

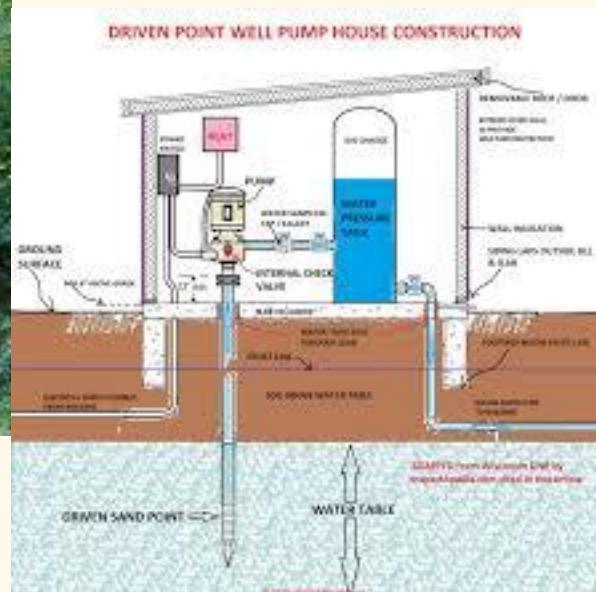
Groundwater and Wells

Applied Hydrogeology
Muhammad Risalat Rafiq

Water wells

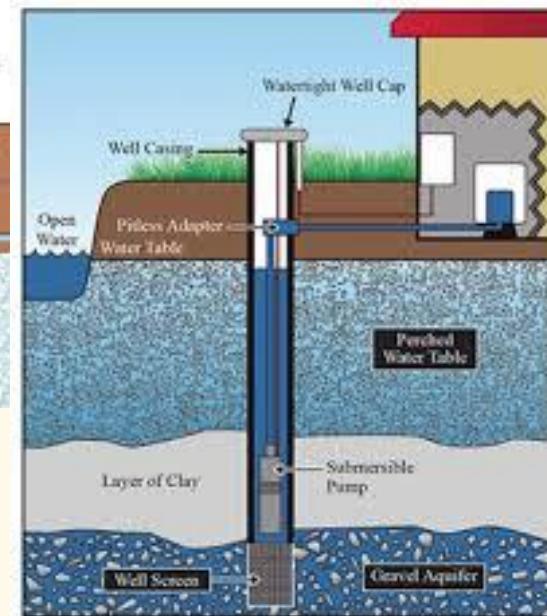


Dug



Driven

Construction Features of Driven Wells (epa.gov)



