
| B5 | Camilly | 1,520 | 17 June |
| B6 | Coulombs | 1,520 | 16 June |
| B7 | Martragny | 1,100 | 26 June |
| B8 | Sommervieu | 1,100 | 21 June |
| B9 | Lantheuil | 1,100 | 21 June |
| B10 | Plumetot | 1,100 | 24 June |
| B11 | Longues | 1,100 | 26 June |
| B12 | Ellon | 1,520 | 18 July |
| B14 | Amblie | 1,100 | 3 July |
| B15 | Ryes | 1,100 | 6 July |
| B16 | Villons-les-Buissons | 1,100 | 31 July |
| B17 | Carpiquet | 1,600 | 8 August |
| B18 | Cristot | 1,100 | 6 August |
| B19 | Lingèvres | 1,520 | 8 August |
| B21 | Sainte-Honorine-de-Ducy | 1,520 | 13 August |

**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

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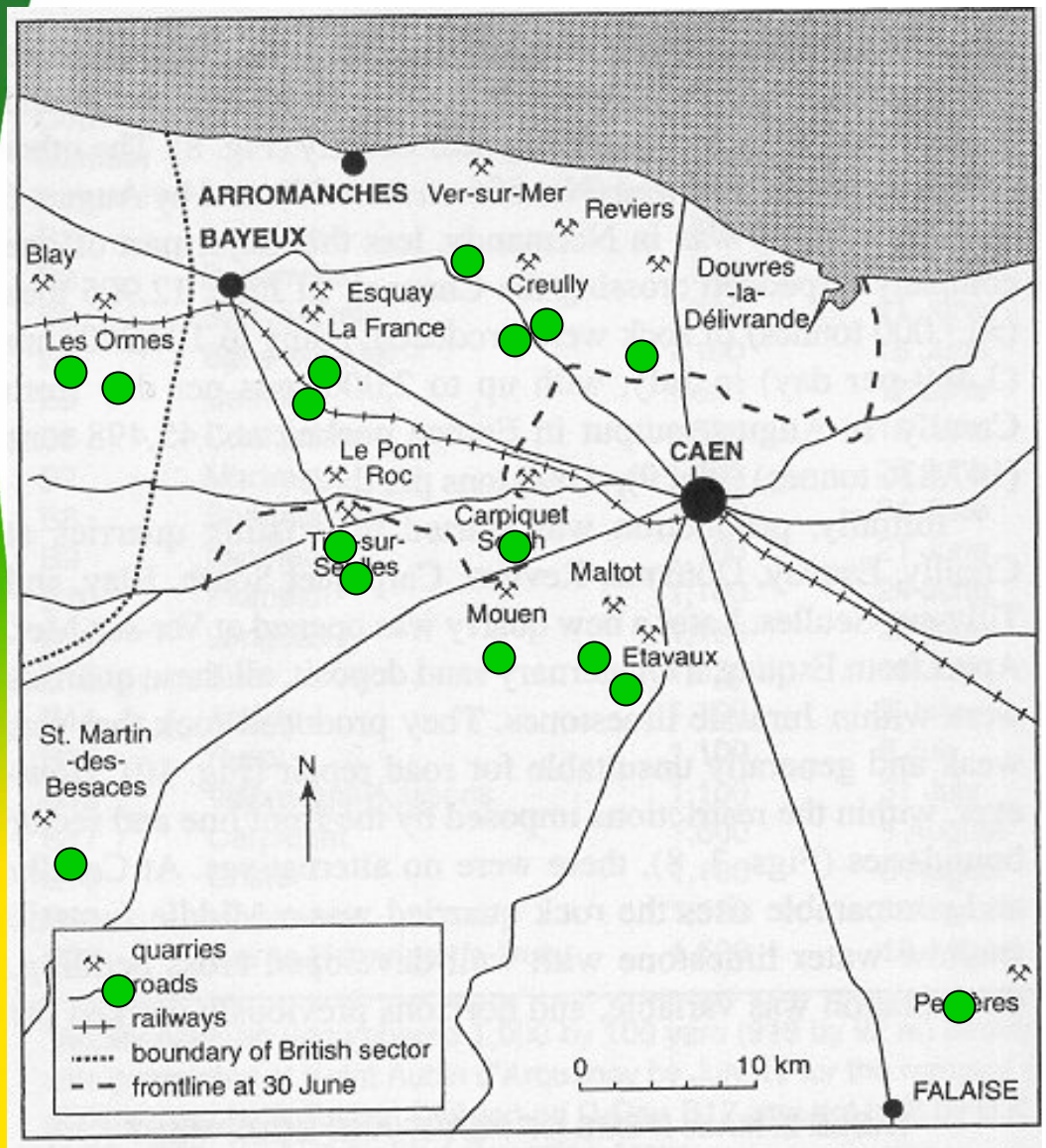
Figure 6. A British landing strip in Normandy being constructed with Square Mesh Track, on August 10, 1944. (Copyright, The Imperial War Museum, London: photograph CL710.)

