

Stabilization for Steerable Drilling Liners in Alaska

The Issue

An Operator on Alaska's North Slope encountered technical challenges with downhole MWD equipment while conducting liner drilling operations using a rotary steerable drilling liner system. This resulted in multiple trips for the downhole assembly, which included Volant HydroFORM™ Centralizers affixed (crimped) to the 7" reaming string/completion liner for stabilization during drilling and standoff during cementing.

The Operator's technical challenge resulted in a unique opportunity to inspect a centralizer after it had undergone very severe running conditions and to confirm its suitability for this application. Based on drilling records, the Operator indicated the following service estimates for the retrieved centralizer prior to its detailed inspection:

- Total linear distance (measured depth) travelled: 65,870 ft
- Total number of rotations: 47,190 at average of 34 RPM
- Cased hole distance travelled: 65,180 ft
- Cased hole rotations (during drilling): 26,404
- Openhole distance travelled: 690 ft
- Openhole rotations (during drilling): 20,786



The Results

Despite the number of trips required due to MWD issues, the Operator found that the HydroFORM™ Centralizers performed exceptionally well, stating "Most of the abuse to the pipe was taken by the HydroFORM™ Centralizers." The Operator also indicated all centralizers of the sample were found to be in place with no movement from the initial as-crimped position, and that visual inspection of tubes found they were in excellent shape with mill paint still on them.

Volant performed a detailed post-run inspection of the centralizer that was retrieved from service. Even though it had not been hard-faced prior to being used (an available option for Volant's HydroFORM™ Centralizers), the centralizer diameter change was less than 1/4". The operator is comfortable in this having minimal effect on standoff and cement placement in this application. Given the extreme nature of the loading imposed on this particular liner drilling string through multiple trips, it is apparent that the hard-facing option was not imperative for this liner drilling application.

The Volant HydroFORM™ Centralizer is a robust and economical solution that has been used extensively and successfully for near-bit stabilization, wear prevention, and standoff in casing and liner drilling operations worldwide.



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Case Study: HydroFORM™ Centralizers