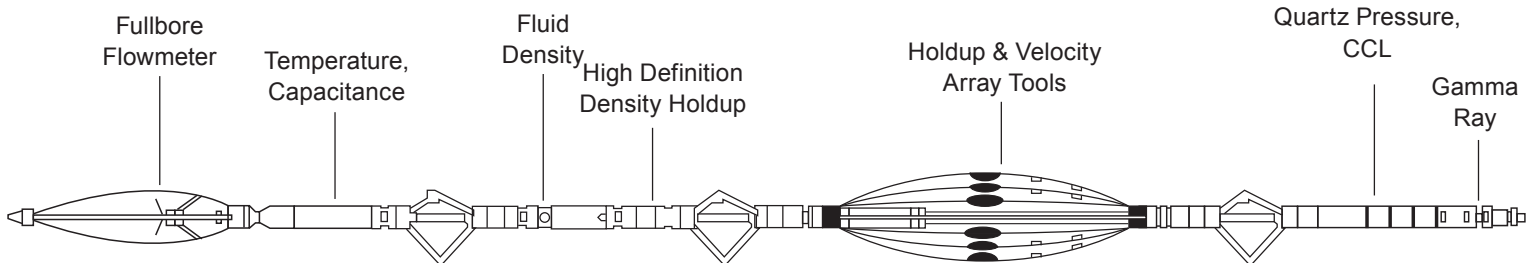


## HDD<sup>TM</sup> HZ PLT String



**Gamma ray (GR):** tool measures the naturally occurring radiation that is emitted by various formations to determine lithology. Ideal for depth correlation, radioactive scale determination & tracer measurements.

**Quartz Pressure (QPS):** used to provide a continuous log of borehole fluid pressure and to record reservoir pressure draw-down and build-up data during flowing tests. Used for pressure gradient, drawdown, buildup pressure transient analysis.

**Collar Locator (CCL):** identifies pipe collars in the wellbore & end of tubing.

**Water Holdup Array (WHA):** oil, gas & water have different dielectric constants - the WHA uses this property to identify fluid phases in high deviation and horizontal wells. Delivers full radial fluid measurements.

**Resistivity Holdup Array (RHA):** differentiates between conductive water and hydrocarbons which are non-conductive, and will detect very small, fast moving bubbles.

**High Definition Holdup:** emits & measures low energy gamma rays as a full-bore measurement of gas to liquid volume fraction, independent of flow regime or well deviation. Ideal for 2 phase flow profiling, gas diction & bubble point determination.

**Fluid Density:** measures the electron density (mass) of fluids in the wellbore, using low energy gamma rays to determine the downhole fluid density. This tool is ideal for multi-phase flow profiling (water, oil & gas).

**Temperature Array (TA):** measures the full borehole circumferential temperature of the well.

**Fluid Capacitance or Capacitance Water Hold-up (CWH):** measures the dielectric constant of the surrounding borehole fluid to determine the water holdup. Ideal for 2 phase flow profile (water & oil).

**Flowmeter:** the Flowmeter/Spinner is run at the bottom of a PL tool string to monitor downhole fluid flow rates. As flow rotates the spinner blades, pulses are generated & are processed into rotations & fluid velocity. Ideal for flow & injection profiling on all well completions.

**Outside Diameter:** 1-3/8" (37.9mm) or 1-11/16" (42.86 mm)

**Length:** 18.5 ft. (5.64 m)

**Weight:** 85 lbs (38.55 kg)

**Pressure Rating:** 15,000 psi - (103421 kpa)

**Temperature Rating:** 350f - (177c)