HID 362
MESLEKİ İNGİLİZCE 2

Hafta 4
Ödev 2

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#evdekal

Hydrogeology

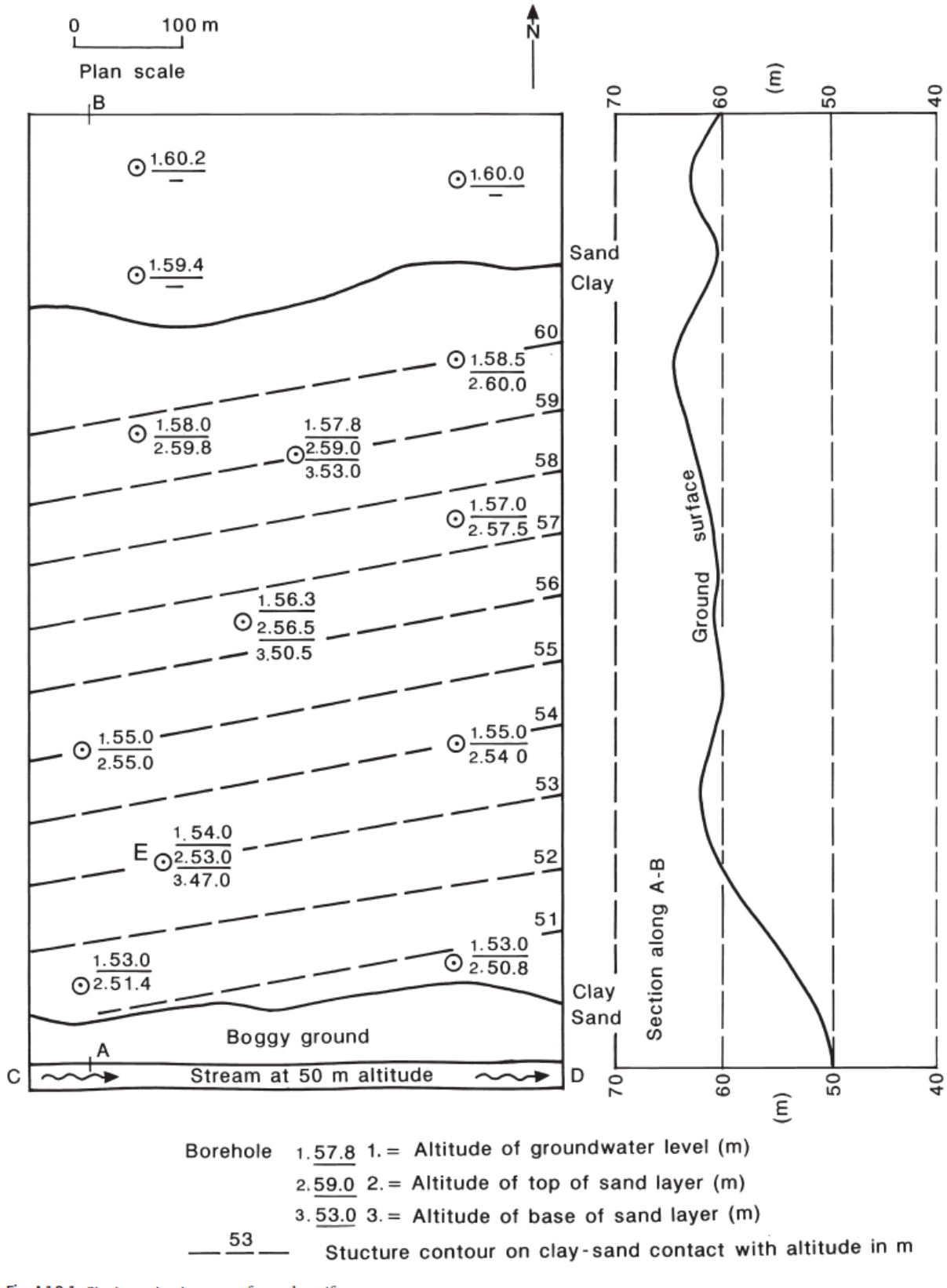
Principles and Practice

Kevin M. Hiscock

9 As part of a site investigation of the area shown in Fig. A10.1, 13 boreholes have been drilled. The area is underlain by a bed of sand above which is a low-permeability clay. Figure A10.1 shows structure contours of the contact between the sand and this clay. Three of the boreholes were deep enough to prove the existence of a second low-permeability clay beneath the sand. A single-borehole tracer test conducted at borehole E gave a value of hydraulic conductivity for the sand of 1 m day^{-1}.

Prepare a short explanation of the hydrogeology of the area using the above information. Illustrate your account by first completing a copy of the map showing contours of the groundwater level and then the cross-section showing geological structure and the potentiometric surface. Indicate the parts of the area in which the groundwater is recharged to and discharged from the ground surface, and the unconfined and confined parts of the sand aquifer. Estimate the transmissivity of the sand and the discharge of groundwater from the mapped area to the length of stream C–D.

It has been proposed to drain the boggy ground adjacent to the stream by means of ditches. Comment on the likely success or failure of this approach, giving your reasons.



Borehole 1.57.8 1. = Altitude of groundwater level (m)
2.59.0 2. = Altitude of top of sand layer (m)
3.53.0 3. = Altitude of base of sand layer (m)
53 Stucture contour on clay-sand contact with altitude in m

Fig. A10.1 Site investigation area of a sand aquifer.