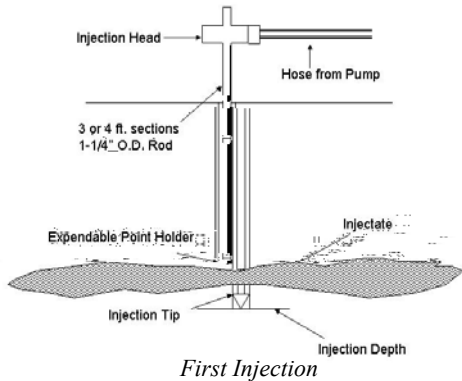
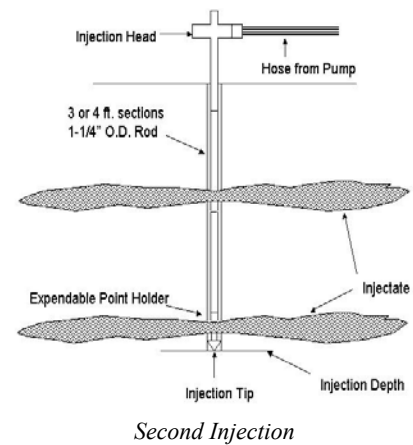


## Top-Down Injection Technique

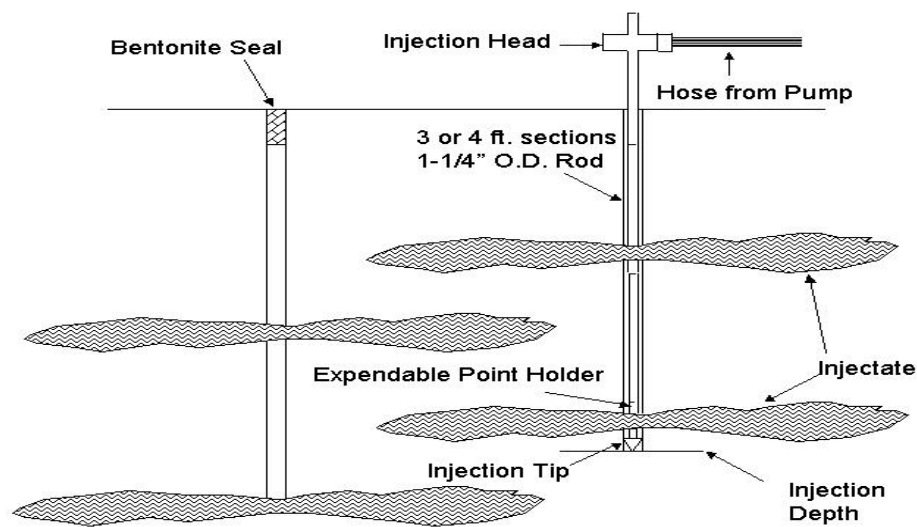
The simplest installation technique is to inject from the bottom-up; however, this technique cannot be used in silty or clayey soils, because when the injection rod is withdrawn, the borehole frequently remains open leaving a pathway to the lower seam. Since the slurry will take the path of least resistance, subsequent injections will likely flow to the previous seam, rather than open a new fracture. This will result in a very inefficient installation, since most of the slurry will be installed at the lowest depth. When soils consist of silts and clays, a top-down technique must be employed.



Using a top-down injection technique at a typical injection point, the injection rod will be driven to a depth corresponding to the approximate top of contamination, and a batch of slurry will be injected. Horizontal seams or sheets will be formed as the slurry is installed. Once the injection at the first level is complete, the lines are flushed and a new batch of slurry is mixed. The injection rod is pushed to the next targeted depth, effectively sealing off all ready pathways to the previous fracture, and a fresh batch of slurry is installed. This process is repeated until the lower limit of significant contamination is reached.



The above process of injection is designed to result in a series, or network, of horizontal sheets, or seams, of material emanating outward from the injection rod. Targeted depths of injection at adjacent points should be offset slightly with the intention of establishing interleaving seams of slurry.



*Interleaving Injections*