SWC™ Side Wall Coring Tool

The SWC™ side wall coring tool allows geologists to take a sample of a prospective formation traversed by the borehole. These sidewall core samples can improve log analysis, help to identify a rock's type and origin, and can be used to determine the exact location of gas and oil, gas and water, or oil and water contacts within a reservoir. In some cases, sidewall cores can even discover productive reservoirs not evident on logs.

The SWC tool consists of a propelling explosive material and hollow core barrels housed in the body of the gun. The tool is lowered to a predetermined depth and fired, one shot at a time. The barrels containing the core samples are then retrieved by means of a cable attaching the barrels to the gun.

The SWC tool utilizes a single cable running through and in-between the barrel back and barrel. The two ends of the cable are secured to the side rails of the gun, helping to reduce the number of broken cables. In addition, release rings adapted to the top of the barrel control entry depth and velocity and provide flexibility during the coring process.

Applications

- Clay typing
- Fluid saturation estimation
- Matrix makeup
- Grain size and cementing agents
- Paleonthological data
- API oil gravity
- Gas and oil presence

Porosity and permeability estimations can also be made using sidewall core analysis. However, these estimates should never be used to extensively evaluate porosity or permeability since there is a high probability that the core structure has been altered by the impact of the core barrel into the formation.

Features

- Area specific – can shoot 24 to 144 cores on a single trip into the well
- Depth correlation via gamma ray or SP application
- Sampling can be done at any time before casing is run
- Allows sampling of very soft formations
- Permits positive verification of formation type indicated by the other open-hole logs

SWC™ Side Wall Coring Tool Specifications

Length ft (m)	Diameter in. (mm)	Maximum Pressure psi (Mpa)	Maximum Temperature °F (°C)	Weight lb (kg)
7.7 (2.4)	4.5 (114.3)	20,000 (137.9)	400 (204.4)	215 (97.5)