



## Davis Extended Reach Equipment

### **Davis Flotation Collar\***

The patented Davis Flotation Collar (DFC) is designed for use in running casing in substantially horizontal well bores. Incorporated into the casing string, the device serves as a temporary barrier inside the casing. In so doing, it allows the portion of the string below it to be filled with air (no fluid) and the portion above it to be filled with drilling fluid.

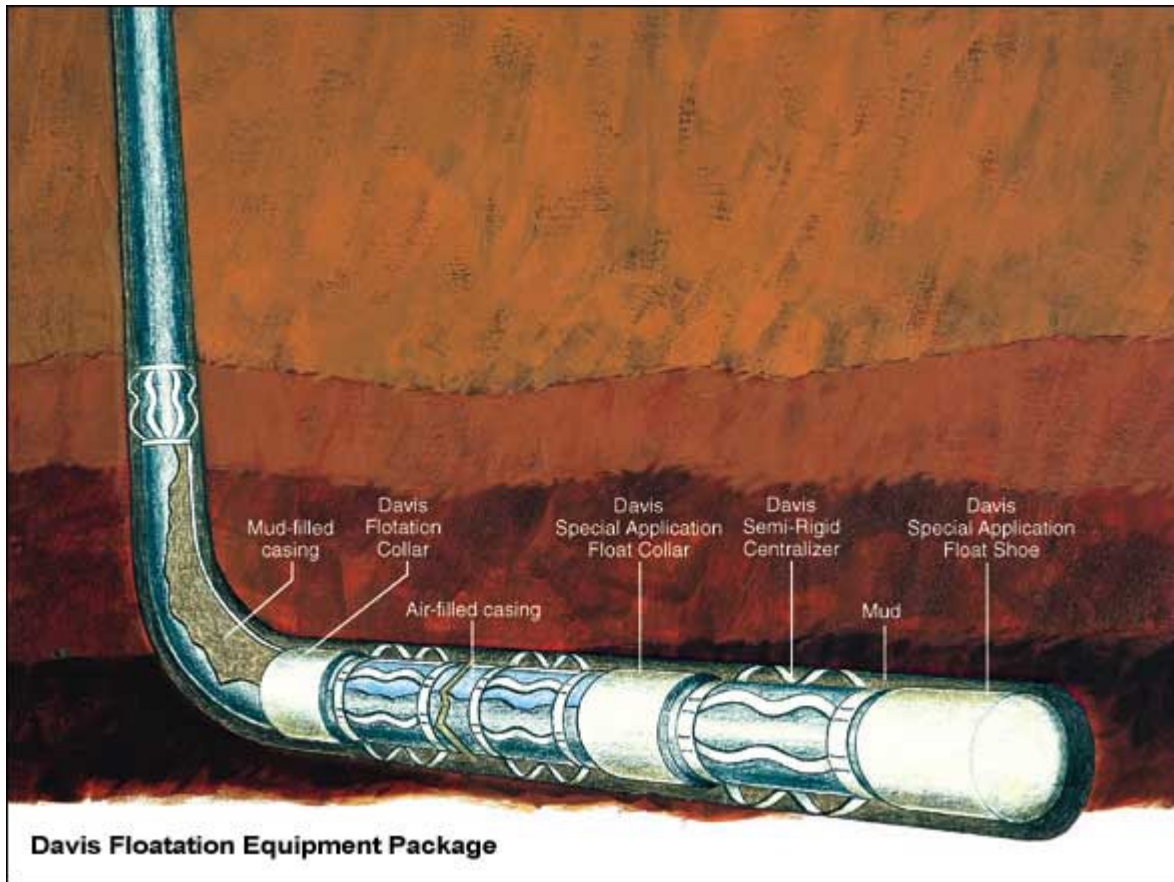
Floating the bottom portion of the casing reduces the drag against the wellbore, while filling the upper portion with drilling fluid adds weight to the casing string to push it into the hole. This feature facilitates running casing in highly deviated wells and, in many cases, permits successful casing runs that would otherwise be extremely difficult if not impossible.

Once the opening sleeve is activated by casing pressure, allowing the drilling fluid to displace the air in the lower section of the casing string, normal cementing operations can begin immediately. Additional pressure on the bottom cementing plug releases the DFC assembly so that it can be pumped down to the float collar. The top cementing plug displaces the cement and lands and seals on the bottom cementing plug/DFC assembly.

Unlike earlier devices that must be set inside the casing and then retrieved after landing the casing (requiring one round trip of the drill pipe and spacing the top of the last casing joint at the rotary table), the Davis Flotation Collar is installed in the same manner as a float collar.

Applying pressure to the inside of the casing string is all that is required to release the trapped air at the bottom of the casing string. This pressure is adjustable at time of manufacture to accommodate different pressure requirements.

The Davis Flotation Collar is self-contained and requires no other running, setting or retrieving tools. The inner sleeves of the device provide a good seal for the cementing plug against the float collar, and they are easily drilled out with either PDC or conventional rock bits when drilling the float equipment.



\*Davis-Lynch does not warrant that use of the Davis Flotation Collar in a Selective Flotation System is free from infringement of any patented methods. Use of the Davis Flotation Collar in such a system may, for example, require permission from Unocal under U.S. Patent 4,986,361.