KTIB

KASPIAN TEHLUKESIZLIK BALTALARI

CORING PRESENTATION

2025

KTIB was established in 2005 in Baku (Azerbaijan). Currently KTIB performs Integrated Projects in countries of Eurasia & Middle East (incl. Russia & CIS). KTIB is committed to provide full range of services in Oil & Gas industry.

CORING TECHNOLOGY

Our company can produce coring from wells with diameter 139 to 393.7 mm with core diameters from 67 to 133.4 mm. Core sampling is possible both with rotary assemblies and assemblies using PDM.

- Conventional coring tool
- Anti-Jamming coring tool
- Gel coring system
- Conventional and Hydro-Barrel full closure system
- Low invasion technology
- Hydro seat Barrel system

APPLICATIONS / SOLUTIONS	FULL CLOSURE SYSTEM	POSICLOSE™	ORIENTED CORING	CORIENTING™ SYSTEM	WIRE LINE CORING	LONG CORING	GLIDER™ CORING	LOW INVASION™ CORING	SPONGE CORING™	SURFACE SERVICES	CORE GAMMA LOGGER	FIBERGLASS TUBES	ALUMINUM TUBES	SPECIAL CORE BIT DESIGN
FRACTURED RESERVOIRS TENDENCY TO JAM		■	■	■			■			■	■	■	■	■
SOFT FRIABLE OR UNCONSOLIDATED	■	■								■	■	■	■	■
EXPENSIVE RIG TIME					■	■	■			■	■	■	■	■
HORIZONTAL OR HIGH ANGLE	■				■	■	■	■	■	■	■	■	■	■
COAL BED METHANE	■				■					■			■	■
RESERVOIR ENGINEERING			■	■			■	■	■	■	■	■	■	■
SATURATIONS									■		■	■	■	■
HP/HT						■	■	■		■	■	■	■	■

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Conventional Coring Technology

Conventional coring system is designed to obtain a core from most coring applications using the standard core barrel. This service is the base unit upon which the full range of coring services are built.

The standard core barrel is more efficient and reliable than the industry standard core barrel because its features a patented heavy duty thread form (HDT) and an adjustable safety joint.

Benefits To The Customer

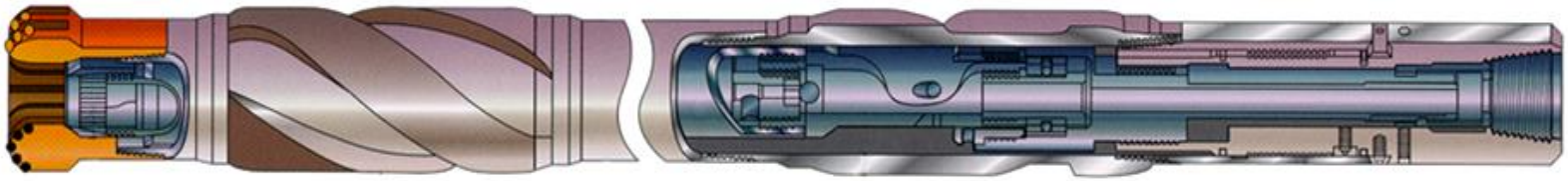
Reliability is improved :- Core barrel thread damage is eliminated because the patented heavy duty thread form prevents damaged connections if recommended coring parameters are used.

Coring efficiency is improved :- Rig time is saved by using the patented adjustable safety joint. This enables the inner barrel lead to be adjusted quickly prior to each run without breaking any core barrel connection.

Heavy Duty Thread

The design criteria for heavy duty threadform were:

- Increased torsional resistance.
- Increased fatigue strength.
- Increased working life.
- Increased flex capability.



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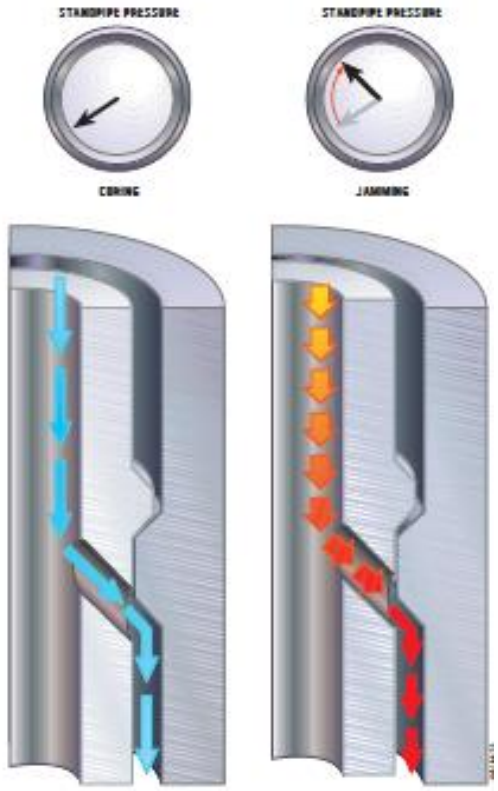
HSB Coring Technology

Operating Principle

The top section of the HSB system includes a jamming indication feature. If jamming occurs, friction of the core on the inner barrel exceeds the hydraulic force keeping the inner barrel in place. As a result, the inner tube moves "upwards" while the core head continues to cut the formation. This restricts mud flow and induces a clear standpipe pressure change and it is an easy decision for the coring engineer to pull the core barrel.

