SeismicTrak Seismic-While-Drilling Service
Reduce drilling risk and improve wellbore placement

The Baker Hughes SeismicTrak™ seismic-while-drilling service provides real-time, seismic first-arrival and waveform data to reduce formation uncertainty, enabling operators to hit their reservoir targets under a variety of complex conditions.

Operators can use the SeismicTrak data to update surface seismic models without impeding overall drilling operations. This results in immediate and better-quality information on the reservoir, leading to improved production and recovery.

Used primarily in offshore wells, the SeismicTrak service proves invaluable when operators are faced with velocity uncertainties, pressure transitions, challenging trajectories, or nearby salt bodies.

Real-time data from the SeismicTrak tool enables operators to adjust their well trajectory as necessary to avoid sidetracks and precisely place their well.

Reduce rig cost through efficient, seismic-enhanced drilling
The SeismicTrak service captures measurements during natural pauses in the drilling process, which are then transmitted to the surface using mud-pulse telemetry. As an operator adds pipe, seismic operations from the surface engage, and the SeismicTrak tool’s downhole receiver acquires formation velocity data with no slowdown to the operation. This eliminates nonproductive time (NPT) and wireline tripping, helping operators reduce rig costs and acquire data faster.

Applications
- Deep water and pre-salt
- Highly deviated, horizontal, or extended-reach wells
- Seismic uncertainty
- Uncertain casing/coring points

Features and benefits
- Measurements acquired during drilling breaks
  - Reduces downtime, improving rigsite efficiency
  - Reduces cost of logging program
    - Saves rig time and risk associated with wireline runs
- Employs precise clock mechanism for checkshot time/depth pairs
  - Keeps accurate measurements even when downhole for extended periods of time
- Immediate data-capture feedback during drilling process
  - Enhances wellbore placement
  - Reduces depth uncertainty
  - Enables setting of optimal casing point
  - Detects pressure changes
- Rugged design with redundant sensors and large memory
  - Improves reliability for deepwater conditions
  - Enables continual or longer runs without stopping
Baker Hughes builds in the necessary ruggedness to the SeismicTrak tool so it can withstand the rigors of deepwater drilling. This hardened sub contains redundant geophone and hydrophone sensors, enabling longer runs in harsh, downhole environments without stopping.

In highly deviated, horizontal, or extended-reach wells, the SeismicTrak service can access boreholes that may be difficult for wireline, reducing the need for additional openhole time or the use of risky deployment methods. The system collects real-time checkshot data and full wireline-quality vertical seismic profile data in memory for processing after drilling to increase subsurface understanding.

Reduce uncertainty for enhanced safety
Although surface seismic data is subject to uncertainty, especially in high-risk, sub-salt, and deepwater markets, it still provides the informational basis for the majority of wells drilled today. The SeismicTrak service reduces this uncertainty by allowing operators to see important reservoir features and potential drilling hazards—in real time—such as faults and pore-pressure regions, to increase safety during the drilling operation.

As they drill, SeismicTrak data informs operators of formation changes that are approaching just below the bit to allow safe stops and avoid potential hazards. Surface seismic and SeismicTrak data aggregates to assist in detecting pressure changes, potential exiting of the reservoir, or other downhole uncertainties that could jeopardize the run. Operators can now adjust their well trajectory, adjust their mud weight, or set casing to mitigate those hazards.

Optimize well landing with real-time data
As an operator is drilling with the SeismicTrak tool in the BHA, the checkshot data is transmitted to the surface to position the well on the seismic map. This real-time seismic data helps optimize operational processes and improve wellbore placement.

Using the most precise clock technology in the industry—with a drift of less than one millisecond over 10 days—the SeismicTrak service can precisely provide time/depth measurement, even when downhole for extended periods. The wavelet processing of reflected data assists in predicting geohazards and features ahead of the bit, as well as landing the well in the sweet spot. Simply landing the well in the reservoir is not enough—Baker Hughes can optimally place your wellbore for maximum reservoir exposure.

The SeismicTrak service is further enhanced with data processing provided by Baker Hughes borehole seismic experts, who are also engaged in the prewell planning and modeling phase, as well providing deliverables. Their invaluable contributions bring optimal job performance and results to the operator.

Contact your Baker Hughes representative to learn more about how SeismicTrak seismic-while-drilling services can help you reduce downhole uncertainty and optimize wellbore placement.

Specifications

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<thead>
<tr>
<th>Specification</th>
<th>Tool size</th>
<th>Hole size</th>
<th>Nominal hole size</th>
<th>Tool OD (at thread connections/max.)</th>
<th>Tool weight</th>
<th>Tool length</th>
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<tbody>
<tr>
<td>Tool size</td>
<td>6 3/4 in. (171 mm)</td>
<td>8 1/2 to 9 1/6 in. (213 to 251 mm)</td>
<td>8 1/2 in. (216 mm)</td>
<td>7 in./7 1/4 in. (178 mm/184 mm)</td>
<td>1,300 lbm (590 kg)</td>
<td>10.73 ft (3.27 m)</td>
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<td>Hole size</td>
<td>9 1/2 in. (241 mm)</td>
<td>12 1/4 to 26 in. (311 to 660 mm)</td>
<td>12 1/4 in. (311.2 mm)</td>
<td>9 1/2 in./9 1/2 in. (242 mm/242 mm)</td>
<td>2,843 lbm (1,290 kg)</td>
<td>11.35 ft (3.46 m)</td>
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