Drilled

Drilled wells

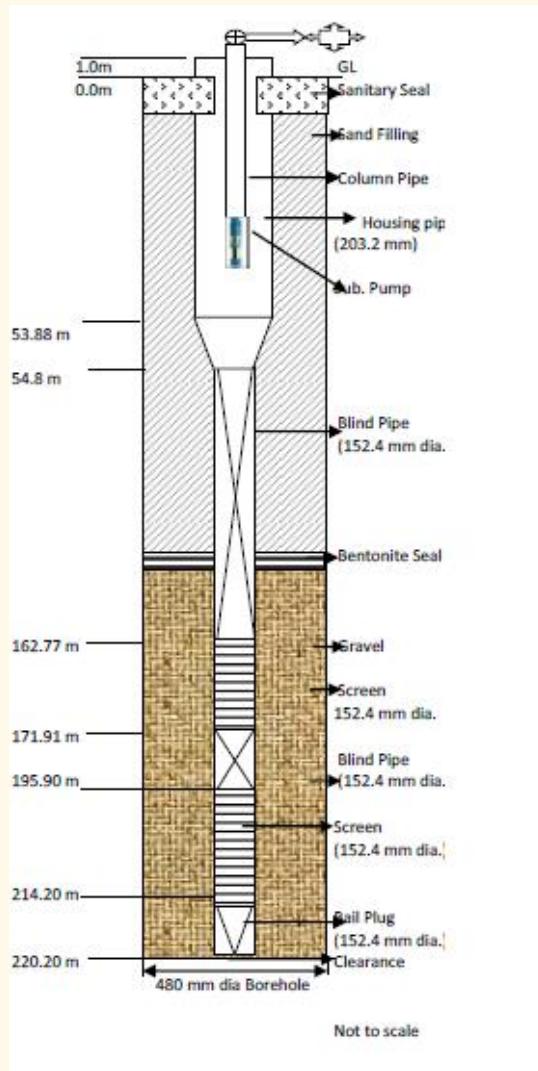


Hand Tube
well

Piezometer



Production well



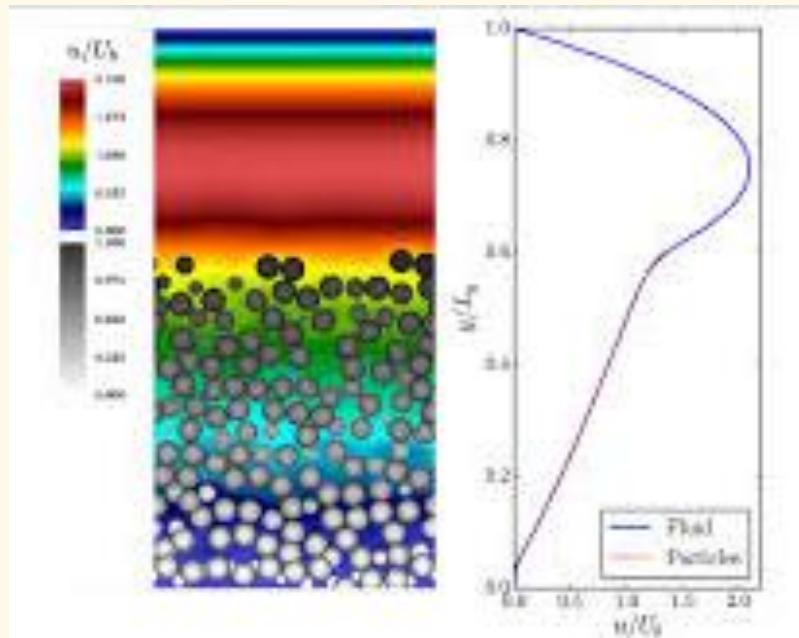
Site selection & Geology

- Interactive discussion

Drilling techniques

- break or cut the formation,
- remove the cut material (the soil) from the hole, and
- if necessary provide support to the walls of the hole, to prevent collapse during drilling

Soil pressure & Drilling fluids



Hand auger



Hand flapper/percussion techniques



[Deep Tubewell Drilling in Hard Soils Town - YouTube](#)