LEFT – This floating, flexible barrel is hydraulically seated which means much less stress on the core at entry.

RIGHT – Jamming lifts the inner barrel, restricts mud flow, and increases the pressure reading at the surface. The hydraulics force can be easily modified to suit the operation.



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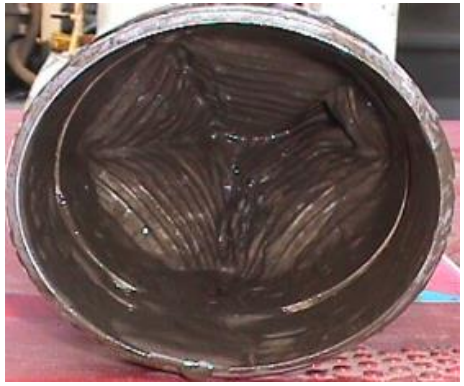
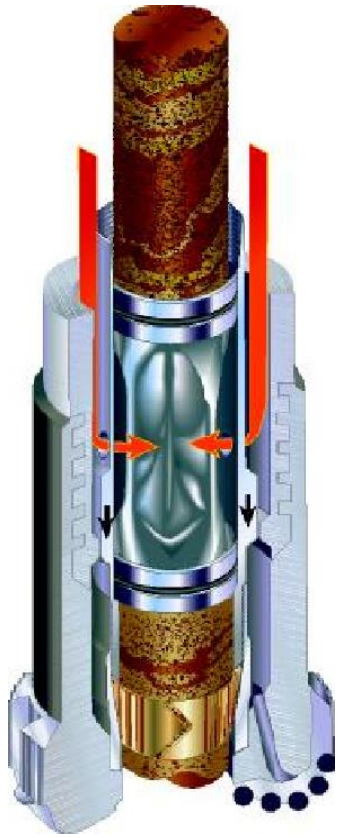
Conventional and HSB Full Closure Coring Technology

The Full Closure System is ideal for recovering core in soft, sandy and unconsolidated formations. It is hydraulically activated, which minimizes mechanical parts and increases reliability for a broad range of applications. The system incorporates the Hydro-Seat Barrel, which provides clear indication of jamming at the surface. The Full Closure System is available on either the standard core barrel.