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.)

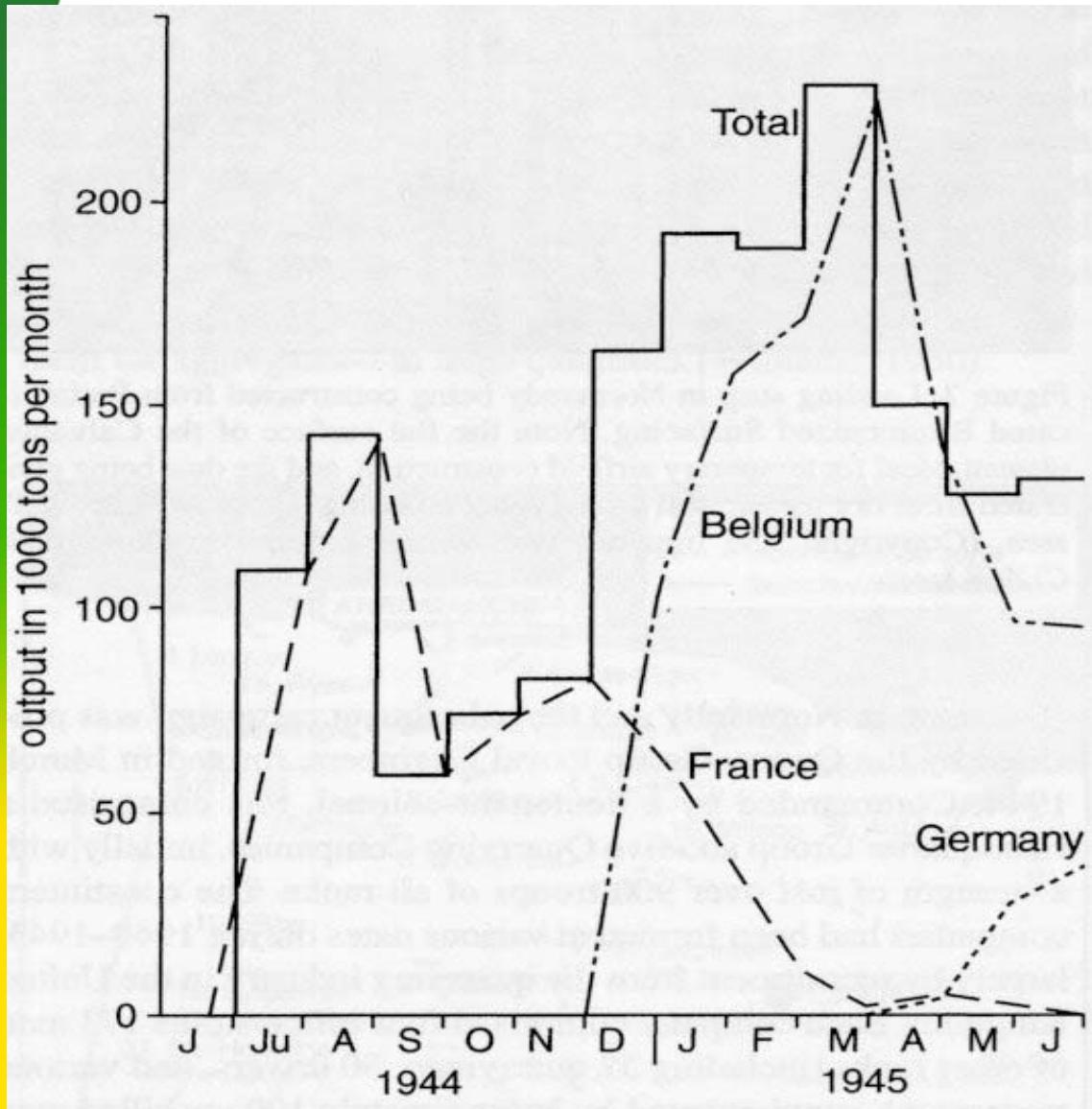
# Quarry Operations




**