



FloSurvey

Real-Time Survey Tool

Simple, reliable well inclination and azimuth measurements to optimize vertical well placement

NOV's FloSurvey™ real-time survey tool capitalizes on the success of our proven FloDrift™ product, which features our patented Pressure Release Encoding System (PRES) technology, for easy, cost-effective transmission of downhole information. The FloSurvey tool provides real-time surveys during the normal operation of making a connection, saving you both rig time and money. The FloSurvey tool is less expensive than a full MWD system, and our approach offers improvements in performance and safety when compared to traditional wireline surveys.

FloSurvey further extends the PRES and FloDrift technologies, displaying inclination and azimuth in less than 90 seconds from pumps on—the fastest real-time azimuth decoding in the industry. Additionally, the PRES technology works well in noisy surface-hole sections, unlike most MWD decoders that struggle to provide accurate measurements in noisy environments. The FloSurvey tool automatically compensates for most flow-rate and mud-density changes, allowing operators to change mud flow and weights without affecting decoding performance. Memory-logged survey data can be processed after the tool is back on the surface, if additional QA or enhanced survey accuracy is required. The FloSurvey surface decoder uses a small footprint computer and a user-friendly touch-screen display that automatically detects, decodes, and displays survey inclination and azimuth. All real-time transmitted surveys and well survey logs are viewable on the drill floor, and the data is obtainable for printing anytime.

The FloSurvey tool makes a significant difference when drilling near lease lines; conducting pad drilling operations where adjacent wells dictate more well-position oversight; and providing performance monitoring and survey reporting when integrated with vertical steering tools. Our FloSurvey technology helps you save rig time by eliminating wireline survey runs and increases your ROP by allowing greater WOB. Our survey tool provides improved safety for rigsite personnel while reducing the risk of well deviation and stuck pipe events often seen when running wireline surveys.

Contact your local NOV representative to learn how our FloSurvey tool can optimize your vertical well placement through fast, accurate inclination and azimuth measurements.

Features and Benefits

Real-time surveys on connection

- Provides real-time surveys during the normal operation of making a connection

Inclination and azimuth displayed in less than 90 seconds from the time the pumps are turned on

- Provides the fastest decoded survey in the industry—accurate inclinations with a resolution of 0.1° and range up to 20° (0 to 180° memory)
 - Azimuth resolution of 1° and range 0 to 360°
 - Azimuth accuracy >5° Inclination +/- 2° (memory), +/- 3° (real time)

Optimal magnetic spacing of sensors

- Runs in nonmagnetic drill collars with PRES telemetry FloValve housed within the standard API float valve borebacks
- Shorter 15-ft. collar allows adequate magnetic spacing for most vertical wells

Automatic and accurate decoding of surveys

- User-friendly operation—no additional driller involvement needed to obtain a survey during the connection process
- PRES telemetry eliminates the need to decode multiple pulses to obtain inclination and azimuth measurements