

## Master Well Driller — Geotechnical Licensure

### Study Outline

#### **Terms-to-know/Vocabulary**

- Confined/unconfined aquifers
- Artesian aquifer
- Static water level
- Pumping water level
- Specific capacity
- Measuring water levels
- Cone of depression
- Potentiometric surface
- Drawdown
- Recovery
- Maximum yield
- Hydrologic cycle
- A spring
- Process of developing a water well
- Water mining
- Groundwater recharge
- Annular velocity
- pH
- Types of wells
- Fishing
- Plume
- Universal solvent
- Drilling methods and the corresponding equipment or term
- Quick sand
- Principal earth augers
- Continuous flow return method
- Methods to install a well screen
- Sources of water in rocks
- Lost circulation problem
- Artificial gravel-packing
- Turbidity
- Removal of air rotary drilled cuttings
- Formation permeability
- Location between pollutant and well
- Porosity
- Viscosity

## **Calculations/Conversions**

- Maximum yield
- Yield
- Volume of a well's annular space formula
- Entrance velocity of water into a well screen
- Air measurement (Volume & Pressure)
- Air pressure needed to lift water in a well (psi per ft of lift)
- Grains per gallon to parts per million

## **State Regulations**

- Well construction permit
- Hydrogeologic areas 1-5
- Well permit
- Abandonment
- Casing
- Grouting
- Abandoned well report
- Screen
- Emergency well permit
- Well completion report
- "Miss Utility"
- Well log information

## **Chemistry**

- Salt water intrusion
- Nitrate Nitrogen
- Controls of groundwater quality
- Hydrogen sulfide

## **Safety**

- Entering a hazardous waste site
- Eye protection
- Clothing
- Respirators
- Effects of exposure to hazardous vapors and gases
- Causes of electrocution
- Acetylene torches
- Hearing protection by MOSHA