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.)

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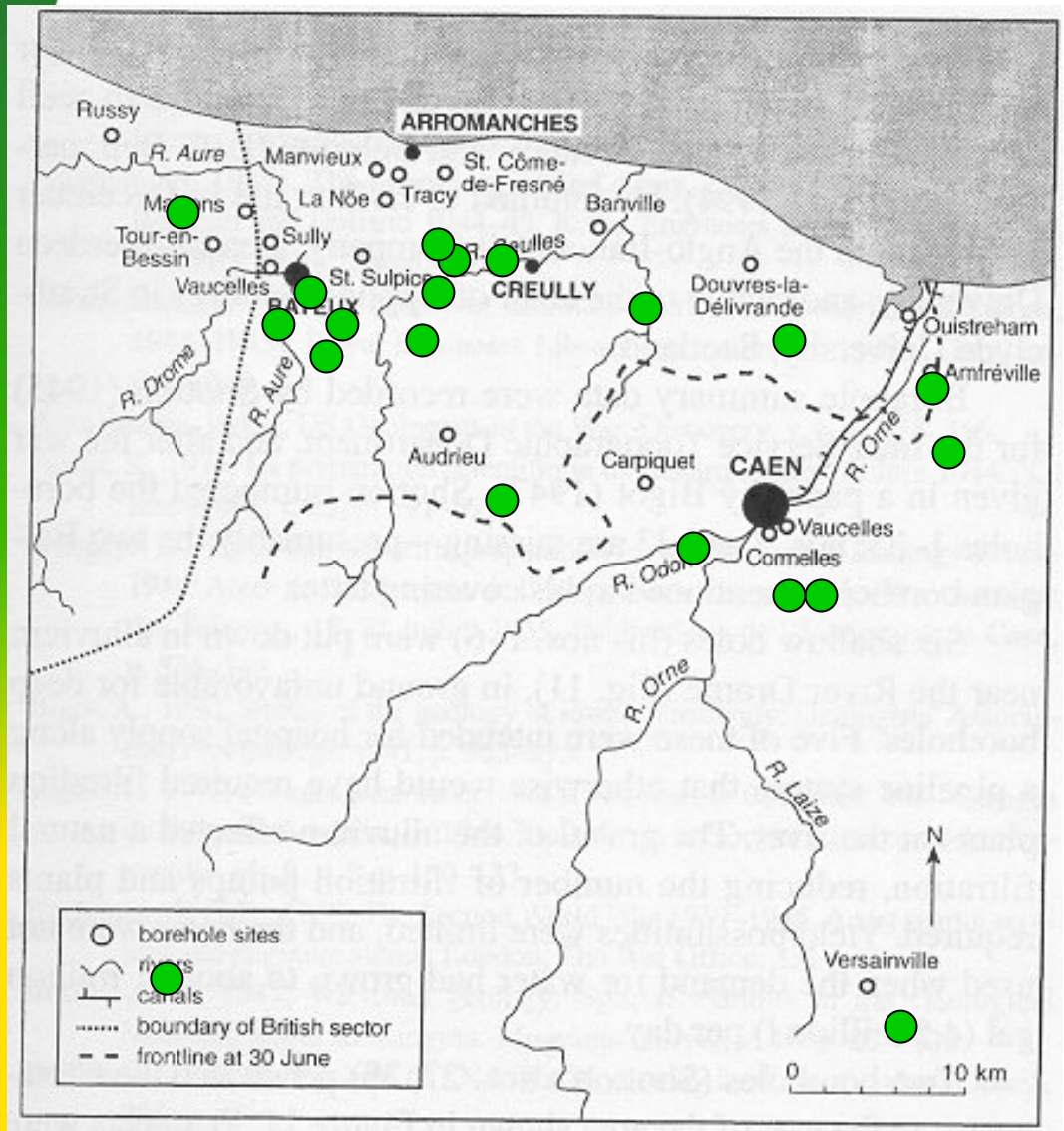
# Water Supply




