

8 Perforating

A perforation is the hole created between the casing or liner into the reservoir (subsurface hydrocarbon bearing formation). This hole creates communication to the inside of the production casing, and is the hole through which oil or gas is produced. By far the most common perforating method utilizes jet perforating guns that are loaded with specialized shaped explosive charges.

Figure 4 illustrates the perforation process. The shaped charge is detonated and a jet of very hot, high-pressure gas vaporizes the steel pipe, cement, and formation in its path. The result is an isolated tunnel that connects the inside of the production casing to the formation. These tunnels are isolated by the cement. Additionally, the producing zone itself is isolated outside the production casing by the cement above and below the zone.

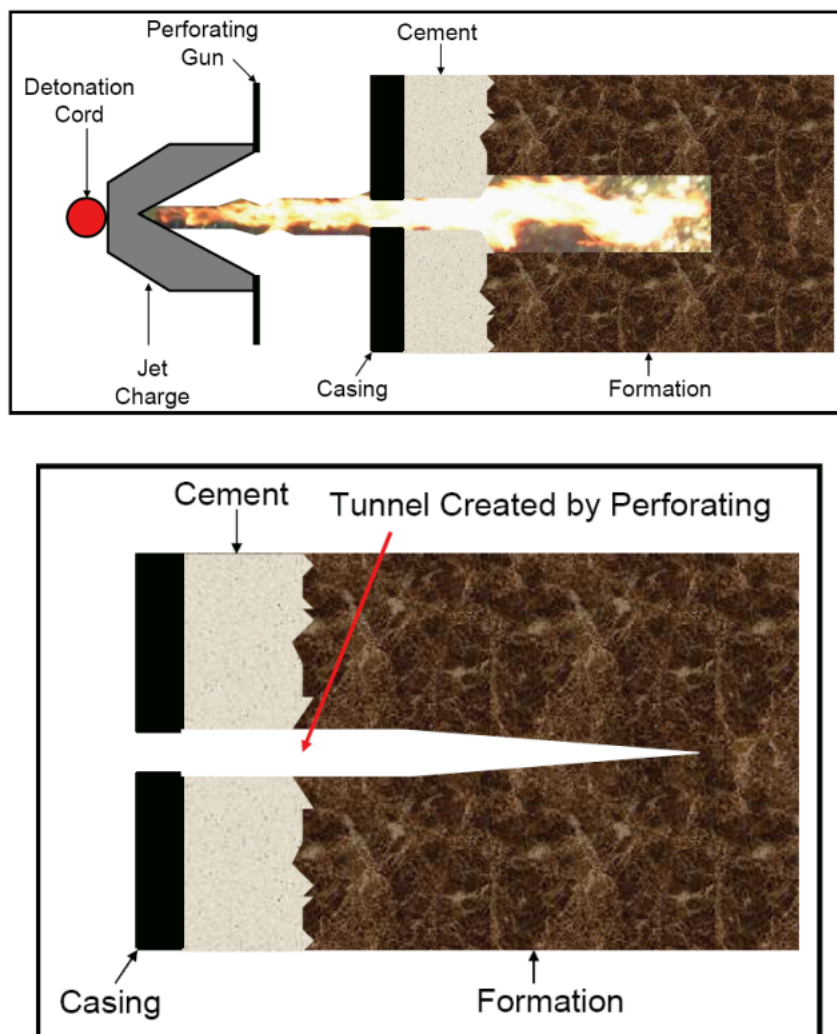


Figure 4—Perforation