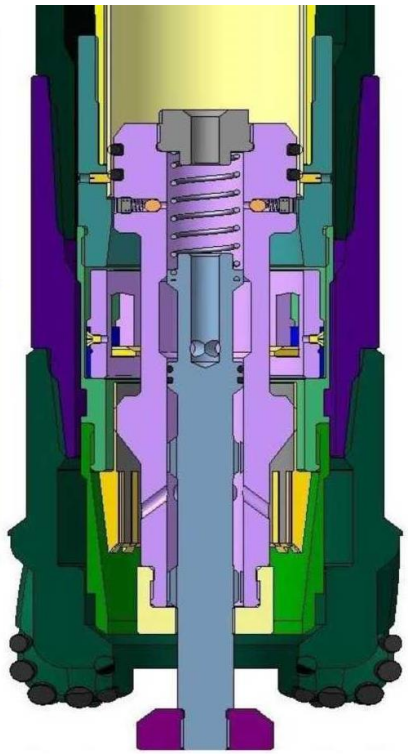


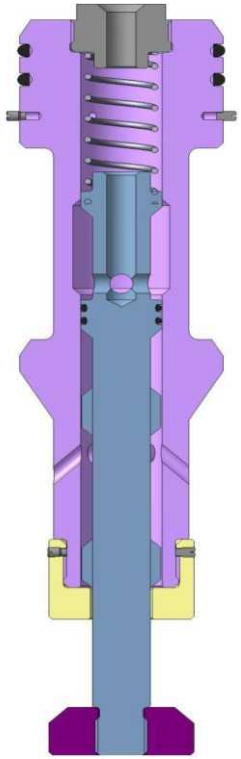


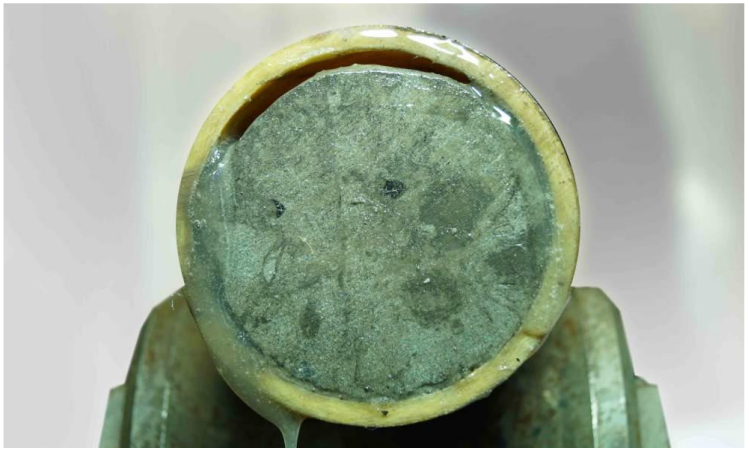
Gel Coring Technology

The Gel coring system uses a viscous, noninvasive gel to protect cores from drilling fluid invasion, which can alter the chemical and physical properties of the cores. The gel fully encapsulates the core downhole to prevent contact with the drilling fluid and supports the core during recovery, surface handling, and transportation.

A distinctive feature of the valve is the replacement of drilling fluid (before the start of coring) from the cavity from the bottom hole to the valve, thereby ensuring minimal contact of the core with the drilling fluid.





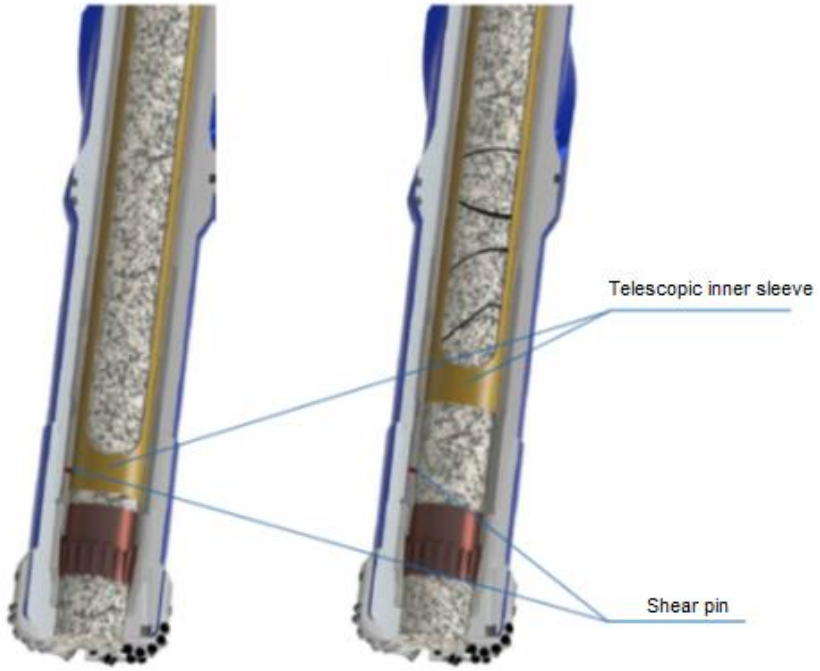


Anti-jamming Coring Technology

Core jamming during fractured rock coring is the main cause of premature drilling stops. An increase in the number of trips due to core jamming can lead to a significant increase in well construction time. The use of anti-jamming systems to eliminate one spell can effectively solve this problem.

Advantages:

- Elimination of one core jamming.
- Increased core recovery.
- Increase in penetration for 1 trip.
- Reducing well construction time by reducing the number of trips.



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Core Bits

In its work, the company strives to apply advanced core heads from Petrotool, Halliburton, Baker Hughes and Burservice and other market leaders.

Our advantage in this area, is the ability to select and apply simultaneously several successful solutions and technologies from different manufacturers for specific geological and technical conditions of the Customer.

- Soft Rock- PDC
- Medium to Hard Rock- PDC
- Fractured- Impregnated
- Ultra hard and abrasive- Impregnated