Core sampling



Core sampling



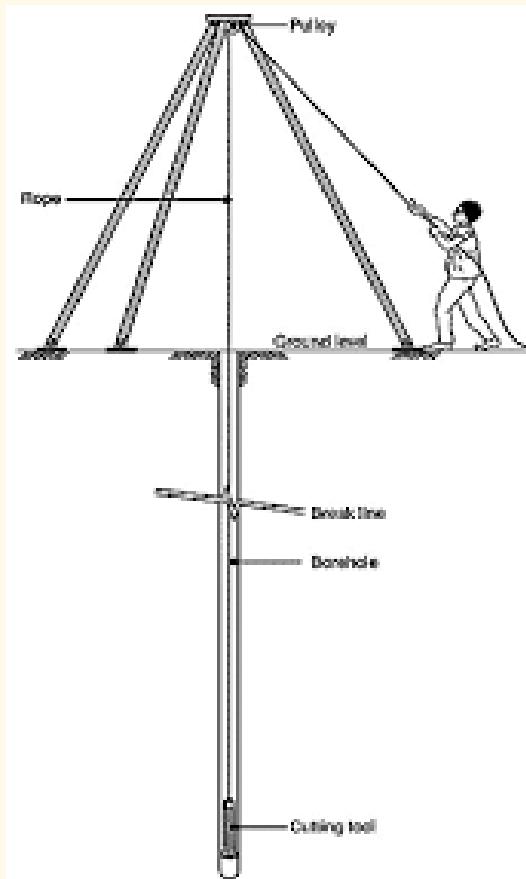
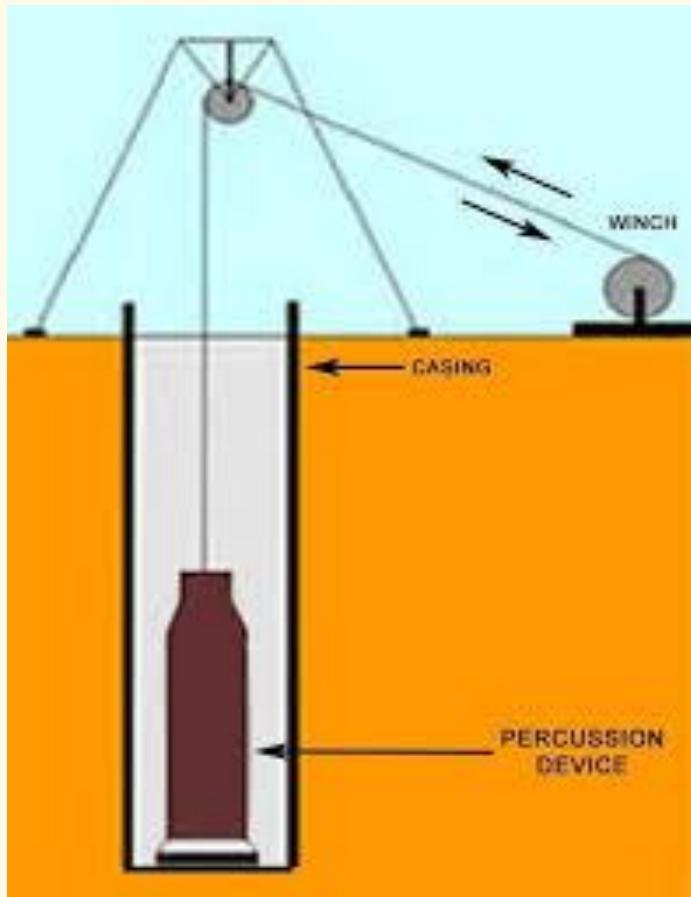
Rotary drilling

[Bangladesh Water Bore Hole Project - YouTube](#)



Percussion drilling

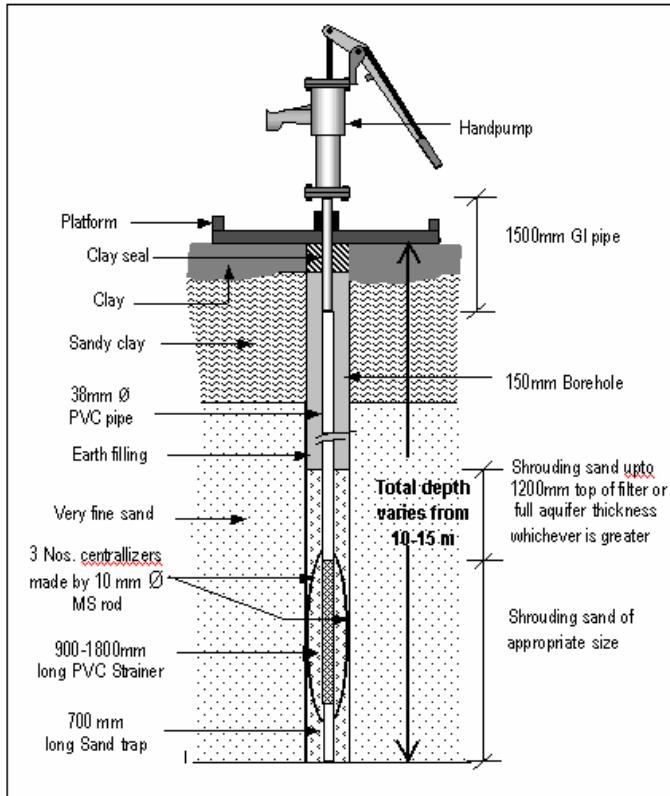
[Percussion Drilling at Bangladesh - YouTube](#)



