

DAS™ Stick-Slip Detection

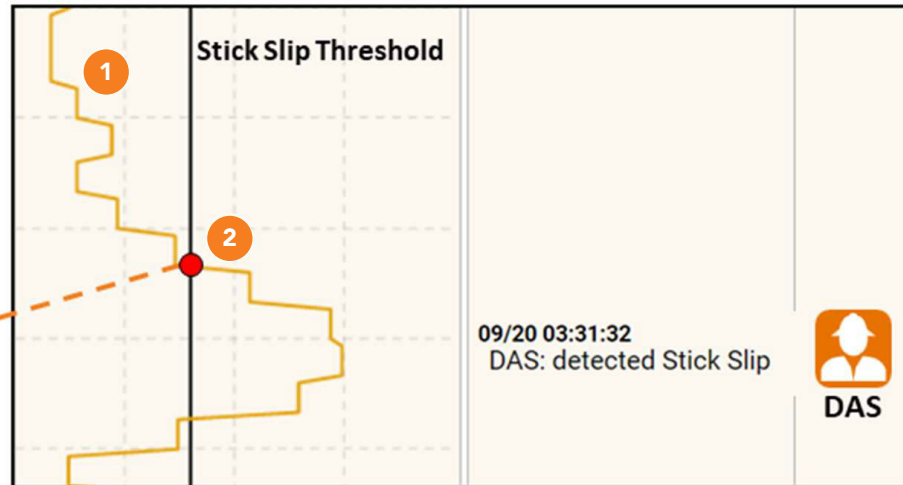


DAS* uses a highly accurate model to estimate downhole stick-slip. ExxonMobil and Pason have validated this model against downhole tools from several different vendors. The system will automatically alert users when high stick-slip is encountered.

Driller, Company Man,
Directional/MWD



Drilling Engineer
(Pason Live)



1 DAS Stick-Slip will show the estimate of downhole stick-slip calculated by the model. The values mean the following:

Less than 1	The bit is slowing down and speeding up.
1 Full Stick-Slip	The bit is stopping for an instant, then releasing with a maximum bit RPM that's double the average speed.
Greater than 1	The bit is stopping for a longer period of time (or going in reverse), torquing up, then releasing at a high rate of speed. The maximum bit RPM when it releases will be faster than double the average speed.

2 When DAS Stick-Slip crosses the stick-slip threshold, an alert is provided for the driller and company man, along with a memo in the EDR for remote users. The default threshold is 0.8. Users can set the threshold in the DAS configuration.