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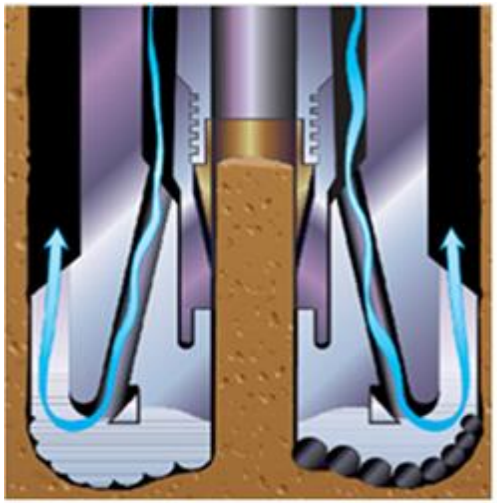
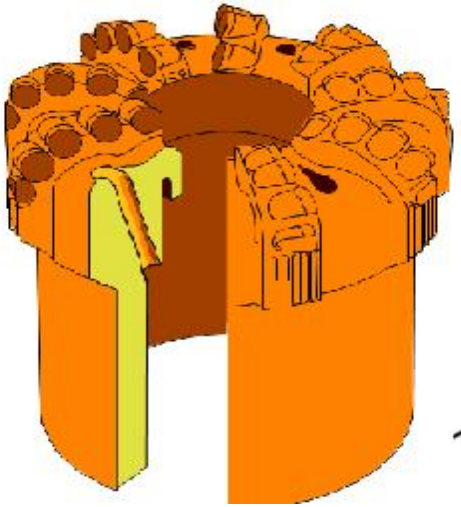
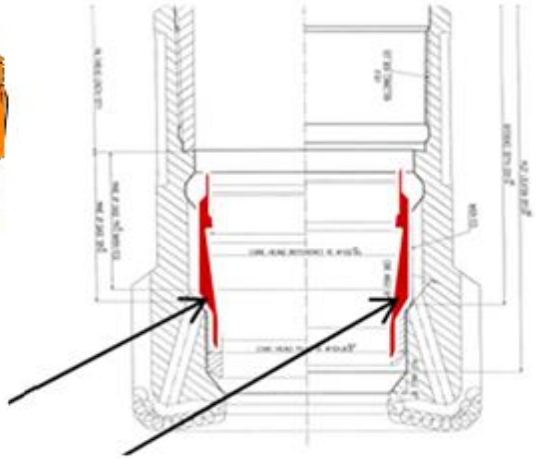
Low Invasion Technology

The LOW INVASION ™ system protects the core from drilling fluid attack, provides core samples in their natural state with minimal exposure to drilling fluid.







The internal geometry is determined by the ratio of the outer dimensions of the Lower Half of the Shoe and the inner dimensions of the core head.

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Core Inner Barrel

In order to meet the modern requirements of customers for packaging and conservation of core material extracted from a well, our company has successfully introduced and widely used core pipes made of fiberglass and aluminum material.

Available fiberglass tube diameters

- The core is protected and is not retrieved from the pipe at the rig
- Maximum temperature up to 150 C
- Low coefficient of friction
- Improving core quality
- Increase in the percentage of coring
- Safety and reliability
- Saving rig time
- Convenient transportation

	Burst pressure	
Core, inch	Mpa	Psi
2 5/8	61.5	8917
3 ¼	40.1	5814
4	25.9	3755
5 1/4	30.3	4183

Available aluminum tube diameters

- Stronger than fiberglass pipes
- Protects the core from destruction while lowering the pipe onto the walkway
- Maximum temperature up to 200 C
- Improving core quality
- Increase in the percentage of coring
- Safety and reliability
- Saving rig time
- Convenient transportation

	Burst pressure	
Core, mm	Mpa	Psi
2 5/8	61.5	8917
3 ¼	40.1	5814
4	25.9	3755
5 1/4	30.3	4183

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Core Plugging and Gamma Logging

Core Plugging Operation

- Isolate the central portion of the core after extraction as soon as possible to obtain samples with minimal (ideally zero) mud filtrate penetration.
- To seal and protect samples so that they arrive at the laboratory for analysis in good condition with minimal change to liquids in the sample.
- Rapid formation quality assessment for well operation decisions.

Core Gamma Logging Operation

GMS310 gamma spectrometer, intended for the supply of real gamma radiation. The device provides the ability to register elemental concentrations of uranium, thorium and potassium with the help of a spectral analysis of gamma radiation from the core.

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Core Stabilization and Preservation

Core stabilization using liquid resin

The purpose of this method is to stabilize and protect the core in the inner tube and prevent damage to the core material during transportation, handling. Core stabilization using two-component epoxy resin involves segmenting the core into pieces up to 1 m long. Epoxy resin is “poured” into the space between the core and the walls of the inner barrel to fix the core within the inner barrel.

Core stabilization using foam

In recent years, the development of an easy-to-use, fast-drying, expandable polyurethane foam has simplified and improved methods for core stabilization. The foam system uses two chemicals that are automatically mixed during the low pressure injection process to provide stability in a variety of working conditions and environments.

Core preservation using wax

The wax is a sealing material to guarantee a preservation of fluids saturation and preventing selected sample from drying over a long period prior to any analysis at the laboratory. The standard procedure consist of wrapping the geological sample with several layers and non-reactive plastic film and thick aluminum foil prior to dipping

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