Bore (litho) logs



Well design & construction

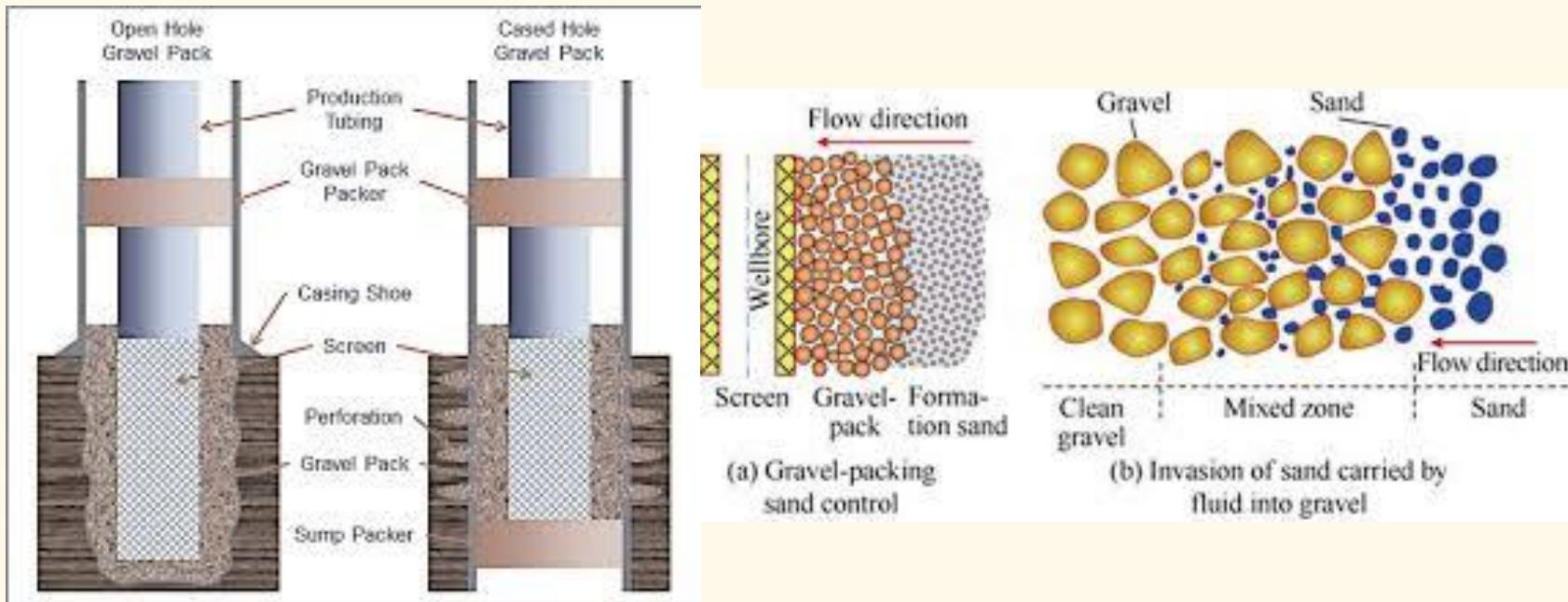


[Full guide hand Tubewell installation Process- Drill Borewell - YouTube](#)

Screens and PVCs



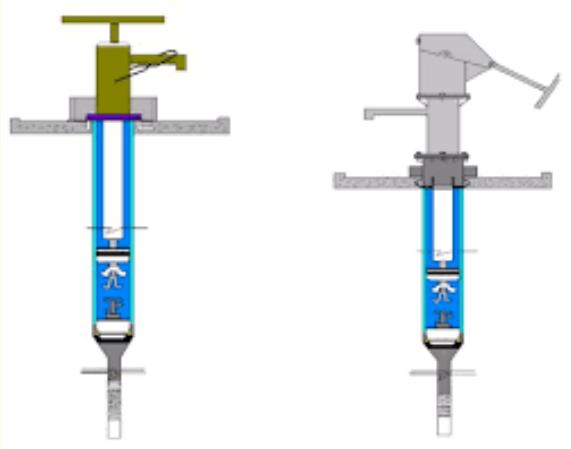
Gravel packing



Well development



Abstraction technology



Hand pumps



Submersible pumps
(AC)



Submersible pumps
(DC)



Peristaltic pumps