

Quick Shot Seismic Tool

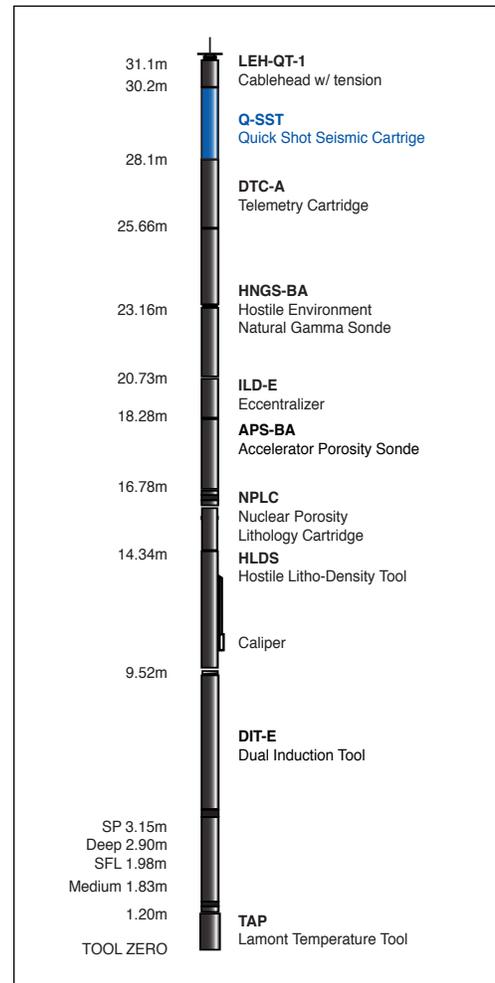
Description

The Schlumberger Q-SST is a single-axis seismic check shot tool which runs in-line with the Schlumberger Triple Combo tool string. The Q-SST does not utilize a clamping arm; therefore, connection with the borehole wall is achieved passively. Seismic coupling is achieved by setting the tool on the hole bottom and allowing the tool to lay on the side of the borehole. The weight of the tool is sufficient to couple the tool to the formation. The check shot seismic survey is then completed only at the bottom of the hole since adequate clamping is not possible while off bottom. Data from the Q-SST are provided in SEG-Y format and are very useful for time-depth corrections of seismic lines. Rig time required to run the tool is very low since an extra tool string deployment is not necessary. The shipboard GI gun is used as the seismic source.

Applications

- ◆ Quick seismic time-depth correlations for tying measured borehole seismic horizons with existing seismic survey data.

- Runs in-line with the Triple Combo
- Measures travel time
- Utilizes a single axis geophone
- Used at the bottom of the hole for a check shot survey
- Minimal additional ship time needed (1 hour or less for nine shots)
- Length = 2.13 m
Diameter = 9.2 cm
- Uses GI gun presently onboard *JOIDES Resolution*
- May not be run when MGT is deployed with the Triple Combo

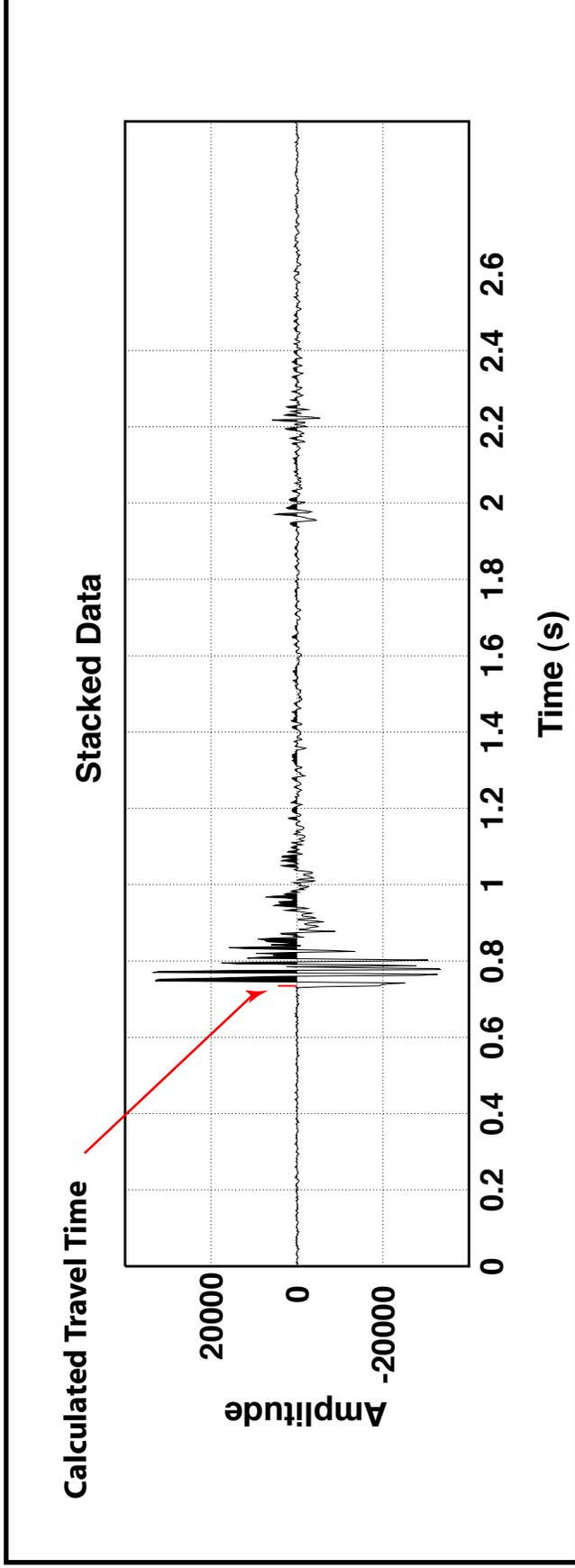


Schematic illustration showing the placement of the Q-SST within the Triple Combo.

Specifications

Length:	2.13 meters
Diameter:	3.375 in. (8.573 cm)
Weight:	170 lbs (77.1 kg)
Max. pressure:	20,000 psi
Max. temperature:	175° C
Primary sensor:	Single axis geophone
Geophone frequency:	14 Hz
Geophone damping:	0.27
Sensitivity:	4.1 V/m/s
Sampling rate:	1 ms
ADC resolution:	12 bits





Data from the QSSST are depicted as signal amplitude versus arrival time. First arrival waves are clearly seen in this plot. This data coupled with the tool's known depth position in the borehole assists in tying the seismic survey data to the geologic horizons intersected in the borehole.