**Map showing positions of military borehole sites in Normandy, 1944.**

(Data from Shotton, 1945; Bigot, 1947)

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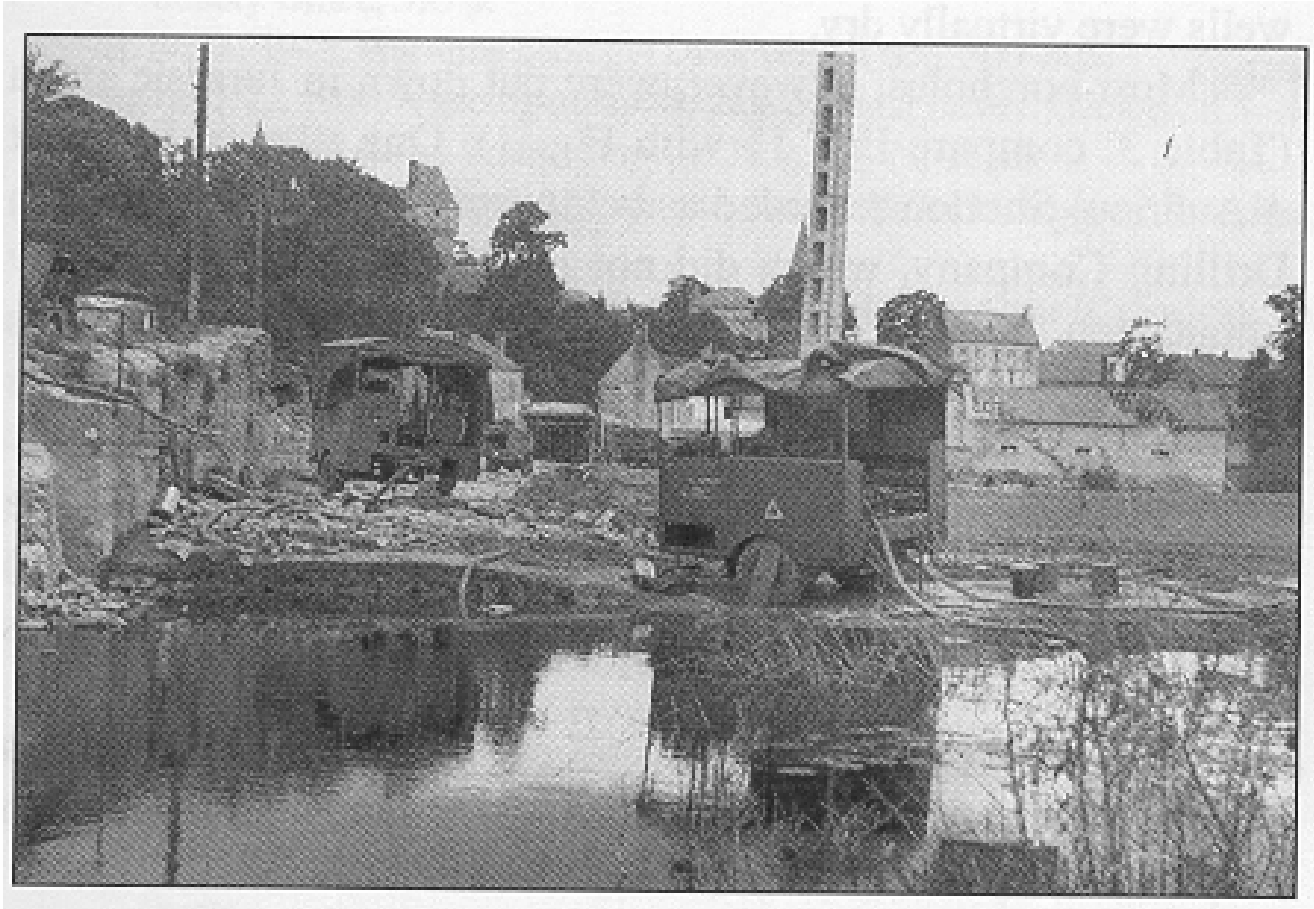
# Water Supply



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



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# Conclusion

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

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