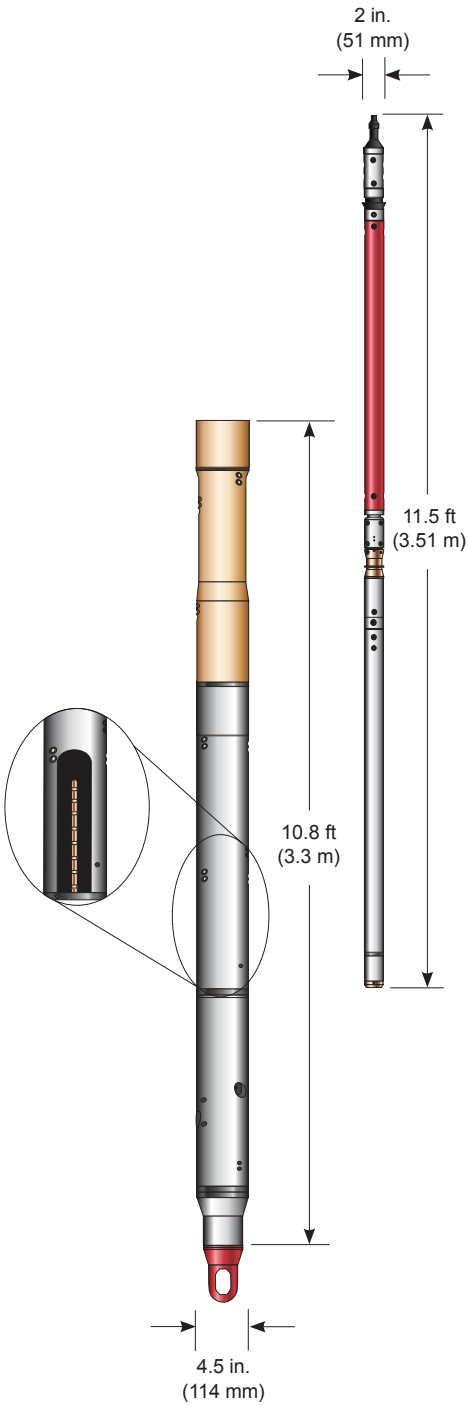
Pipe-Conveyed Logging (PCL)

Weatherford's pipe-conveyed logging (PCL) system enables acquisition of real-time, high-quality log data in difficult, highly deviated, or horizontal wells where logging tools cannot be lowered into the zone of interest by gravity or because there are adverse well conditions.

This system uses drillpipe to convey the tools to the required logging depth. The PCL system mechanically connects the logging assembly to the end of the drillstring, using a specially designed crossover called a **downhole wet connector (DWC)**. The entire assembly is tripped into the hole until the logging tools reach the upper-most interval to be logged. A **side-entry sub (SES)** is made up to the drillpipe, allowing the wireline and uphole **pumpdown wet-connect (PWC)** spear to be lowered or pumped through the drillpipe and latched onto the downhole assembly. Logging occurs when the tubular string is tripped out of the hole and a continuous log is recorded in real time.

The SES is now lowered into open hole to prevent potential damage to the wireline. The SES can be made up at different positions in the tubular string to log other intervals in the well in case of long horizontal sections.



Applications

- Used to acquire high-quality, real-time log data in difficult, highly deviated, or horizontal wells where logging tools cannot be lowered into the zone of interest by gravity
- Used as a conveyance method for Weatherford's standard and specialty tools that cannot be run on memory
- Open-hole and cased-hole logging
- Real-time formation testing

Features, Advantages and Benefits

- The PCL system provides mud circulation during the operation, reducing the risk of tools getting stuck, thereby minimizing further hole deterioration.
- Real-time data is acquired at the wellsite, providing greater efficiency.
- A downhole tension and compression device is included in the tool string to ensure that the tool descends safely into the well without failing in compression or buckling caused by an obstruction in the well, therefore, saving the cost of the tools.
- If necessary, mud can be circulated through the downhole latch to facilitate progress of the tubular into the well, saving time.
- Multilatch capability in one rig up enables the covering of long horizontal sections.
- The PWC can be latched horizontally, enabling longer lateral wells to be logged with fewer latches, therefore, saving rig time.

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Specifications

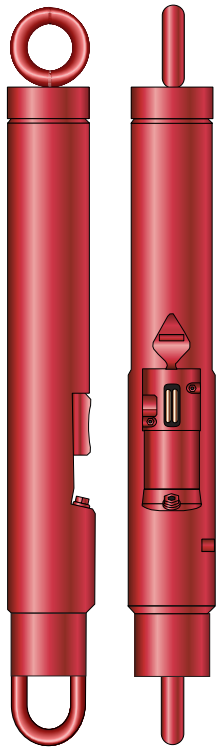
General specifications

Maximum outer diameter of PWC	2.0 in. (51 mm)
Maximum outer diameter of DWC	4.5 in. (114 mm)
Connection thread type	3.5 in. (88.9 mm) IF API
Circulation rate through the DWC	Unlatched: 20 bbl/min Latched: 10 bbl/min
Maximum temperature	350°F (177°C)
Maximum pressure	20,000 psi (138 MPa)
Latch / release rings	1,500 lb tension
Maximum chlorides concentration	300,000 ppm @ surface conditions

Specifications for SES

Tool	4.5 in. (114 mm) IF API	3.5 in. (88.9 mm) IF API
Maximum inner diameter	1.88 in. (47.8 mm)	
Maximum outer diameter with clamps	6.78 in. (172 mm)	5.91 in. (150 mm)
Assembly length	3.75 ft (1.14 m)	4.88 ft (1.49 m)
Assembly weight	355 lb (161.03 kg)	255 lb (115.67 kg)
Working pressure rating	3,000 psi (138 MPa)	

Side-Entry Sub



Side View | Front View

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